Sussex Botanical Recording Society

Newsletter

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President's Message

Unhappily, my message this year has to start with the sad news that we have recently lost two prominent and long-time members of the Society. Pat Donovan died in November and Mike Shaw in December. As well as being a fine botanist, Pat was a talented artist, as anyone familiar with her cover to the *Flora of Ashdown Forest* will know. Mike was a well-known figure in the botanical world as the BSBI recorder for West Sussex and just recently for his well-received BSBI Handbook on the *Hawkweeds of South-East England*. Full obituaries will appear in the May Newsletter.

Inevitably Covid-19 seriously restricted the opportunities for botanising during the year. In September Alan Stewart and I managed a day exploring the Badlands meadows, an area of old species-rich grasslands within the Sussex Wildlife Trust's wonderful woodland nature reserve of The Mens near Wisborough Green. Among the notable species that had been recorded in the past were *Platanthera bifolia* (Lesser Butterfly-orchid) and *Alchemilla filicaulis*. The *Alchemilla* was discovered by Frances Abraham in 1989 in its sole current Sussex locality. I had visited the meadows the year before and had been pleased to find a few plants still growing in the short turf at the edge of one of the paths. However, there was no sign of the Lesser Butterfly-orchid; a plant that I have never yet seen in Sussex. Lady's-mantles are essentially plants of northern Britain and most don't really belong in the lowlands of southern England, *A. filicaulis* having the widest distribution. All, except the distinctive *Alchemilla alpina* (Alpine Lady's-mantle), are apomictic like dandelions and hawkweeds, and so are difficult to identify. Our *A. filicaulis* is subspecies *vestita* (Hairy Lady's-mantle).

Important and exciting as the rarities are, it is the overall diversity of these old grasslands that is significant. We racked up over a hundred species for the Badlands meadows and of course these old unimproved grasslands are not only important for plants. Alan managed to record a total of 19 species of plant- and leaf-hoppers during about half an hour's

continued on page 2

Dates for your Diary

Goodness knows whether it will be possible to hold indoor meetings in 2021. We will let members know nearer the time. But meanwhile, just in case:

Saturday 6th March 2021

If possible, the Annual General Meeting will be held at 2.00 p.m. at Staplefield Village Hall. After the AGM there will be information on this year's field meetings and of interesting records received in 2020. The hall will be available from 1.30 p.m. if you wish to bring any books or plants for sale. Captioned digital photographs of Sussex plants will be shown if time. The meeting will end with tea and cakes.

Saturday 30th October 2021

The Autumn Get-together will be held at Staplefield Village Hall. The doors will be open from 10.00 a.m. The meeting will start at 10.30 and include a talk. Remember to bring a packed lunch. Tea, coffee and cakes will be available. Members are invited to bring books and plants for sale, any items of interest or specimens for display, and captioned digital photographs to show in the afternoon. Offers of homemade cakes are always welcome.

Contents

continued from page 1
collecting towards the end of the season, including *Zygina hyperici*, a nice little cicadellid reflecting the abundance of various *Hypericums* and a first record for Sussex! I find it difficult to believe that there still aren't other similar half-forgotten fields tucked away in some inaccessible corner waiting to be discovered.

Switching back to the centre of the county, Pat Arnold, the chair of The Friends of Ashdown Forest, got in touch in November to say that one of the members had contacted her to say that she was concerned about the decline in the Marsh Gentians and could anything be done about it. The gentians, *Gentiana pneumonanthe*, are one of the star plants of the Forest and feature as part of The Friends logo. The gentians, which flower from the middle of August through September, are dependent upon a very particular combination of factors, including the level of grazing keeping the height of the damp heath vegetation at just the right level. Many of the best colonies on the Forest are being overwhelmed by vigorous *Molinia* (Moor-grass) or shaded by *Calluna* (Heath). The Conservators are well aware of the problem and have introduced grazing in some areas. On the other hand, cattle will graze off the young shoots earlier in the year if the numbers are too high. It's a tricky balance to achieve. The important thing is to establish the size of the problem. Twenty-five years ago the *Flora of Ashdown Forest* recorded the gentian in thirteen 1km x 1km squares. We now need to establish its present status in order to help advise the Conservators on the best measures needed to secure its future. This is just the kind of valuable and essential recording that the Society is really well-placed to carry out and it will be factored in to our future programmes. Brad Scott is already in touch with both The Friends and the Conservators.

