Newsletter 2026 no.61

WILTSHIRE BOTANICAL SOCIETY

Johnson Grass *Sorghum halepense* © Fran Sinclair

Edited by Martin Buckland

EDITOR'S FIRST PAGE

Welcome to the latest edition of the WBS newsletter. 2025 was an extra year of recording for the new Flora as too many monads remained unvisited. This turned up many new finds notably a new Sorbus *S.croceocarpa* (Orange Whitebeam) discovered by Dave Green and Fran Sinclair as well as many aliens and garden escapes and these can be read about in 'Wiltshire plant reports 2025' in this newsletter. However, just to show that if you 'go down to the ~~woods~~ local street today' you never know what you may find; as reported in the last issue, here is Fran's Johnson Grass *Sorghum halepense* on the front cover. The find was even reported in BSBI News.

Wiltshire Flora: The writing of the new 'Wiltshire Flora 2000-2025' is coming on apace with a core team writing up the individual species notes and have completed approximately 80% of this part of the book as this newsletter reaches you. We also hope to have articles on subjects such as the habitats, soils and geology, the work of conservation groups in the county as well as plants of interest or importance, for instance Fritillary *Fritillaria meleagris*, Field Cow-wheat *Melampyrum arvense* and Downy-fruited Sedge *Carex filiformis.* The book will be loosely based on the layout set by Derbyshire in 2015 although at present the actual criteria still have to be decided as every page that is written and adorned with maps and/or photographs increases the length of the book and this of course will affect the cost of publishing. Can you help us? Some time ago we appealed for donations; this request is still open as we believe we may only just have enough funds. Monies can be paid by BACS transfer into account 03185653 sort 30-98-75 just put FLORA in the reference box. Alternatively, a cheque Payable to Wiltshire Botanical Society may be sent to Martin Buckland, 40 Middle Ground, Royal Wootton Bassett, Swindon SN4 8LJ, thank you.

You will not be surprised to hear that this is taking up a lot of volunteer time and with many of us also serving on the committee we are indeed kept remarkably busy. We recently sent out a plea for a new Committee secretary. The work is not lengthy, nor does it require vast amounts of your time. Is this something you could take on for us?

Would you like to join our committee? Come the March AGM we will be down to eight members, and we urgently require some new blood to help us run the Society.

In this issue, Steve Jackson writes more musings from the leaky shed about the soils of Wiltshire and then Stephen Beal introduces us to The National Trust's role in Wiltshire. We then have the report from last Autumn's trip to Savernake with Sharon Pilkington looking for bryophytes. 2025 brought about another crop of new and rarely recorded species to the county and these are listed in the 2025 Plant Report.

Obituary: Sadly, we have to report the passing of Rosemary Duckett. A member of the WBS for many years and for a period of time, our Membership Secretary.

She certainly made me feel very welcome when I first joined the Society back in 2010 and was the person who asked me to join the committee a couple of years later. Rosemary was everyone's friend and will certainly be missed by all who knew her.

Let's get down and dirty!

The influence of Chalk, Cheese, and Catsbrain[1] on Wiltshire plants

Part 2. Do Wiltshire soils and plants interact with each other?

Steve Jackson

More musings from the leaky shed…A brief recap of Part 1 of this article. Five major soil groups have been mapped in Wiltshire based on their morphological characteristics, the horizontal layers (horizons) within the soil: Brown soils that many think of as the common, ordinary soil type; Pelosols, which are clayey soils; Ground-water and Surface-water gleys that are characterised by the influence of water on their development and characteristics; and Lithosols which are shallow soils over bedrock. However, these soil types overlap to a considerable extent in their chemical, physical, biological, and hydrological properties. These variations appear to be along three main dimensions: firstly, a dimension representing the ability of the soil to store and exchange nutrients; secondly, a dimension representing soil reaction; and thirdly, a dimension representing clay content, soil depth, and the influence of water on gleying.

But how do the soils affect the plants? And what are the potential explanations?

2. Do Wiltshire soils and plants interact with each other?

OK! Now comes the more difficult part. We're going to have to make some assumptions and simplifications which will affect how we approach this section. Firstly, the soil data represents points within a big landscape. Is it realistic to assume that the points can generalize to the monad scale so we can use plant data at that level? Well, we'll see. Secondly, the plant data is incomplete, not all monads are well, or evenly, covered. Thirdly, it is far too big a task to include all species, so this article will be restricted to grasses (Poaceae). This is reasonable as they are important components in many vegetation types and define a wide range in the National Vegetation Classification. Fourthly, to simplify further and ensure we have enough data, species and subspecies are combined, as are s.s., s.l., and agg. with the species. Taxa with fewer than 10 records have not been used as they often have a disproportionate effect on the data analysis. Fifthly, a simple record of a plant being present in a monad tells us very little. It could be a single plant or there could be millions of the species. And the number of records simply tells us the plant has been recorded several times in a monad. Is this a proxy for abundance? Stretching a point? The data comes from the BSBI database.

There are many, many ways to analyse plant and environment data and all have their advantages and disadvantages. Some are more complex than others, but I hope to keep

[1] https://wshc.org.uk/blog/item/the-fascinating-history-of-field-names.html - rough clay mixed with stones.

it relatively simple (honest!) and approach the interrelationship between soils and plants in two ways:

1. We know that plants often indicate something about the media in which they grow. We expect plants to occur in certain places. Can we show this with the data we have? Are particular taxa *indicators* of the soils in which they grow?
2. If we group together monads that are similar to each other based on their assemblages of grass taxa, can we show that the soil properties for the groups of monads are significantly different from each other?

In other words, we can approach the relationships between soils and plants by both starting at the 'soil end' and the 'plant end' and hope they show the same findings in the middle!

TWINSPAN has traditionally been used for identifying indicator species but is complex and has been criticized on several grounds. An alternative has been developed by Dufrene & Legendre (1997)[2] and implemented in PAST software. Using the Major soil groups and the plant monad data, the program was run using both plant presence/absence data and with the number of plant records per taxa in each monad. The results were combined to give a range of indicator species for each soil type which met the criteria set by Dufrene & Legendre (Table 3).

Table 3. Indicator species for major soil types.

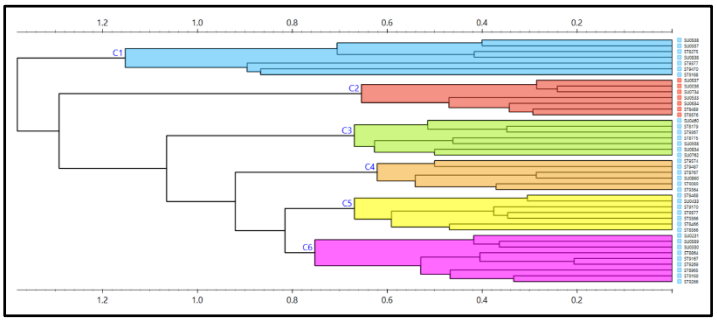
Major soil group	Plant indicators	Common name	Mean Ellenberg indicators for species in each group			
			L [light]	F [moisture]	R [reaction]	N [nitrogen]
Lithomorphic soils	*Helictochloa pratensis* *Festuca ovina +agg.* *Koeleria macrantha s.s.* *Bromopsis erecta* *Briza media* *Avenula pubescens* *Phleum bertolonii*	Meadow Oat-grass Sheep's Fescue Crested Hair-grass Upright Brome Quaking-grass Downy Oat-grass Smaller Cat's-tail	**7**	**4**	**7**	**3**
Ground-water gley soils	*Lolium multiflorum* *Schedonorus pratensis x Lolium perenne = X Schedolium loliaceum* *Elymus repens*	Italian Rye-grass Hybrid Fescue Common Couch	**7**	**5**	**7**	**7**
Pelosols	*Alopecurus myosuroides* *Alopecurus pratensis* *Schedonorus arundinaceus*	Black-grass Meadow Foxtail Tall Fescue	**7**	**5**	**7**	**6**
Surface-water gley soils	*Gaudinia fragilis* *Phalaris arundinacea*	French Oat-grass Reed Canary-grass	**8**	**7**	**7**	**7**
Brown soils	None identified					

From the table above, the method appears to have picked out species we might expect to be found on the dry, thin, infertile, calcareous Lithomorphic soils, the Rendzinas of the Chalk. All have an Ellenberg value for reaction of 7 or 8…except *F. ovina* which has a value

[2] Dufrene, M & Legendre, P 1997 Species assemblages and indicator species: the need for a flexible asymmetrical approach. *Ecological Monographs* 67(3), 345-366.

of 4 suggesting it grows on acid soils, and indeed it does, but it is also characteristic of highly calcareous soils and this is probably due to the development of different soil ecotypes that vary in their response to calcium.[3] In a similar vein, *K. macrantha* occurs on a wide range of pH values from 4.5 to 8 and a wide range of soil types (brown earths, rendzinas, incipient podzols, and gleys).[4] The associations between the other soil types and plant taxa are less clear although Hybrid Fescue may be frequent in wetter clay soils and Reed Canary-grass occurs where the water table fluctuates, characteristic of ground-water gleys and surface-water gleys. No species were identified as indicators of Brown soils possibly because this is the 'Goldilocks' soil in terms of soil properties.