Further news from Ashdown Forest is that the Board of Conservators has just announced the appointment of a new CEO. James Adler comes from the Surrey Wildlife Trust, where he has been Director of Biodiversity for the last 18 years as well as acting as national Land Management Adviser to the Wildlife Trusts. His experience of the large areas of wonderful Surrey heathlands and of working with national agencies should bode well for Ashdown Forest and we look forward to welcoming him to the county.

Happy New Year,

David Streeter

Postscript
Sadly, we have just heard that David Lang, too, has died recently.

Chairman's Note: the botanical year ahead

From where I am sitting a day or two before Christmas there would seem to be a great deal of uncertainty about 2021. Our treasurer has booked Staplefield Village Hall for the two indoor meetings, and Helen and I have put together a full programme of field meetings. Exactly how many of these events will be possible and in what form is unknown, but let us be of good cheer and assume that conditions will permit at least some of them in some form or other: we may find ourselves pleasantly surprised!

We shall, of course, have learned from our experiences this year. Many members have focused on their home patch and turned up a crop of important finds, be they unsuspected pieces of old meadow supporting Chamomile or previously unrecorded exotics brightening an unprepossessing urban corner. Under less stringent restrictions small group activity has been possible and also productive, both in terms of finds and the benefits of companionship. Whatever limitations are in force, I hope that members will continue to enjoy their botany and that we shall have valuable new data coming in from across the whole of the two vice-counties. If we can put isolated members in touch with others in their locality we shall try to do so.

As far as priorities are concerned, Jacqueline Hutson's village green project is at the top of the list. And Helen Proctor's churchyard survey still has scope for more work. Then there is the question of monitoring scarce species and important sites which our President has touched on in his Message. The Committee feels that this is something that the SBRS ought to be involved with. As yet we do not have the mechanism in place to co-ordinate this work but that should not prevent members from using their initiative to start looking in their own localities, recording the data and (please!) reporting in.

Vascular plant records should be sent to Nevil (see p. 12 for his email address and please put SBRS in the subject line when sending records). To this simple rule I add two qualifications. In the case of unusual finds Matthew Berry will be interested to learn of aliens and adventives and he will be able to validate these records. Details of other notable species should be sent to me. It is vital with records of rare or critical species to have identification confirmed, most often by a BSBI referee, and such finds should be reported as soon as possible to ensure that they can be accepted. Regarding other plant groups, Frances Abraham will be happy to judge Charophytes, and Bryophyte records should go to Sue Rubinstein and Brad Scott.

So we look forward to a better 2021. If there is any doubt about what can or cannot take place the Committee will keep the membership informed of how the changing situation affects the meetings planned. Above all, we wish you to keep safe, to keep exercising your botanical brains and to keep sending in the records!

Nick Sturt

Treasurer's Note

Welcome to 2021. Please continue to promote the *Flora* and, if possible, sell further copies. I shall report on the financial position in the Accounts for 2020 in due course.

After much soul searching it is likely that subscriptions for 2021 will remain as for 2020 i.e. £8 for an individual and £11 for two people at the same address and receiving one copy of the mailings as they arise. We have recommended this course of action as even with our reduced physical meetings our costs remain reasonably high due to the increasing costs of the website and its security and the Newsletters. Subscriptions may be sent to me at my home address, paid at the AGM in March (hopefully) or at the Autumn Get-together in October. If anyone has not paid their subscription for 2020, please now so do if you wish to remain a member; if you are uncertain of your subscription status please contact me and I shall let you know.

Trevor Lording

SBRS Photographic Competition 2021

Peter Smith

We are hoping that during 2021 restrictions on our movements due to the coronavirus pandemic will prove less restrictive than in 2020. The rules of this year's competition will be much the same as in previous years, but with a change to the categories that you may enter. As in previous years, Class 1 will be for a close-up of one or more plants. Class 2 will be focussed on one or more plants that are growing in water. Even under lockdown, last year's competition attracted 30 entries. We should be able to do much better than that this year. Entries may be submitted once the botanical season is underway and the detailed rules are given below:

Rules

1. The competition is free to enter and open to all SBRS members who are amateur photographers.

2. Photographs must be taken in East or West Sussex but do not have to be taken in 2021.

3. You may enter up to two digital images per category but you don't have to enter both categories.

4. The winners will be selected by a popular vote of those attending the SBRS Autumn Meeting, or online if that remains necessary.

5. The plants you photograph may be of any native or alien plants, including flowering plants, conifers, ferns, horsetails, club-mosses, stoneworts or bryophytes, whether casual or established, but growing *in the wild* (i.e. anywhere outside private gardens).

6. The competition is now open and will run until **Saturday October 9th 2021**. Please send your entries to Peter Smith, the Competition Organiser (p.smith@sussex.ac.uk) by that date.

7. Please submit the largest possible file sizes, but consult Peter Smith as to how files over 10MB could best be submitted.

8. The photographs should be labelled using the following format:

Close-Up: "Photo title (including location) by photographer's name_Close" e.g. "Buttercup at Woods Mill by Joe Wolley-Dod_Close";

Water: e.g. "Wolffia at Woods Mill by Jane Wolley-Dod_Water"

9. Copyright of images will remain with the photographer. However, SBRS claims the right to exhibit the entries, and to use them to further its aims generally and to promote SBRS and its Photographic Competition. This includes publishing them in its publications, on the SBRS website or social media.

All published photographs will be credited. SBRS also claims the right to edit or use images in combination with others.

The Churchyard Project

Helen Proctor

While the COVID Lockdown in Spring reduced some botanical activity, once restrictions were eased a few members were able, with social distancing, to record twelve new sites and add to four more. Cemeteries visited included Bognor Regis, North Bersted Chalcraft, Littlehampton, Newhaven and Willingdon. Churchyards included those at Buncton, Chidham, Church Norton, Compton, Middleton, Selsey, and the West Grinstead Shrine of Our Lady of Consolation. We have now topped the 400 mark with 404 sites visited since 2016! Well done everyone who has taken part.

Thanks are due to Frances Abraham, Sue Adams, Sue Denness, Helen Dignum, Dawn Nelson and Jill Oakley for the recording this year.

The sites all had low scores for unimproved grassland indicators. However, All Saints Church, Buncton had several nice woodland plants including *Anemone nemorosa* (Wood Anemone), *Moehringia trinervia* (Three-nerved Sandwort) and *Viola reichenbachiana* (Early Dog-violet). The alien *Lepidium virginicum* (Least Pepperwort) was a casual introduction at Chalcraft Cemetery, North Bersted. *Scilla bifolia* (Alpine Squill) was 'surviving' at St. Nicholas church, Middleton-on-sea. St. Peter's churchyard at Selsey had *Catapodium rigidum* (Fern-grass) and *Torilis nodosa* (Knotted Hedge-parsley) but otherwise looked more like a garden with a high number of non-native planted shrubs including *Lycium barbarum* (Duke of Argyll's Teaplant).

The data on the Excel spreadsheet include the status of species, so the number of purely native species could be counted. Most planted and established trees and shrubs were recorded but there may be some variation between recorders regarding the size of shrubs listed. The percentages of purely native species at Selsey were 62.81% of total species and at Middleton-on-sea was 61.45%. Many burial sites have circa 70-80% native species but one of the best sites was Iping Marsh with 89.7% native species.

The survey forms mostly state that, although there are some rough, less frequently cut areas, the grass is mostly mown short with the arisings not being removed. This also affects the number of grasses that can be readily identified. The number of indicators of unimproved grassland was very low, with Newhaven cemetery having the highest score of seven.

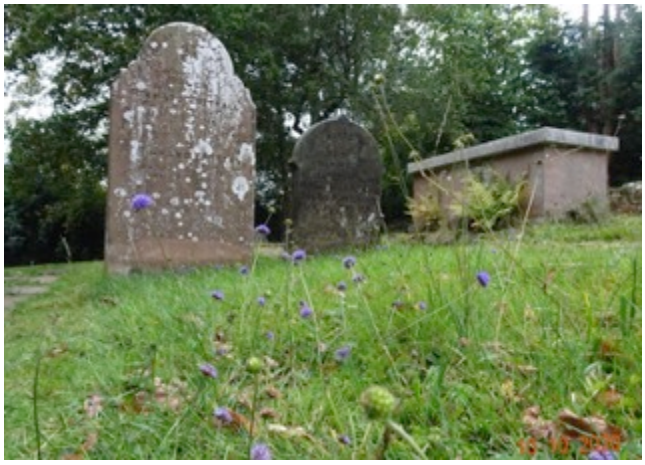
In 2021, an extra visit to Newhaven cemetery's two tetrads in Spring would be appreciated. A few other sites are shown in the table below. Please contact me as members have already agreed to record some of these sites but may be happy to have extra help.