The second stage involved producing clusters of monads ('hierarchical clustering') that are similar to each other based on the presence of plant taxa (Fig. 2), identifying the indicator species for each cluster (using the same method as previously), and then examining the soil properties for each cluster (Table 4).



This diagram is only to illustrate the method; it is not necessary to be able to read the information. The monads are listed to the right. The small squares show the presence of *Helictochloa pratensis* which was confined to one cluster only (C2). The program used is interactive, and the species shown can be changed to show its distribution among the clusters if desired.

Figure 2. Dendrogram of monad clusters based on presence of plant taxa.

Examination of Table 4 shows that Cluster 2 (equating most closely in terms of soil properties to Lithosols) is the most distinct and picks out indicator species we might expect to find on the Chalk. Heath-grass might not be expected but where it does occur in calcareous grassland it is likely to be where leaching has taken place to form more acidic soils. Cluster C6 stands out as one in which high soil moisture, ditches, ponds, and streams lead to the presence of sweet-grasses, Reed Canary-grass, and Meadow Barley. Indicator species are few for the other clusters with again none for the cluster most closely resembling Brown soils.

The above analyses seem to point to the conclusion that the Lithosols of the Chalk have a somewhat distinctive suite of species that indicate the characteristics of the substrate in which they grow but that other soil types may have less influence on species composition. An exception to this may be an inclination towards the influence of soil moisture on plant distribution. So, let's take a deeper dive into the species that have shown up as indicator species for Lithosols.

One way to do this is to calculate the average of each soil property where the indicator species occurs and where it does not occur and test whether there is a statistically

[3] Cope, T & Gray, A 2009 *Grasses of the British Isles*. BSBI.
[4] Dixon, JM 2000 Biological Flora of the British Isles. No. 212. *Koeleria macrantha* (Ledeb.) Schultes. *Journal of Ecology* 88: 709–726.

significant difference and whether that difference has a large effect or not (Table 5). In nearly all cases the calcium carbonate content is higher where the Lithomorphic soil indicator species grow than where they do not (but these differences don't show up as statistically significant, probably due to the small sample sizes). A similar situation is found in respect of soil pH and although the differences appear very small, we have to remember that because pH is a logarithmic scale, a change of one unit in the pH scale represents a ten-fold change in soil acidity. Overall, these two soil properties appear to have some influence on plant distribution but other soil factors such as soil depth, loss on ignition and CEC show stronger differences for several species. In particular, soil depth appears to be an important factor, perhaps indicating species' responses to the water-holding capacity of the soil and the closer proximity of the calcareous substrate to the plant roots.

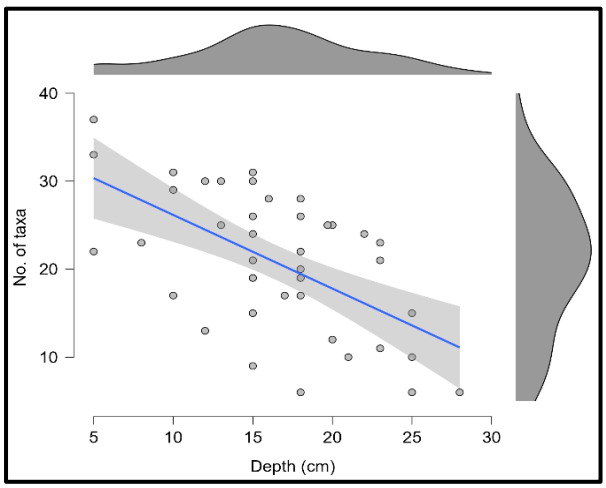
Table 4. Indicator species and soil properties for the six clusters of monads.

	Cluster	C1	C2	C3	C4	C5	C6
	No. of monads	7	7	7	6	7	9
Taxon	Common name	% species frequency in each cluster					
Agrostis capillaris	Common Bent	0	**100**	0	33	29	**78**
Avenula pubescens	Downy Oat-grass	14	**100**	14	0	0	22
Briza media	Quaking-grass	0	**100**	14	0	0	22
Bromopsis erecta	Upright Brome	14	**100**	43	0	14	0
Festuca ovina +agg.	Sheep's-fescue	14	**100**	0	0	0	0
Helictochloa pratensis	Meadow Oat-grass	0	**100**	0	0	0	0
Cynosurus cristatus	Crested Dog's-tail	0	**86**	29	17	43	**89**
Trisetum flavescens	Yellow Oat-grass	0	**86**	**86**	0	29	56
Koeleria macrantha s.s.	Crested Hair-grass	0	**71**	0	0	14	11
Phleum bertolonii	Smaller Cat's-tail	29	**71**	29	50	0	11
Brachypodium pinnatum s.s.+s.l.	Heath False-brome	14	**43**	0	17	0	0
Danthonia decumbens	Heath-grass	0	**29**	0	0	0	0
Phleum pratense s.s.	Timothy	29	71	14	**100**	29	**100**
Poa pratensis s.s.	Smooth Meadow-grass	29	57	86	33	**100**	56
Milium effusum	Wood Millet	14	43	0	0	**71**	44
Poa nemoralis	Wood Meadow-grass	29	43	0	0	**71**	11
Elymus repens	Common Couch	0	29	86	83	14	**89**
Phalaris arundinacea	Reed Canary-grass	14	29	29	33	57	**89**
Echinochloa crus-galli	Cockspur	0	0	0	17	14	**67**
Glyceria fluitans s.s.	Floating Sweet-grass	0	14	14	0	14	**67**
Glyceria notata	Plicate Sweet-grass	14	14	29	0	14	**67**
Hordeum secalinum	Meadow Barley	0	14	0	0	43	**67**
		Mean soil properties					
	Depth (cm)	22	12	18	17	16	14
	Clay %	26	34	39	20	30	21
	Loss on ignition %	12	18	12	8	10	9
	CaCO3 %	16	21	10	9	1	1
	pH in water	7.1	7.1	7.2	6.4	6.5	6.4
	CEC me/100 g	33	46	30	12	26	21
	Evidence of gleying	1.6	1.1	1.6	2.2	1.9	2.1
	Organic carbon %	5	8	3	nd	4	3
	Major soil type to which the cluster soil properties most strongly correlates	Brown soils	Lithosols	Pelosols	Ground-water Gleys	Surface-water Gleys	Surface-water Gleys

Table 5. Means of soil properties where Lithomorphic soils/Cluster 2 indicator species are present and absent indicating significant differences and effect size.

Soil property	0 (Absent) 1 (Present)	*Agrostis capillaris*	*Avenula pubescens*	*Briza media*	*Bromopsis erecta*	*Festuca ovina*	*Helictochloa pratensis*	*Cynosurus cristatus*	*Trisetum flavescens*	*Koeleria macrantha*	*Phleum bertolonii*	*Brachypodium pinnatum*	*Danthonia decumbens*
Depth (cm)	0	18	17	17	17	17	17	18	18	17	16	17	17
Depth (cm)	1	14	14	13	15	13	12	14	14	16	18	10	10
Clay %	0	29	27	27	26	27	27	29	26	27	28	27	27
Clay %	1	26	30	33	34	33	34	28	30	35	29	34	45
Loss on ignition %	0	11	10	10	10	10	10	11	10	10	10	11	11
Loss on ignition %	1	13	15	17	17	17	18	12	14	18	15	15	29
CaCO3 %	0	9	9	9	8	9	9	12	10	9	9	11	10
CaCO3 %	1	16	18	18	15	21	21	10	12	18	14	12	20
pH in water	0	7.0	6.8	6.7	6.6	6.7	6.7	6.9	6.7	6.7	6.6	6.8	6.7
pH in water	1	6.5	6.8	6.9	7.4	7.0	7.1	6.6	6.8	7.4	7.1	6.8	7.8
CEC me/100 g	0	29	27	25	24	26	25	31	27	25	26	*29*	*28*
CEC me/100 g	1	30	38	44	44	43	46	28	34	44	35	*43*	*60*
Evidence of gleying	0	1.8	1.9	1.8	2.0	1.8	1.9	1.9	1.9	1.8	1.9	1.8	*1.8*
Evidence of gleying	1	1.7	1.4	1.4	1.2	1.4	1.1	1.6	1.5	1.3	1.4	1.6	*1.0*
Organic carbon %	0	4.4	4.0	4.0	3.4	4.0	4.0	5.0	4.5	4.4	4.3	*5.2*	*4.9*
Organic carbon %	1	6.2	7.6	7.6	7.1	7.6	7.6	5.7	6.0	7.6	6.1	*7.6*	*11.2*

Red = t-test, significant difference, p<0.05 | *Italic = insufficient data for test* | Bold outline and green = large effect (Cohen's d >0.8)



The only soil property significantly related to the number of taxa per monad was surface soil (A horizon) depth (Figure 3) with the shallower A horizons generally having a greater variety of taxa than deeper A horizons. But these shallower A horizons are not necessarily the Lithomorphic Rendzinas over the Chalk as we might initially suspect

Figure 3. Soil depth and number of taxa.