Sites to record in 2021:
Broadwater: St Mary
Keymer: St. Cosmas and St Damian
Moulescoomb
Rye: St. Mary the Virgin
Sayers Common: Christchurch
Whitehawk: St. Cuthman
Woodingdean Natural Burial Ground

Please let me know if you have found Waxcaps in your local churchyards as these fungi are good indicators of ancient grassland which has remained unimproved.

The publication of records to churches and by word of mouth has prompted more interest in managing sites for biodiversity. I have been in touch with representatives of Woodvale Cemetery and the churches at Amberley, Mid Lavant, Spithurst, Hamsey, St. John's (Crowborough), Fletching and Newick. The latter two were inspired by one person who moved house but still influences both!

If your local church is interested in conservation management, please let me know. I have joined the charity, Caring for God's Acre and will be writing an article about Sussex burial grounds for their newsletter, 'Lychgate'. The managers of burial grounds who do improve their sites may earn national recognition!



St. John's Church, Crowborough. Our member Kevin Crook has instigated conservation management in the meadow south of the church. A late summer mowing rotation of two or three years is enabling *Succisa pratensis* (Devil's-bit Scabious) to thrive as well as many invertebrates.
(Photo: Helen Proctor)

Village Greens Survey update

Jacqui Hutson

Given the travel restrictions this year I didn't expect to receive many village green records but was pleasantly surprised to receive many from West Sussex, thanks to the efforts of Frances Abraham and Sue Denness (the latter was accompanied for some visits by other recorders: Dawn Nelson, Jill Oakley and Jackie Woolcock). Many of the greens were very disappointing and were not worth surveying in detail but it is useful to know which ones fall into this category so we can tick them off. Perhaps the very worst was a tiny village green decorated, not with attractive native plants, but with picnic tables, a litterbin and scruffy bits of grass. A couple did have some taxa of interest and it was also really helpful to receive records where each species had been scored as Abundant, Common, Frequent, Occasional and Rare, which helps indicate the quality of the vegetation. There are also greens that appear to have a good range of species, including those characteristic of old meadows, but which could be managed in more appropriate ways. Other greens have been partially recorded and there are plans to visit them again in 2021. West Sussex still has 33 registered Greens that would be worth looking at, even if to decide they are not worth detailed records. Records of unregistered greens would also be welcome.

East Sussex was covered well in 2019 but no new records were received in 2020. There are still gaps, especially in the far east. Seven registered greens have not been recorded and there may be any number of unregistered ones worthy of attention.

It seems that the criteria to be met for registering village greens (there must be evidence that the site has been used for 'at least 24 years for the purposes of lawful sports and pastimes, as of right, by local inhabitants') has been liberally interpreted in some cases – some are beaches, ponds, plantations, ancient woodland and roadside verges.

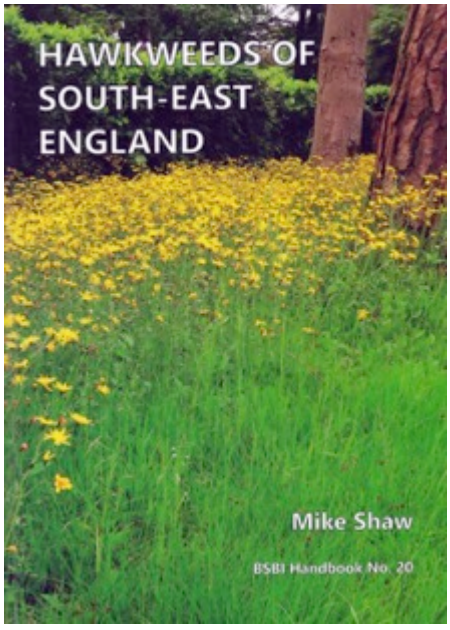
Thanks to all who have helped add to our knowledge of the state of village greens to date, and I hope that conditions allow us to make progress with this project in 2021. The website has updated lists of registered greens and also a list of unregistered greens that have already been surveyed. So please let me know if you would like to help – in most cases I can send you a registry map of the sites you may be interested in. It would be great to have photographs too, either of the greens themselves or of features/species of interest.

Book review: *Hawkweeds of SE England* by Mike Shaw

Nick Sturt

[Note: This review was written while Mike was in the late stages of the cancer to which he succumbed. I had visited him in October when he was eager to talk about all things botanical and pleased with the reception and the sales of the *Hieracium* book which will now be seen as his memorial. He was also happy to think that there could be a companion volume for the South-west, the foundations of which I believe he had laid.]

For some perverse souls the simple joys of field botany are not sufficient and eventually they go off and test themselves with critical groups such as *Rubus* and *Taraxacum* and, well, *Hieracium*. Mike Shaw had 'form' in this respect for he had already thrown himself into the prickly world of *Rubus* and the resulting collaboration with David Allen and Rob Randall led to the highly satisfactory treatment of the *Rubus* subgenus *Rubus* in the recent *Flora of Sussex*. Similarly, his burgeoning interest in *Hieracium* produced an authoritative account of the genus in Sussex for the same work. Mike was looking beyond this, however, and last year saw the publication of *BSBI Handbook No. 20 Hawkweeds of South-east England*.



First of all, this is an attractive book: the cover photo provides an example of the wealth of beautiful studies of the species which Mike has produced himself, augmented where relevant with extreme close-ups of details such as phyllaries (provided by the Natural History Museum) and portraits of herbarium specimens. Mike has had the benefit of a great deal of assistance in the preparation of this work, with David McCosh's support fully acknowledged and all the

expertise of our own Tim Rich brought to bear on the editing in the final stages. On the ground, of course, a number of SBRS members provided information and specimens for Mike; and we are also conscious of earlier workers in the field in Sussex who have increased the knowledge of the genus in Sussex, notably our late former Chairman Rod Stern.

The introductory material is comprehensive and splendidly lucid and will appeal both to the beginner in this genus and the botanist of some experience. There are careful explanatory notes on identification: an acquaintance with these is essential preparation for using the key, and will then go on to illuminate the species accounts which comprise the bulk of the work. A table on pages 20-21 sets out the 58 taxa recorded in vice-counties 10-17 (Isle of Wight, South and North Hants, West and East Sussex, East and West Kent, and Surrey). The full accounts follow a format including a description of the characters of the different parts of the plant, features distinguishing it from closely related taxa, and distribution with historical perspectives; there are distribution maps covering the region and, where this overview is informative, the British Isles as a whole.

In fine this is a classic work which will be consulted for many years to come. I have mentioned the superb photographs but I'll mention them again: so, not only a reference book but also one to be enjoyed with your feet up in an easy chair. And if you have ever in the past been impervious to the charms of a bankside *Hieracium* beckoning you in a winsome way, dip into this book and prepare next time to be seduced!

Chichester Asparagus

Nick Sturt

The splendour of the city of Bath – its terraces and crescents and mansions, all in the mellow local stone – can be appreciated to the full from the perspective of the designated Skyline Walk on the hills which form something of a natural amphitheatre around it. On one such walk some years ago on a cloudless April morning it was natural for the botanist to look at his feet whenever he could wrench his gaze from the man-made beauty filling the larger vista, and on more than one occasion when he did so he recognised the dull greyish-green basal leaves of the plant whose simplified outline graces the way-markers of the trail. The inhabitants of Bath recognise their speciality plant, and in times past they used to harvest it to sell in their markets and further afield as a substitute for Asparagus. A glance at the distribution map in *New Atlas of the British Flora* (2002) confirms *Ornithogalum pyrenaicum* – Bath Asparagus – to have its headquarters in the area immediately around the city, although there is a thin scattering of records over the southern half of Britain. Recent authorities generally treat it as a native but there has from time to time been just the faintest shadow of a doubt about this.