Wider studies of soil properties and plant interactions

The taxa identified as indicators of Lithomorphic soils are generally considered as **calcicole** species and are found with high constancy values in many of the calcareous grassland communities of the National Vegetation Classification. In contrast to this, species indicative of acid soils are known as **calcifuge** species. These are few in Wiltshire due to the paucity of acid soils.

Before getting deeper into calcareous and acid soils, let's just refresh what they are. Calcareous soils have a suite of soil properties that include: generally being light and well drained with humus mixed in; often prone to drought; pH usually above 6.5; calcium present as $CaCO_3$; high levels bicarbonate ions; low amounts of iron and aluminium; nitrogen present as nitrate (NO_3-); and as we have seen these properties co-vary. Acid soils in general have opposite properties. The problem for plant ecologists has been in trying to isolate the influence of individual soil properties on plant development and

distribution and in detecting the particular plant mechanisms that adapt plants to calcareous or acid soils.

It has long been noted, as above, that particular plant species occur in certain soil conditions, but it was not until the coming of the 'ecological era' beginning in the late 1800s, and especially experimental approaches to ecology from the early 1900s, that the serious scientific study of the influence of soils on plant distributions began. Of particular interest was the distribution of 'calcicoles' and 'calcifuges', the former being species that characterize high pH soils, the latter being species characteristic of low pH soils. In an early, somewhat crude by modern standards, experiment Tansley[5] grew *Galium saxatile* (Heath Bedstraw, a calcifuge) and *Galium pumila* (Slender Bedstraw, a calcicole) from seed on different soil types. Mean percentage germination rates on a calcareous soil were 10% for Heath Bedstraw and 22% for Slender Bedstraw; on an acid peat soil the rates were 13% and 15% respectively. On the calcareous soil, Slender Bedstraw grew normally but Heath Bedstraw showed marked chlorosis (yellowing of the leaves which hinders chlorophyll production leading to reduced vigour and dieback) and many seedlings died and by the end of the experiment the former had outcompeted the latter. On the acid peat soil, germination and growth of both species was slow but by the end of the experiment Heath Bedstraw was dominant but with some healthy specimens of Slender Bedstraw. Later laboratory experiments by Hutchinson[6] assessed the susceptibility to lime-chlorosis of a range of species (calcicoles, calcifuges, species showing no soil preferences) and found that more than 90% of the species of calcareous soils were resistant or only mildly affected by lime-chlorosis, whereas more than 60% of the species of acid soils were affected. Grasses that were not susceptible to lime-chlorosis included: *Brachypodium pinnatum, Briza media, Koeleria macrantha, Festuca ovina, Bromopsis erecta* and *Sesleria caerulea* Blue Moor-grass. Apart from the latter (which is principally a northern species), these species were identified above as being indicative of Lithomorphic soils on the Chalk.

Since Tansley's time, research has aimed at examination of the influence of individual soil variables and variables in combination in determining plant growth and distribution. Salisbury[7] reviewed the position in 1920s and noted the potential importance of iron and aluminium and de Silva[8] in the 1930s carried out a study of the obvious spoil factors (calcium carbonate, exchangeable calcium, soil reaction) and concluded that:

> *On the whole the distribution of calcicoles appears to be correlated with content of exchangeable calcium, and the results of culture experiments confirm this view. The calcifuges appear to follow the soil reaction.*

[5] Tansley, AG 1917 On competition between *Galium Saxatile* L. (G. Hercynicum Weig.) and *Galium Sylvestre* Poll. (G. Asperum Schreb.) on different types of soil. *Journal of Ecology* 5 (3/4), 173-179.
[6] Hutchinson, TC 1967 & 1970 Lime-chlorosis as a factor in seedling establishment on calcareous soils. *New Phytologist* 66, 697-705 and 69, 143-157.
[7] Salisbury, EJ 1920 The significance of the calcicolous habit. *Journal of Ecology* 8(3), 202-215. 1925 The incidence of species in relation to soil reaction. *Journal of Ecology* 13(1), 149-160.
[8] De Silva, BLT 1934 The distribution of "calcicole" and "calcifuge" species... *Journal of Ecology* 22(2), 532-553.

The 1940s were a lean time for research into this area but in the 1950s Steele concluded that 'both pH and calcium supply are factors affecting the success of calcicoles.' Bradshaw *et al*.[9] in a series of experiments demonstrated that calcicole grasses responded better than calcifuge grasses to increasing levels of calcium and that yields were higher for the former.

The 1960s was a very productive period for studies of calcicoles and calcifuge species with much of the work emanating from Sheffield University in the Grassland Research Unit and later the Unit of comparative Plant Ecology. Woolhouse,[10] for example, examined the growth and respiration of four grasses grown on a calcareous soil and an ordinary garden soil. All showed a reduction in shoot and root growth on the calcareous soil but considerably so for the calcifuge species. Many other studies were undertaken on mineral nutrition, calcium, bicarbonates, aluminium tolerance, lime-chlorosis and so on, with studies looking at a range of species, a particular genus such as Agrostis, or particular species such as *Molinia caerulea* and *Festuca ovina*.

Further studies continued to produce interesting results but more recently they have become more sophisticated with improved measurement techniques and more complex statistical analysis as indicated by Tyler and Strom:[11]

> Many vascular plant species are unable to colonize calcareous sites. Thus, the floristic composition of adjacent limestone and acid silicate soils differs greatly. The inability of calcifuge plants to establish in limestone sites seems related to a low capacity of such plants to solubilize and absorb Fe or phosphate from these soils. Until now, mechanisms regulating this differing ability of plants to colonize limestone sites have not been elucidated. We propose that contrasting exudation of low-molecular organic acids is a major mechanism involved and show that germinating seeds and young seedlings of limestone plants exude considerably more di- and tricarboxylic acids than calcifuges, which mainly exude monocarboxylic acids. The tricarboxylic citric acid is a powerful extractor of Fe, and the dicarboxylic oxalic acid a very effective extractor of phosphate from limestone soils. Monocarboxylic acids are very weak in these respects. The study is based on ten species from limestone soils and ten species from acid silicate soils.

And more specifically physiological studies have been undertaken to determine the mechanisms by which calcicoles and calcifuges come to occupy their particular niches:[12]

> We conclude that chlorosis in calcifuge species is related to an immobilization of Fe in physiologically less active forms in the tissue, if plants are forced to grow on a calcareous soil, whereas calcicole and 'soil indifferent' species are able to retain a much higher share of their leaf Fe in metabolically active form. This probably decreases the vitality and may exclude calcifuge plants from calcareous soil. We consider this property, previously almost unconsidered in an ecological context, as important to the calcifuge–calcicole behaviour of plants.

There are many other much more biological studies that have examined the physiological, molecular, and genetic mechanisms for the response of plants on different

[9] Bradshaw, AD *et al*. 1958 Experimental investigations into the mineral nutrition of several grass species: Part I. Calcium level. *Journal of Ecology* 46(3), 749-757.
[10] Woolhouse, HW 1966 Comparative physiological studies on *Deschampsia flexuosa, Holcus mollis, Arrhenatherum elatius* and *Koeleria gracilis* in relation to growth on calcareous Soils. I. Growth and root respiration. *New Phytologist* 65(1), 22-31.
[11] Tyler, G & Strom, L 1995 Differing organic acid exudation pattern explains calcifuge and acidifuge behaviour of plants. *Annals of Botany* 75, 75-78.
[12] Zohlen, A & Tyler, G 2000 Immobilization of tissue iron on calcareous soil: differences between calcicole and calcifuge plants. *Oikos* 89, 95-106.

substrates that require a biologist, rather than soil scientist, to disentangle the variables involved and their relative importance!

Finally, before concluding, it is worth mentioning one other study also by Tyler[13] in which a very wide range of soil properties was studied by three statistical methods but only the simple correlations between soil measurements and percentage cover of four grasses are noted here for comparison with those in the Wiltshire study:

Species	Positively correlated with	Negatively correlated with
A. capillaris	Al, Fe, Mn, Mg, PO_4	pH, % base saturation, Ca
B. media	Ca, Grazing intensity	Al, Fe, PO_4
F. ovina	Grazing intensity, Mg, Water capacity	
H. pratensis	% base saturation, K	Fe

It is immediately clear that different species appear to be responding to different soil properties as shown in Table 5 where the presence of each species seems to be influenced by a variety of soil properties, i.e., no single factor accounts for the cover or presence of a plant species. It also appears that pH *per se* is not a significant factor. In fact, soil reaction most likely operates on its influence on other soil properties such as the solubility of soil chemicals (although there is some evidence that H^+ ions are toxic to plants but that plant races evolve with adaptations to cope with highly acidic conditions).

Summing up

So, we set out to examine the relationship between soils and plants in Wiltshire using point data for the soils and monad data for the plants. We also carried out the analysis from the plant end and the soil end. The results have picked out the Lithomorphic soils in particular and their associated grass flora. This is to a large extent mirrored by the wider literature. And as it stands this study has been reasonably successful.

It is clear that soil factors are significant in affecting plant distributions, but as shown by Kalusova *et al*.[14] (at least for mesotrophic grasslands), site factors might be more important. In their study, soil properties were the least significant, and pH was the least significant of all! And of course, previous management may have a very long legacy.