The distribution of this species has been the subject of much discussion and a modicum of research, since its first notice by Thomas Johnson when reporting on a plant-hunting tour in the *Mercurius Botanicus* of 1634: 'Ornithogalum angustifolium majus floribus ex albo virescentibus… Onion Asphodell, Green starre flowre. It growes in the way between Bathe and Bradford [-on-Avon] not farre from little Ashley'. Because early Bath is associated with the Romans and this *Ornithogalum* seems to be a native of Rome's homeland and its provinces around the Mediterranean there has long been the theory that the plant came with them. One theory proposes that the bulbs were accidentally imported in the root-balls of the vines which the conquerors planted (no doubt in unflinchingly straight Roman rows!) upon the hillsides around the settlement they called Aquae Sulis. This putative origin is mentioned, along with much else of interest, in an essay on the species by David Green in the *Wiltshire Flora* of 1993. When I made inquiry some twenty or so years ago there was genetic research planned in the hope of shedding light on the populations of Bath Asparagus in the neighbourhood of the city, but I am unaware of any notable results forthcoming. The question of native or introduction is not one I am competent to tackle: my researches, which have been conducted largely from the comfort of my armchair, centre instead on the presence of Bath Asparagus in a site in Sussex. I have been pressed by the editor on several occasions to set out my thoughts and this time I have run out of excuses.

Among the scatter of dots across England for *O. pyrenaicum* in the *New Atlas of the British Flora* is the hectad SU80, narrowed down in the *Sussex Plant Atlas* and the recent *Flora of Sussex* to tetrad SU80M and representing finds in Fishbourne outside Chichester. The first record goes back to Dillenius in his famous third edition of Ray's *Synopsis methodica stirpium Brtiannicarum*, published in 1724. He was informed of the presence here of our plant by his correspondent Mr (or Dr) Manningham of Slinfold and the location is described as 'on the left Hand of a Farm half a mile from Cicester [*sic*] Southgate in a Meadow plentifully'. In the 19th century Rev. Frederick Arnold, for some years a resident of Fishbourne, knew the species well and evidently in those days it was to be found in a number of places around the

village. Today its stronghold is a short section of Apuldram Lane where it survives despite sporadic attempts by the authorities and locals to tidy up the bank in question. The site could well accord with Mr Manningham's. When the A27 was re-aligned in the 1980s our late Chairman Rod Stern organised volunteers to transplant some bulbs out of the way of danger and a few plants probably arising from this work can usually be seen around the car-park for the parish church and on the verge of the new A259. I have not had any success myself in finding it elsewhere in the village, although it may well be present in private gardens. I should very much like to see it established in the recreated fragment of the garden of Fishbourne Roman palace, because I feel that this could be the origin of the Fishbourne population.

It is ironic that Arnold, an enthusiastic 'antiquarian' as well as a botanist, had no inkling of the astonishing Roman remains beneath his feet. They were excavated in the early 1960s following pieces of mosaic and masonry being unearthed when a water main was being laid across a farmer's field, and the subsequent dig was conducted by a young Barry Cunliffe. What was found turned out to be the relics of by far the largest known Roman building north of the Alps, a villa on such a massive scale as to be termed a 'palace', with the evidence for ownership pointing straight to the client king of the local Regnenses tribe, one Cogidubnus. Since that identification was made historians have corrected the spelling of his name to Togidubnus, but I shall stick with the more familiar form.

In a former life I used to teach Classics and eventually adopted the disappointingly modern Cambridge Latin Course: to its credit, this does impart a great deal of worthwhile information about Roman and Romano-British life even if it skimps on the sort of rigorous grammar mastered by pupils of the calibre of our own Priscilla Nobbs. In Unit III there is a story made up which takes King Cogidubnus to Bath to seek a cure for an unspecified ailment from the goddess Sulis at her spring. The spring pre-dates the Romans but with their innate superiority they were happy to assimilate the cult and identify the goddess with the Roman Minerva. For many years I taught the probably fictitious tale of the poorly Cogidubnus being plotted against by a dastardly Roman magistrate before I became aware that historians now believe that the lucrative shrine at Aquae Sulis was for a time actually controlled by Cogidubnus. It would not be impossible that he could have made the journey to Bath to inspect it (or, come to that, in order to be cured of some illness), but in any case the link predicates lines of communication between Fishbourne and Bath – lines along which Bath Asparagus might conceivably travel.

What follows are unsubstantiated theories, all of them more or less impossible to test, about how *Ornithogalum pyrenaicum* could possibly have come to Fishbourne. Firstly and perhaps most obviously, we can leave out any Bath connection and imagine the accidental arrival of bulbs in those root-balls of vines, for vines were surely imported for cultivation in the king's garden as a key symbol of his Romanisation. But let us pursue a putative Bath origin. Perhaps the plant was associated with the goddess and her spring. As a native it could have had cult significance long before the Romans arrived; as an introduction the association will have developed later. Whatever the case, if Bath Asparagus were seen as an accoutrement or part of the paraphernalia or ritual of the goddess Sulis then it would be natural, arguably, for Cogidubnus to acquire some for his garden; or certainly to be sent it by the administrator-priests of the shrine in recognition of his power. These are, I admit, only theories, but theories which try to account for the remarkable coincidence of a comparatively rare plant in England occurring next door to two major Roman sites. Just as Bath Asparagus has putatively survived since at least Roman times on the slopes once bearing vines around Bath, so it will have been capable of remaining in Fishbourne centuries after the palace was abandoned (around AD 270 following a fire) and its gardens overrun with invading barbarian vegetation.

Earlier mention was made of the sale of Bath Asparagus as a vegetable gathered and sold in historical times. Could then the Romans have deliberately introduced the plant for the table? I have been unable to find any written evidence for the consumption of *Ornithogalum pyrenaicum* by the Romans, not in Pliny's encyclopaedic *Natural History*, not in Columella's treatise on agriculture, not in the recipes described by Apicius. The word 'asparagus' has a basic meaning of edible shoot in Greek, which was absorbed into Latin, but we know that what we call Asparagus was the same vegetable regarded by the Romans as a delicacy. Apicius recommends that for best results it should be placed in the saucepan with the heads out of the water; and I also remember the historian Suetonius mentioning that a favourite saying of the emperor Augustus was 'quicker than boiled Asparagus', although I shall refrain from speculating about what exactly he had in mind. But returning to the point, I would suggest that the case for *Ornithogalum pyrenaicum* as a home-grown vegetable at Fishbourne palace is not convincing.


Bath Asparagus growing at Fishbourne. (Photo: Nick Sturt)

Reference was made earlier to the distribution map in the *New Atlas of the British Flora*: I should point out that the dot indicating its presence in the Fishbourne hectad is printed in red to indicate introduced status, and the accompanying text notes that the species is cultivated in gardens and can 'escape' and become naturalised. My own palace garden theory, of course, presupposes this and we need venture no further to find corroboration than Henfield and Borrer's Bank (TQ21C) where our plant still occurs as a relic of the great man's garden. I should not omit to mention here that I have read the explanation of the presence of Bath Asparagus in Fishbourne as a much later introduction by an unidentified rector of the parish who was previously based in Bath. I suspect, however, that the fact that our plant used to be found in various spots around the village tends to render the horticultural vicar theory a degree less likely. The romantic in me infinitely prefers Cogidubnus and his Aquae Sulis connection. I imagine the material being conveyed by the Imperial post service and, after a cursory inspection by the King, being handed over to the Head Gardener to nurture with due care. And it is pleasant while pausing in Apuldram Lane and admiring the handsome flowering spikes to conjure up the unprovable link to Roman Britain of nearly 2000 years ago. If this thought helps to ensure the survival of Bath Asparagus in this site then so much the better.

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As a postscript I must mention that in the course of writing this I have been reminded of SBRS stalwarts connected with our *Ornithogalum*. I recalled that Anne de Potier of the Chichester Harbour Conservancy had been in the working party which transplanted the bulbs and when I asked her she kindly recounted what she remembered of the operation. I should not neglect to mention Judy Wilson who for probably more than thirty years has been making a pilgrimage to the main site every June in order to monitor the population.

Wild flowers: weeds or garden plants?

Helen Proctor

I am a garden volunteer at Michelham Priory in East Sussex. The style of planting is fairly natural with a mixture of native and alien wild flowers and plants and trees introduced for cultivation. Herbicides are never used on the flower beds. While working in the garden, I pondered on the status of the plants I was asked to pull out and the ones that I would leave.