This study has only scratched the surface of the topic area and has not dealt with other significant research such as the studies by Grime, Grubb, Rorison and others, and more recent research summarized by Parmar.[15] It would be interesting to carry out similar analyses for a wider range of species using more sophisticated techniques.

So, there is the challenge for someone!

Note: I have not included all the technical details of the data and analyses but if anyone *really* wants them, just ask!

[13] Tyler, G 2000 Integrated analysis of conditions accounting for intersite distribution of grassland plants. *Nordic Journal of Botany* 20(4), 485-500.
[14] Kalusova, V. *et al*. 2009 Determining the important environmental variables controlling plant species community composition in mesotrophic grasslands in Great Britain. *Applied Vegetation Science* 12(4), 459-471.
[15] Parmar *et al*. 2025 Reclaiming calcicoles: New insights into lime lovers. DOI: 10.1177/0976500X241283120

Conservation organisations 6: The National Trust

This is part of a continuing series on conservation organisations that support, inform, manage, or petition on behalf of the flora of Great Britain and beyond. It's time to introduce to you The National Trust.

The National Trust and Wiltshire's Flora

Wiltshire is a county defined by contrasts. Broad sweeps of chalk downland give way to greensand ridges and clay vales. These differences are not subtle; they shape land use, settlement patterns and, most clearly, the plants that grow here. Understanding Wiltshire's flora can tell a story of how geology, hydrology and humans have interacted for centuries.

The National Trust has a particular importance in this story. As a long-term landowner, it cares for some of the county's most botanically significant landscapes; places where continuity of management has allowed plant communities to persist that have vanished elsewhere. Many of these sites also carry significant archaeological time depth, reminding us that landscapes shaped gently by people over millennia often prove richest for wildlife.

This article offers an overview of the National Trust in Wiltshire. First, a short history of how and why land came into its care, then a botanical journey across the county, linking sites to their geology and geography. It is not intended as an exhaustive account. Rather, it aims to set the scene for future articles that will explore individual places in greater depth, teasing apart the relationships between plants, habitats, and management.

A short history of the National Trust in Wiltshire

The Trust's presence in Wiltshire reflects its origins in the early twentieth century, when concerns about public access, landscape protection and the loss of historic places began to coalesce. Some of the earliest acquisitions were areas of open downland and prominent viewpoints, valued as much for their cultural resonance as for their wildlife. Pepperbox Hill, (right) overlooking the Avon valley south of Salisbury, was acquired in stages between the 1930s and 1940s, while much of Stonehenge entered Trust ownership in 1927-28, securing not just the stones themselves but the surrounding landscape.

The middle decades of the twentieth century brought a second wave of acquisitions, driven by the decline of large, landed estates following the Second World War. Manor houses and their associated parklands were transferred into Trust care, often at moments of acute financial vulnerability. Lacock Abbey (1944), Stourhead (1946-47) and Dinton Park (1943) all belong to this period. These estates brought with them ancient and veteran trees, parkland grasslands and long-established management patterns that would later be recognised as being of exceptional ecological value.

Elsewhere, the Trust continued to acquire downland sites of high landscape and archaeological interest. Avebury entered Trust ownership in 1943, with later additions in the 1970s and 1990s,

while Calstone and Cherhill Downs was acquired in 1979, with further extensions over the following two decades. Whitesheet Down followed in 1982.

More recent acquisitions reflect a growing emphasis on nature conservation and restoration. The purchase of Sutton Lane Meadows in 2002 exemplifies this shift, safeguarding one of the county's finest remaining examples of lowland meadow outside of the Thames Valley.

Today, the Trust's Wiltshire estate encompasses a wide range of habitats; chalk grassland, ancient woodland, neutral meadows, wood pasture, and parkland. Much of its botanical value is known thanks to the efforts of volunteers, recorders and local societies, whose observations continue to shape management and deepen understanding.

A botanical tour of Wiltshire: landscapes, geology, and plants

What follows is a botanical journey through Wiltshire's National Trust landscapes. It is necessarily selective but aims to show how geology and land use combine to shape the flora we encounter.

The chalk downs

From north to south, the Trust cares for a series of exemplary chalk grassland sites. In the north-east of the county, the Coombes at Hinton Parva lie close to the county boundary, in a landscape celebrated by Richard Jefferies for its quiet beauty. Ancient strip lynchets ripple, and dry valleys cut into the chalk. Together they support some of the best remaining chalk grassland in this part of Wiltshire. The western slopes carry the familiar calcareous flora, but perhaps the most intriguing feature is the small hay meadow tucked into the site. Here, a strong calcareous influence persists, with Upright Brome *Bromus erectus*, Red Fescue *Festuca rubra*, Crested Dog's-tail *Cynosurus cristatus* and Yellow Oat-grass *Trisetum flavescens* accompanied by Salad Burnet *Sanguisorba minor*, Rough Hawkbit *Leontodon hispidus*, Yellow-rattle *Rhinanthus minor* and a scatter of neutral to calcareous meadow herbs. Such calcareous-leaning hay meadows are now rare in Wiltshire.

Further south, on the northern edge of the Pewsey Downs, Calstone Coombes and Cherhill Down (below) stand out as one of the county's most botanically rewarding sites. Its size (over 200 hectares), 360-degree aspect and intricate network of dry coombes create ideal conditions for species-rich chalk grassland across a range of successional stages. Those prepared to tackle the long, steep walk into the site are rewarded with plants such as Field Fleawort *Tephroseris integrifolia*, Burnt Orchid *Neotinea ustulata*, Bastard Toadflax *Thesium humifusum*, Lesser Butterfly Orchid *Platanthera bifolia*, Tuberous Thistle *Cirsium tuberosum* and Devil's-bit Scabious *Succisa pratensis*. Flea Sedge *Carex pulicaris* occurs on humid north-facing slopes, and the site supports one of Wiltshire's strongest populations of Juniper *Juniperus communis*. Increasing dominance of Tor-grass *Brachypodium pinnatum* has long been a concern, particularly on the steepest slopes, but recent changes in grazing management, including the use of virtual fencing, are beginning to reverse this trend, with formerly rank swards giving way to more diverse communities rich in Cowslip *Primula veris*, Devil's-bit Scabious and orchids.

The landscape around Stonehenge perhaps best illustrates the Trust's shift from nature conservation towards large-scale nature restoration in the twenty-first century. As recently as the 1980s, much of this 800-hectare landscape was dominated by arable and improved grassland, with species-rich chalk grassland surviving only as fragments on barrows and the steep sides of dry valleys – small reminders of what had once been far more extensive. In the early 2000s, the Trust embarked on an ambitious programme of arable reversion, driven by the twin aims of protecting internationally important archaeology and restoring a functioning downland landscape. At the time, it was described as the largest arable reversion project in Europe. Today, visitors can walk through developing species-rich grasslands, where plants such as Sainfoin *Onobrychis viciifolia*, Rough Hawkbit *Leontodon hispidus*, Common Bird's-foot-trefoil *Lotus corniculatus*, Fairy Flax *Linum catharticum* and Dropwort *Filipendula vulgaris* are becoming established. In 2023, work began to convert the final 250 hectares of arable land, using seed collected from Salisbury Plain. It is still early in the restoration process, but Devil's-bit Scabious *Succisa pratensis*, Fairy Flax *Linum catharticum*, Ploughman's Spikenard *Inula conyzae*, Cowslip *Primula veris* and Small Scabious *Scabiosa columbaria* are already appearing, and the fields are alive with insect life.

The downland circuit concludes at Pepperbox Hill, south of Salisbury. Once reputed to be among the most botanically rich National Trust sites in the country, it suffered decline during the mid-twentieth century before sustained management restored a complex mosaic of herb-rich chalk grassland, species-rich scrub, and Juniper. *Rosa* species are a particular feature, alongside Autumn Lady's-tresses *Spiranthes spiralis*. It is now one of Wiltshire's best examples of a structurally diverse and dynamic chalk grassland system.

Wood pasture and parkland

Wood pasture and parkland are closely associated with the great estates of Wiltshire. As a result of post-war acquisitions, the Trust now cares for a disproportionately large share of these habitats. Ancient and veteran trees define them, and few habitats are more quintessentially British. Old oaks, beeches, and sweet chestnuts support rich assemblages of epiphytic ferns, bryophytes, lichens, and fungi, alongside the saproxylic invertebrates that depend on decaying wood.

Wiltshire examples include Lacock Abbey, Dinton Park, Stourhead and, to a lesser extent, Avebury. Although many parkland grasslands were agriculturally improved during the twentieth century, pockets of species-rich sward persist beneath veteran trees. At Stourhead, areas in the north-east of the park support Cat's-ear *Hypochaeris radicata*, Oxeye Daisy *Leucanthemum vulgare*, Common Sorrel *Rumex acetosa*, Selfheal *Prunella vulgaris*, Ribwort Plantain *Plantago lanceolata* and orchids including Common Spotted Orchid *Dactylorhiza fuchsii* and Pyramidal Orchid *Anacamptis pyramidalis*. Decades without fertiliser inputs are slowly allowing diversity to increase. In the formal gardens and around the lakes, Royal Fern *Osmunda regalis* and Bottle Sedge *Carex rostrata* provide further botanical interest.

Dinton Park also supports notably rich neutral grassland, while both estates host some of the most impressive ancient Sweet Chestnuts *Castanea sativa* in the county, particularly those lining the main drive at Stourhead.

Earthworks and ancient stones: where nature and history meet

Chalk and limestone landscapes in southern England are rich in prehistoric earthworks, and Wiltshire is exceptional in this regard. As Britain's only charity dedicated to wildlife and history, the Trust now manages many such sites, particularly within the Stonehenge and Avebury World Heritage Site.

Earthworks are often botanically rich. Their age, continuity of low-intensity management and thin, nutrient-poor, often high-pH soils favour species-rich grassland. Orientation adds further interest:

circular banks and ditches create contrasting microclimates, allowing plants of warmer, drier south-facing slopes to grow close to those preferring cooler, moister aspects.

At Avebury, the south-east quadrant of the henge supports good chalk grassland, including one of Wiltshire's northernmost populations of Round-headed Rampion *Phyteuma orbiculare*. Hybrid forms between Stemless Thistle *Cirsium acaule* and Tuberous Thistle *C. tuberosum* are readily observed on the outer banks.

Cley Hill near Warminster supports species-rich Upright Brome grassland developed over an Iron Age hillfort, Bronze Age barrows and medieval strip lynchets. Early Gentian *Gentianella anglica* occurs here alongside Chalk Milkwort *Polygala calcarea* and Meadow Saxifrage *Saxifraga granulata*. Bastard Toadflax *Thesium humifusum* was recorded prior to 1990, though whether it still persists remains an open question. Orchids include Autumn Lady's-tresses and Frog Orchid, the latter sadly unrecorded for several decades.

On the eastern edge of the Stourhead estate, Whitesheet Down combines remarkable archaeological time depth with botanical interest. Dwarf Sedge *Carex humilis*, Frog Orchid and Autumn Gentian *Gentianella amarella* occur here on the Iron Age hillfort, Neolithic causewayed enclosure, and Bronze Age burial mounds. Burnt Orchid was last recorded in 1989. Looking west from Whitesheet, the Greensand ridge rises on the far side of the estate and Park Hill Camp lies nestled within former conifer plantation (below). Unusually for Wiltshire, this hillfort lies on acidic substrates. Recent clearance of conifers and scrub has allowed acid-loving plants such as Bell Heather *Erica cinerea* and Sheep's-sorrel *Rumex acetosella* to recover.

Neolithic sites also draw attention to a botanically adjacent field of interest; lichens on sarsen stones. While the sarsen spreads of Fyfield Down near Marlborough are well known, lesser-known Trust sites such as Piggledene and Lockeridge Dene (below) support notable assemblages. Sarsen lichen communities are oddities, with species typical of maritime or upland settings a common sight, including *Anaptychia runcinata* and *Rinodina atrocinerea*, alongside *Buellia saxorum*, a species almost entirely restricted in Britain to such sarsen stones.

Common threads and looking forward

Across Wiltshire's National Trust landscapes, common themes emerge. Geology sets the template; human history writes the detail. Continuity often matters more than perfection. Many notable plants persist because land escaped improvement, continued to be grazed or cut, and development pressure was resisted. Restoration activities can revive landscapes and invigorate lost species.

Looking ahead, botanical recording remains central. Records help reveal change, inform management, and guide restoration. Climate change, nutrient enrichment and altered hydrology pose growing challenges, but they also underline the value of long-term sites where ecological responses can be observed.

Future articles will return to these landscapes in more detail, focusing on individual sites and estates. By looking more closely at their history, geology, and management, we can begin to tease apart the many causes and effects that shape the plants and habitats we see today, and those we no longer do. In doing so, we hope to encourage botanists to wander widely across National Trust land in Wiltshire, to record what they find, and to appreciate the subtle interplay between place, process and continuity that underpins the county's flora.

Stephen Beal

Savernake Forest's bryophytes
October 12th 2025
Leader: Sharon Pilkington

Savernake was on the cusp of wonderful autumn colours although they looked a little muted on the gloomy morning of our visit. The sun did come out, eventually and briefly, but the greyness may have been the main reason that only three of us set out from Eight Walks, in the middle of the Forest.

The air conditions were a little dry, but the ground was moist and Sarah Grinsted, Richard Aisbitt and I pottered slowly down a track on the lookout for bryophytes. First, lots of the cushion-forming epiphytic moss *Plenogemma phyllantha* on a young and exposed oak. Formerly placed in *Ulota*, this moss is easily recognised when dry by clusters of dark gemmae (asexual propagules) at its shoot tips. It likes lots of light and is desiccation-tolerant and is often seen on seaside trees exposed to winds.

Next was a small glaucous moss forming loose patches in the track ruts. This was *Pohlia wahlenbergii*, new to Sarah and Richard but not too uncommon on tracks of this kind. I was pleased there was so much of it because I wanted to collect some for a moss identification workshop.

We looked at tree boles, where there was a characteristic community of pleurocarpous mosses. To the untrained eye, they can look rather similar, but we picked out *Isothecium myosuroides*, *Kindbergia praelonga* and *Hypnum andoi*. Unlike lichens (which are not related to bryophytes), veteran trees do not usually offer good habitat to bryophytes. However, we were all impressed by the quantity of *Isothecium alopecuroides*, with capsules, growing around the base of certain veteran oaks. And other old trees with base-rich bark, such as Field Maple *Acer campestre*, were draped in the calcicoles, *Homalothecium sericeum, Neckera complanata, Anomodon viticulosus* and the unusual-looking liverwort *Porella platyphylla*. Unfortunately, the woodland floor was far from exciting and the bryoflora was generally indicative of slightly acid conditions.

After the hot and dry spring and summer, the fungi were splendid and much admired. In particular, Magpie Inkcap *Coprinopsis picacea* was quite common. We could all identify gorgeously red Fly Agaric *Amanita muscaria* and Sarah found Grey Coral *Clavulina cinerea* (right) to be very photogenic. Identification of many others was unfortunately beyond our collective knowledge. By chance, later on we bumped into local fungus expert Peter Marren who confirmed our suspicions that it's a great year for fungi.


© Sarah Grinsted


© Sharon Pilkington

Lunch over, we enjoyed a leisurely walk along the wooded valley of Cheval Bottom looking for bryophyte counterparts of the uncommon acid-loving vascular plants that have been found here. By and large, we were disappointed, although we did enjoy spectacular patches of *Campylopus flexuosus* (left) and the non-native *Orthodontium lineare* growing on massive prone and decayed oak trunks.

We searched for a scarce humidity-demanding epiphytic liverwort that was found in Cheval Bottom back in 2011, eventually locating some nice brackets on an ailing Ash tree. When it falls, it's probably also curtains for the *Frullania tamarisci*.

A detour to check out a woodland pond added some Broad-leaved Pondweed *Potamogeton natans* to the square list but disappointingly the water and its surrounds were rather devoid of bryophytes. However, a clay path nearby had a couple of small ruderal mosses, including *Ephemerum serratum*, which has very few records in VC7. Our walk back to Eight Walks took us through an area of woodland with some stunning veteran oaks and these were duly admired. Richard wanted to take some photos of the twisting bark of some enormous Sweet Chestnut *Castanea sativa* trees nearby for a course he was going to be running. As I waited, I spotted cushions of a dark green moss with narrow leaves on decaying fallen chestnut branches and these turned out to be *Dicranum montanum*, another locally uncommon species.

Although the bryophytes were less exciting than I had hoped, we did come across a steady stream of species set among a backdrop of spectacular fungal displays and autumn tree colour before leaf-fall. Adding to nature's bounty, there were abundant acorns, dropped by the oaks everywhere we looked, and masses of chestnuts, shiny and fresh, bursting from their prickly fruits. So, a good day!

Sharon Pilkington

Above left, *Marchantia polymorpha*, © S.Grinsted; Above right, *Mnium hornum* (male), © S.Pilkington; below left © S.Grinstedand; below right, © S.Pilkington, unknown but attractive toadstools.

Wiltshire plant records 2025

Introduction

The recording of the remaining 1km squares in the county toward the publication of the Flora of Wiltshire 2000 to 2024 continued this year with several areas covered that had not been visited before even for the *Wiltshire Flora* 1993 publication. As a result, many of the records were of very common, or planted species and so extensive that the account below has had to be limited.

The following list, however, contains all species, both native and non-native, which are new to the County or Vice-counties as well as those new to a 10k square. ['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 4th edition* (Stace); together with site, 10k square, brief description where supplied and the initials of the recorder [Recorders and their initials can be found at the end.] First County or Vice-county records appear in bold italics.

Plant species new to Wiltshire

VC7

Cotoneaster divaricatus (Spreading Cotoneaster); Swindon, Park North (SU18), three small shrubs self-sown into path edges. Parent hedge adjacent, MBu. Determined MBu.

Cucurbita pepo (Marrow); Bishopstone, Ridgway Farm (SU28), WBS. Presumably crop relic – Ed.

Dicentra eximia (Turkey-corn); Stanley (ST97), On spoil heap, KAn & FS.

Glebionis coronaria (Crown Daisy); Great Cumberwell, landfill site (SY86), two plants, DG.

Helianthus x multiflorus (Thin-leaved Sunflower); Chippenham (ST97), single flowering plant 1.8m tall. On top of low mound of soil/builder's debris at derelict land, MBu & FS.

Mirabilis jalapa (Marvel-of-Peru); Bradford-on-Avon, Trowbridge Rd (ST86), wall to pavement angle, FS.

Perovskia atriplicifolia (Russian Sage); Bradford-on-Avon (ST86), two plants growing out of the face of a garden wall, below garden soil level. Not growing in garden, JHM.

Portulaca oleracea (Common Purslane); Chippenham (ST923732), Two plants in a block paved path, SBr. This is a succulent annual herb, occasionally found as a persistent weed of arable land in the Channel Islands and Isles of Scilly. Elsewhere it is increasingly found as a casual on pavements, soil heaps, refuse tips, allotments, and waste ground. It is possibly introduced in birdseed – Ed.

Prunus x simmieri (Cherry Plum x Blackthorn); Swindon, Shaw Forest Park (SU121858), KNe.

Rubus hindi (Hindi's Bramble); Chaddington Lane Verge PRV (SU093816), in boundary hedge with Morningside Farm meadows, WBS determined by Alex Prendergast.

Verbena stricta (Hoary Vervain); Corsham, Brook Drive (ST880696), self-set into edge of footpath, DWa. *This species is not only new to Wiltshire, but…(well done Darrel!)….* ***1st UK record***

VC8

Allium porrum (Leek); Rollestone, south (SU04), three stems, well established at arable field edge. Site far away from housing with no sign of dumped waste. Possibly arose from game-bird feeder. MBu.

Cordyline australis (Cabbage Palm); Trowbridge, Holbrook Lane (ST85), wall to pavement angle, FS.

Dipsacus laciniatus (Cut-leaved Teasel); Burbage, Harepath Farm (SU26), at field edge, FS.

Glyceria fluitans x declinata (Floating Sweet-grass x Small Sweet-grass); Landford Lakes (SU03), WBS.

Illecebrum verticillatum (Coral-necklace); Canada Common (SU283178), four close records; at edges of muddy, steep-sided pools, TN. Canada Common (SU283179), filling large hollow, PMW. Also, in VC11, administrative Wiltshire, Ringwood Ford Bottom (SU266100), many plants in several wet depression of man-made track, SPi. This species was first discovered in South Hampshire in 1920 and thought to be an introduction with conifer planting - Ed.

Lythrum virgatum (Wand Loosestrife); Westbury (ST8651), 200+ on lake bank of a former brick pit. Part of an ecological mitigation planting scheme. First recorded in October 2024, it was visited again in July 2025 when in flower, HJC & DG. Wand Loosestrife is a garden plant used to attract pollinators. It is very similar to Purple Loosestrife *L.salicaria* and may well have been selected in error – Ed.
This species is not only new to Wiltshire, but…(well done Helena & Dave!)…. ***1st GB record***

Rudbeckia hirta (Black-eyed Susan); Trowbridge (ST85), self-sown in cobbles, FS.

Sorbus croceocarpa (Orange Whitebeam); Dilton Marsh, Black Dog Woods (ST833491), a single coppiced tree with two main trunks 6m tall, in ancient woodland, DG & FS determined by Tim Rich, BSBI Sorbus referee. Who knows what can be found on a day out? Dave and Fran were searching for *Sorbus torminalis* Wild-Service trees and near ten or so coppiced specimens they found this 'different' tree – Ed.

VC7 North Wiltshire - New 10km records

Alisma lanceolatum (Narrow-leaved Water-plantain); River Thames, east of Cricklade and also near Hannington Bridge (SU19) both RAi.

Allium oleraceum (Field Garlic); Conkwell (ST76), a clump of around seventy heads, lane-side, DG.

Allium triquetrum (Three-cornered Garlic); Ogbourne St Andrew (SU17), KNe & FS.

Betula x aurata (Silver Birch x Downy Birch); Cotswold Water Park Lake 26 (SU09), MBu & DG.

Bromus secalinus (Rye Brome); Bishopstone, Ridgeway Farm (SU28), WBS.

Bupleurum rotundifolium (Thorow-wax); Bradford-on-Avon (ST86), DG. This species became extinct as an arable species in the 1960s. ***1st VC7 record.*** Casuals like this are almost certainly from birdseed – Ed.

Callitriche platycarpa (Various-leaved Water-starwort); River Og (SU192701), RVL.

Calystegia pulchra (Hairy Bindweed); Mildenhall, north of (SU212706), RAi.

Carex strigosa (Thin-spiked Wood-sedge); West Woods (SU16), four close sites, all RAi.

Cotoneaster bullatus (Hollyberry Cotoneaster); Minety, Station Approach, north (SU09), bird-sown, mature, fruiting bush at the edge of former rail station platform MBu & DG. Determined MBu.

Crataegus x media (Hawthorn x Midland Hawthorn); Sevenhampton, Roves Lane (SU28), MBu.

Cyclamen coum (Eastern Sowbread); Axford (SU27), garden escape, DG & FS. ***1st VC7 record***

Digitaria sanguinalis (Hairy Finger-grass); Chittoe (ST952663), c.30 plants under game-bird crop, DG; Chippenham (ST920740), scattered along 5m length of pavement, SBr; Swindon, Prospect Hill (SU153841), single at wall to pavement angle, RAi. An increasingly found species – Ed.

Dittrichia graveolens (Stinking Fleabane); Many records of flowering plants along the M4 central reservation at Christian Malford, East of J17, and Sutton Benger (ST97) and at Dauntsey (ST98), all SPi.

Erigeron bonariensis (Argentine Fleabane); Poulton (ST829602), wall to path angle, FS. ***1st VC7 record***

Erigeron sumatrensis (Guernsey Fleabane); Malmesbury, east (ST9287), DG & FS.

Erophila glabrescens (Glabrous Whitlow-grass); Chippenham, St.Mary's Place (ST919735), two plants at road to kerb edge amongst many more *E.verna* Common Whitlow-grass, SBr; Swindon, Croft (SU157821) at side of B4006, KNe. ***1st and 2nd VC7 records respectively***

Euphorbia oblongata (Balkan Spurge); Ogbourne St Andrew (SU17), garden escape, KNe & FS.

Euphorbia stricta (Upright Spurge); Vincients Wood (ST87), garden escape, beside path, DG & FS.

Fumaria bastardii (Tall Ramping-fumitory); Bradford-on-Avon (ST827608), Many plants both young and mature, both in flower and fruit, scrambling up rose stems in short grassland between housing and River Avon, FS, confirmed by Tim Rich BSBI. Only the 2nd Wiltshire record since 2000. ***1st VC7 record***

Galium x pomeranicum (Lady's Bedstraw x Hedge Bedstraw); Murhill Bank (ST76), FS.

Gaudinia fragilis (French Oat-grass); Braydon Side (SU014855), thousands of spikes at or near this grid reference, representing a considerable extension to the known population, DG & FS.

Geranium columbinum (Long-stalked Crane's-bill); Minety, Station Approach, north (SU0390), a single flowering plant in old railway ballast, MBu & DG. A welcome record this far north in Wiltshire as the majority are found in VC8 surrounding the chalk or on the limestone of the Castle Combe area, VC7 – Ed.

Glyceria declinata (Small Sweet-grass); Morningside Farm WWT reserve (SU08), WBS.

Lactuca virosa (Great Lettuce); Bishopstone, Ridgeway Farm (SU28), two plants, WBS.

Lamium amplexicaule (Henbit Dead-nettle); Avebury National Trust courtyard (SU07), SBe.

Lamium hybridum (Cut-leaved Dead-nettle); Sevenhampton, Roves Lane (SU28), MBu.

Lonicera japonica (Japanese Honeysuckle); Chippenham, Moss Mead (ST87), garden escape, DG & FS.

Malva x clementii (Garden Tree-mallow); Westbrook (ST96), single well-grown plant amongst native vegetation adjacent Beech hedge, DG. Only the 2nd recent record and 3rd ever – Ed.

Molinia caerulea (Purple Moor-grass); Chilton Foliat SSSI (SU327698), MBu, DG & FS. This was quite a find for the previous record for this species at this site was in 1937 by J.D.Grose!

Oenanthe pimpinelloides (Corky-fruited Water-dropwort); Mouldon Hill Country Park, near (SU18), two close records, both KNe.

Oenothera stricta (Fragrant Evening-primrose); Bradford-on-Avon (ST86), single, DG ***1st VC7 record***

Panicum miliaceum (Common Millet); Pickwick (ST87), DWa.

Papaver atlanticum (Atlas Poppy); Lacock (ST86), APs; Hook (SU08), several plants at edge of verge, MBu; Ogbourne St Andrew (SU17), garden escape, KNe & FS; Aldbourne (SU27), RAi.

Pimpinella major (Greater Burnet-saxifrage); Silkwood, Westonbirt (ST8489), JWo. ***1st VC7 record***
Last recorded in Wiltshire in 1956 (VC8 Collingbourne Wood J.D.Grose)

Plantago coronopus (Buck's-horn Plantain); M4 near Liddington (SU28), woodland below motorway bridge, RAi.

Potentilla recta (Sulphur Cinquefoil); Marlborough (SU181689), growing in the 'wild' borders of Marlborough Leisure Centre, not apparently planted, PD.

Pseudosasa japonica (Arrow Bamboo); Chippenham, Moss Mead (ST87), garden escape, DG & FS.

Pyrus pyraster (Wild Pear); Bradford-on-Avon, north-east of (ST840602), five very mature trees within woodland, KNe; Ashton Keynes, North End (SU042959), single fruiting bush, part of a well-established hedgerow of bridleway, MBu & DG.

Sisyrinchium striatum (Pale Yellow-eyed-grass); Bradford-on-Avon (ST85), pavement, FS.

Sorghum halepense (Johnson-grass); Bradford-on-Avon, Woolley Terrace (ST86), wall to pavement angle, FS. ***1st VC7 record***

Ulmus x vegeta (Huntingdon Elm) Chaddington Lane PRV (SU092818), a few small standards in hedge, in two areas, WBS, determined Alex Prendergast.

Urtica dioica subsp. galeopsifolia (Stingless Nettle); Chilton Foliat SSSI (SU36) and (SU37), MBu, DG & FS. Only the 4th and 5th VC7 records ever and all since 2015 – Ed.

Veronica teucrium (formerly sp. austriaca, Large Speedwell); Royal Wootton Bassett (SU082829), single flowering plant in pavement crack; self-sown from plants in nearby garden, MBu. Only the 3rd record – Ed.

VC8 South Wiltshire – New 10km records

Allium oleraceum (Field Garlic); Ebbesbourne Wake (SU008248), two flowering plants within narrow roadside verge, MBu.

Ammi majus (Bullwort); Bradford-on-Avon (ST85), on grass bank of roundabout, DG.

Anethum graveolens (Dill); Bradford-on-Avon (ST85), on grass bank of roundabout, DG. ***1st VC8 record***

Anisantha diandra (Great Brome); Zeals (ST73), single in arable field, DG & FS.

Anthriscus caucalis (Bur Chervil), Win Green (ST92), PSm.

Barbarea intermedia (Medium-flowered Winter-cress); Upavon Down (SU15) in arable field edge, MBu & FS; Porton Down, Battery Hill (SU23), AA & PMW.

Berberis thunbergii (Thunberg's Barberry); Lower Westwood (ST85), naturalised in strip of woodland, FS. This represents only the second VC8 record and 5th for all-Wiltshire – Ed.

Betula x aurata (Silver Birch x Downy Birch); Langley Wood (SU22), AA, SFi, PMW & PW.

Bistorta amplexicaulis (Red Bistort); Zeals (ST73), single plant lane side, DG & FS.

Brachypodium rupestre (Tor-grass); Stourton and White Sheet Hill, east (ST73), SPi; Martin (SU01), SBo.

Brassica nigra (Black Mustard); SPTA Cotec Area (SU05), on a sandy bund, JBe & SPi.

Bromus racemosus (Smooth Brome); King Edwards belt (SU13), KNe & FS.

Bromus secalinus (Rye Brome); Stourton, near (ST73), DG & FS.

Carex acuta (Slender Tufted-sedge); Great Cheverell, Far Field (ST95), NJS & FS.

Carex comans (New Zealand Hair-sedge); Hilperton Marsh (ST86) self-set in gravelled area of garden centre, FS. Why isn't this found more often? It regularly self-sowed itself into paving cracks in Ed's garden.

Catapodium marinum (Sea Fern-grass); Zeals (ST780314), single at edge of road, DG & FS.

Cornus sericea (Red-osier Dogwood); Upavon Down (SU15), bird-sown and suckering plants, MBu & FS.

Cosmos bipinnatus (Mexican Aster); Trowbridge (ST85), single flowering, and several seedlings at fence to pavement angle, FS.

Cotoneaster dammeri (Bearberry Cotoneaster); Warminster Verge PRV (ST84), HJa.

Cyclamen coum (Eastern Sowbread); Dilton Marsh (ST84), garden escape, FS.

Cyperus eragrostis (Pale Galingale); Semley (ST82) in rough grass by roadside, LDv; Plaitford, Maury's Lane (SU21), several fruiting plants by fence, TN.

Erodium cicutarium (Common Stork's-bill); Maiden Bradley (ST73), SJJ.

Erophila glabrescens (Glabrous Whitlow-grass); Westbury, Wiltshire Trading Estate (ST853529), flowering plants, SBr, determined by Kat Newbert. Only the second recent VC8 record – Ed.

Euphorbia amygdaloides subsp. robbiae (Mrs Robb's Bonnet); Dilton Marsh (ST84); Little Marsh (ST85); Trowbridge (ST85), all FS.

Euphorbia oblongata (Balkan Spurge); Zeals (ST73), single on roadside verge, DG & FS; Dilton Marsh (ST84), garden escape, FS.

Galanthus elwesii (Greater Snowdrop); Westwood, Jones Hill (ST85), garden discard in gully through hedge between land and field, FS. This is a very early flowering snowdrop. Unlike the 'ordinary' Snowdrop *G.nivalis* that flowers in February this was discovered on a Boxing Day walk.

Galium constrictum (Slender Marsh-bedstraw); Bramshaw Telegraph (SU226168), five to ten plants, DG & FS. This represents the first recent record and only 3rd ever for VC8 – Ed.

Geranium pusillum (Small-flowered Crane's-bill); Littleton Panell (ST95), a few flowering plants at the corner of an organic field, MBu & FS.

Glyceria notata (Plicate Sweet-grass); Zeals (ST73), DG & FS.

Hirschfeldia incana (Hoary Mustard); Rollestone (SU04), probably originated from imported soil, MBu; Salisbury Old Sarum Ramsbury Drive (SU13), AA, FS & PMW.

Hypericum x desetangsii (Des Etang's St John's Wort); Prospect Clump, near (SU04), SPi.

Juncus compressus (Round-fruited Rush); Westbury, near sewage treatment works, (ST85), KNe.

Lathraea squamaria (Toothwort); Stonedown Wood (SU02), many individuals at the base of hazel bushes, ILD; Woodminton Down (SU02), Anon.

Laurus nobilis (Bay); Zeals (ST780313), single well grown seedling clearly indicating spontaneous occurrence, DG & FS; Salisbury (SU1329) in woodland, behind Churchfields, bird-sown, AA, SFi & PMW.

Lycium barbarum (Duke-of-Argyll's Teaplant); Cheverell Down, north of (ST95) in hedge, MBu & FS.

Meconopsis cambrica (Welsh Poppy); Stourton (ST73), SJJ.

Mentha x villosa var. alopecuroides (Apple-mint); Southwick, Goose Street (ST85), large stand on roadside verge, assumed as a garden escape, DG & FS. ***1st VC8 record***

Montia fontana (Blinks); Shearwater (ST84) c.50 plants, DG & FS

Myosotis secunda (Creeping Forget-me-not); Downton, Wick Farm (SU12), SFi, VW & PMW.

Myriophyllum spicatum (Spiked Water-milfoil); Longleat Estate (ST84), RAi, KNe & SPi.

Nicandra physalodes (Apple-of-Peru); Shearwater (ST84), on a reseeded dam embankment, DG.

Onopordum acanthium (Cotton Thistle); Lower Westwood (ST85), FS.

Orchis mascula (Early-purple Orchid); Chitterne Down (SU04), Anon.

Orobanche hederae (Ivy Broomrape); Chilmark, Ridge Farm (ST958334), c.100 spikes throughout a carpet of Ivy within a tiny copse of trees, MBu. Only the 3rd recent record, all since 2010 – Ed.

Panicum capillare (Witch-grass); Whiteparish, Brickworth Corner (SU22), PMW.

Papaver atlanticum (Atlas Poppy); Zeals (ST73), DG & FS.

Persicaria bistorta (Common Bistort); Landford (SU21), VW.

Persicaria minor (Small Water-pepper); Shearwater (ST84), DG & FS.

Poa angustifolia (Narrow-leaved Meadow-grass); Devizes (ST96), on brick wall, DG.

Polygonum rurivagum (Cornfield Knotgrass); Stourton, near (ST73), DG & FS; Maiden Bradley (ST73), SJJ.

Polypogon monspeliensis (Annual Beard-grass); Salisbury, near (SU13), Anon; Salisbury, St Paul's (SU13), EPy.

Polystichum x bicknellii (Hard Shield-fern x Soft Shield-fern); Langley Wood (SU244216), WBS, determined KNe and confirmed by Fred Rumsey, BSBI.

Potentilla indica (Yellow-flowered Strawberry); Alfred's Tower (ST748352), on bank to car park, PGr; Westbury (ST877513), EF. ***1st and 2nd VC8 records respectively***

Potentilla x suberecta (Trailing Tormentil x Tormentil); Shearwater Screen (ST84), DG & FS. ***1st VC8 record***

Reseda alba (White Mignonette); Bradford-on-Avon (ST85), on grass bank of roundabout, DG.

Salix x holosericea (Grey Willow x Osier); Downton, Wick Farm (SU12), PMW.

Salix x multinervis (Eared Willow x Grey Willow); Bramshaw Telegraph (SU21), DG & FS.

Salix x reichardtii (Goat Willow x Grey Willow); Stourton, near (ST73), DG & FS.

Setaria pumila (Yellow Bristle-grass); Maiden Bradley (ST73), SJJ.

Silaum silaus (Pepper Saxifrage); New Town, west of (SU15), MBu.

Silene noctiflora (Night-flowering Catchfly); Upavon Down (SU15), numerous over a broad area of harvested, probably organic, field, and easy to find, MBu & FS.

Solanum nitidbaccatum (Green Nightshade); Littleton Panell (ST95), many at organic field edges and at field corner. Included several plants of a form that has narrower petals with purple staining, MBu & FS.

Stachys arvensis (Field Woundwort); Trowbridge, Church Street (ST85), site of levelled soil heap, FS.

Symphytum orientale (White Comfrey); Semley Industrial Estate (ST82), DG & FS.

Taraxacum densilobum (A dandelion); Trowbridge, Pitman Avenue (ST848573), APr.

Trifolium micranthum (Slender Trefoil); East Knoyle park (ST881305), JBe.

Tristagma uniflorum (Spring Starflower); Wylye (SU007377), KFo, verified KNe. ***1st VC8 record***

Urtica dioica subsp. galeopsifolia (Stingless Nettle); Langley Wood (SU243216), WBS.

Extra interest

Two records that would not normally be accounted for as both species have occurred in their respective 10k squares before are but thought to be of significance are:

Laphangium luteoalbum (Jersey Cudweed); Southwick (ST834554), occurring in many thousands in a wet depression in a field between Southwick and Hoggington, DG. This represents only the second VC8 record. Jersey Cudweed is an annual herb of sandy fields, dunes and waste ground. In more recent times it appears to have shifted its focus for it is now found in sites such as kerb edges, pavement cracks and gravel driveways. Arriving with aggregates perhaps? – Ed.

Polycarpon tetraphyllum (Four-leaved Allseed); Bradford-on-Avon, Bearfield (ST82366144), At the roadside and on a driveway, c.40 plants, DG. This represents only the second VC7 record. Four-leaved Allseed is a thermophytic, annual herb of open, sunny and droughted areas in summer. It is beginning to appear in new habitats across the country including pavements, likely as a result of the warming climate – Ed.

Recorder initials: AA Anne Appleyard, APr Alex Prendergast, DG Dave Green, DWa Darrel Watts, EF Ellie Frew, EPa Eric Palmer, EPy Emma Preedy, FS Fran Sinclair, HJa H.J.Hall, HJC Helena Crouch, ILD Ines Lopez-Doriga, JBe Jenny Bennett, JHM James Harding-Morris, JRM John Moon, JWo Jonathon Wordsworth, KAn Karen Andrews, KFo Karen Foster, KNe Kat Newbert, LDv Lloyd Davies, MBu Martin Buckland, NJS Nick Self, PD Paul Darby, PSm Phil Smith, RAi Richard Aisbitt, RVL R.V.Lansdown, SBe Stephen Beal, SBo Simon Boswell, SBr Sam Braine, SFi Sue Fitzpatrick, SJJ Steve Jackson, SPi Sharon Pilkington, PMW Pat Woodruffe, PW P. Wilson, TN Tristan Norton, VW Ness Williams, WBS Wiltshire Botanical Society (outing), also assistance from Tim Rich, Fred Rumsey

Compiled by Martin Buckland

Obituary - Rosemary Duckett 1935 - 2025

Rosemary May Duckett was born in Cambridge on 21st July 1935, the youngest child and youngest cousin in an extended family of intellectuals and distinguished scientists. Her father was Sir Bryan Matthews, a brilliant Professor of Physiology who invented air pressurisation in planes in the war. Her mother Rachel was also a gifted scientist who had been his research assistant. Theirs was an unhappy marriage, and by the time Rosemary was two, Bryan had left the family. Rosemary quickly learnt to be self-reliant and independent; character traits that stayed with her for the rest of her life. She spent much of her childhood with kindly neighbours and family friends, who stepped in to fill the void.

She won a scholarship to the University of Oxford to read Zoology at Somerville College. Unusually for those times, she was at least the third generation of women in her family to go to Oxford or Cambridge.

As a young adult, Rosemary was an accomplished singer, something she had in common with her husband, Johnny, whom she met when he was a choral scholar in Cambridge. Their early days together were filled with music.

Rosemary and Johnny had three children together – Lucinda, Toby, and Alice – and lived in Islington for 30 years. During that happy time, she enjoyed a rich social life with friends and neighbours, which often involved delicious communal meals and lively conversations around huge kitchen tables. Rosemary became a superb cook, something that her friends in the Wiltshire Botanical Society (WBS) certainly noticed and relished when fortunate enough to share her self-catering accommodation during field meetings many years later.

She became a biology teacher and worked in the biochemistry lab at University College London. She also took up examining O- and A-Levels for the Cambridge Syndicate, a line of work that continued for almost 60 years.

Examining took her to Uganda, and there began a deep and lifelong love for East Africa and its wildlife. Having witnessed women and young girls carrying water for miles, she vowed never to waste it again. At home, she avidly collected and conserved rainwater and even in her 80's, she flushed the loo with bathwater and reused water from hot water bottles. Throughout her adult life, Rosemary also quietly helped girls with their education and other needs.

In the late 1970s, Rosemary followed Johnny to Malaysia, where she immersed herself in corporate life, whilst making sure to find time to explore its rainforests and coral reefs. She co-founded the Malayan Nature Society, intensifying her already acute awareness of the need for conservation.

Their marriage broke down after they returned to England and, adjusting well to single life, Rosemary moved to Wiltshire, eventually settling in Westbury, an area she had singled out for its soil and geology, and therefore its likely downland flora.

Rosemary was delighted to discover the WBS and was a stalwart member for more than 20 years. She was rarely happier than with her head down and bum up in some wild place with fellow botanists. She was a much-loved and highly respected member of the WBS. Its Membership Secretary for many years, she also wrote accounts of meetings for the

newsletter and enjoyed helping with the refreshments at the AGM.

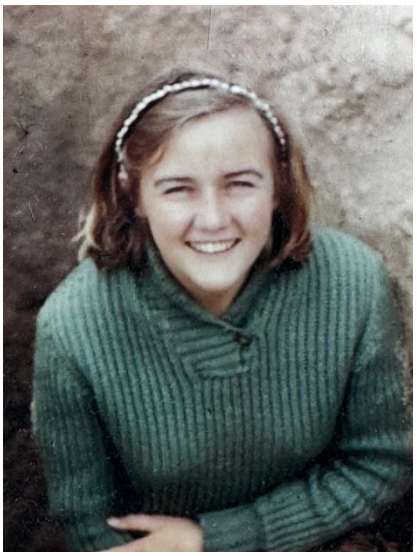
Rosemary availed herself of every opportunity to enjoy the special flora and fauna of Salisbury Plain army training area, which was only about a mile as the crow flies from her house in Westbury. She joined the MOD Conservation Group and loved going out on meetings. She found it fascinating that disturbance to downland caused by the movement of tanks and other military vehicles across grassland could result in a unique landscape brimming with life at a time when so much nature has been lost.

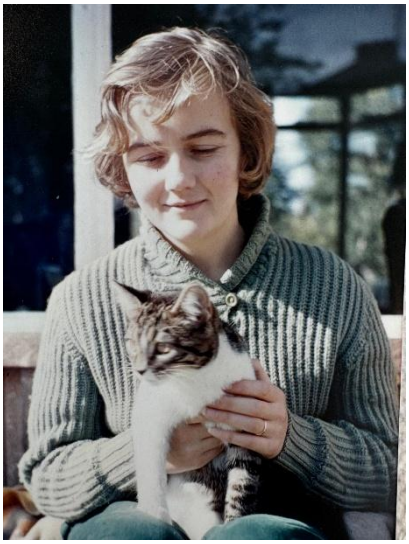
She travelled widely in her later years, with wildlife trips to places such as South Africa, Ghana, Lebanon, Kyrgyzstan, China, and various parts of Europe. She adored the renowned naturalist and photographer Bob Gibbons and became a regular on his organised wildlife holidays.

Rosemary was an unconventional woman in many ways. Clever, fiercely independent, self-reliant, kind and sometimes formidable, she was an original thinker who adored the natural world.

In her advanced years, she enjoyed exceptionally good health and a sharp mind. Unusually for someone of her age, she had an exceptionally acute sense of hearing and was capable of hearing sounds that people a third of her age could not – a mixed blessing, she always said.

Rosemary passed away peacefully on 6th October 2025, a few months past her 90th birthday. Her funeral was held at Edington Parish Hall, a venue that she would have thoroughly approved of as its hiring charge was only £10. More than 60 of her family and friends attended to celebrate her long and unusual life and to pay tribute to the remarkable woman that she was.





Acknowledgements

Much of the material in this obituary is based on funeral tributes written by members of Rosemary's family and friends. I am particularly grateful to her son Toby, daughter Lucinda, and son-in-law Michael for allowing me to adapt it. Photographs of Rosemary were kindly provided by Lucinda, although the individual photographers are unknown.

Sharon Pilkington, December 2025

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