Richard Robinson's article in Wild Flower Magazine (Spring 2019) threw up a can of worms regarding the definition of a 'wild flower'. He suggests that 'a plant becomes wild when it starts doing its own thing irrespective of its situation'. Peter Llewellen in Wild Flower Magazine (Autumn 2019) refers to the defining of wild flowers which become gardened plants.

The status of a wild flower at Michelham Priory depends upon its perceived use by the stakeholders. This changes with the seasons and also over the centuries. Michelham Priory dates from 1229. The monks would have cultivated plants for medicinal use and vegetables. Nowadays, it is mainly the aesthetic or educational value which determines which plants are deliberately allowed to fill a space.

Lamium purpureum (Red Dead-nettle) is one wild flower which most people would classify as a weed in a garden. However, it is one of relatively few herbaceous plants which flower in March, earning it a place in the flowerbed, but by May it becomes a weed.

A small garden has a colour scheme of white, silver and pale green flowers and foliage. The Head Gardener dislikes bare ground. He asked me to leave a large group of *Euphorbia peplus* (Petty Spurge) as its pale green flowers and leaves complemented the colour scheme and filled a patch of bare ground. I was gently reprimanded when, out of pure habit, I started pulling some of it out!

The Physic Garden contains several species which could be classified as 'wild', but are cultivated for their educational value to illustrate past uses. These include *Saponaria officinalis* (Soapwort), *Galium verum* (Lady's Bedstraw), *Tussilago farfara* (Coltsfoot) and *Geranium robertianum* (Herb-Robert).

The question regarding the status of *Aegopodium podagraria* (Ground-elder) is more complicated. A fellow volunteer has been patiently spending many weeks attempting to remove it from the fernery. I had threatened to resign if I was put on Ground-elder

removal duties! So some of us perceive this wild flower as a 'weed' which must be removed. In desperation of an impossible task, the Head Gardener sees it as useful ground cover, so perhaps it enjoys the status of a garden plant. Few visitors know the names of the plants and green leaves are passed by. When it flowers, the general public may mistake it for Cow Parsley, a wild flower which is treated as a garden plant.

Ground-elder was introduced to Britain in the Middle Ages. Besides its values as a vegetable and for treating gout, it was also used to clarify beers (https://www.eatweeds.co.uk/ground-elder-aegopodium-podagraria). Ground-elder is widespread on the southern edge of the east lawn, leading me to wonder whether the monks were cultivating this plant for clarifying their beer and getting very drunk! If so, perhaps Ground-elder should be left to thrive as part of the heritage of Michelham Priory? Yes, my tongue is in my cheek!

In conclusion, some wild flowers at Michelham are both wild and cultivated or they change status depending upon the plants' uses in the garden at different times of the year or centuries.

Arun & Rother Rivers Trust: help wanted!

Sandra Manning-Jones

Rother Floodplain Meadows Project

As part of my role developing projects for the Arun and Rother Rivers Trust (ARRT) I was rather excited to discover that the University of Portsmouth had digitised the 1840s tithe maps of the Rother Valley into state of the art mapping software. This allows rapid and detailed observation of the historic landscape, and revealed something we already suspected – that the Rother was once lined by meadows from its confluence with the Arun at Hardham and all the way upstream to Petersfield and beyond. As many of you will be aware there has been a huge loss of species-rich grasslands and subsequently the array of important functions they provide. The Rother Valley is purported to be the most erodible river catchment in the UK due to its sandy valley bottom, and as such a connected floodplain of hay meadows was perfectly suited to helping to reduce sediment deposition in the river. We subsequently gained some funding from the South Downs National Park Authority to investigate the potential to recreate some of these lost meadows, understand how and where we can do this and also what current incentives are to do so. We are working with a range of national and local experts to work out the most sustainable and ecologically sound way to approach this. We'd love to hear from you if you know anything about local floodplain meadows, or would like to be involved.

Farm Bioblitz

We at ARRT are fortunate to help run two local farmers groups that span the Rother Valley and upper area of the River Arun. Farmers' groups are focussed on making environmental improvements over larger landscape areas, and are led by farmers for farmers. One element of these groups is to understand which species are already on farm, and identify targets that could be the focus of work to improve their range and habitats. As such we aim to run a Farm Bioblitz in the summer of 2021 where access to otherwise inaccessible estates will be given to recorders and others. We will provide an update on the farms taking part, and dates in the new year. Get in touch if you want to know more.

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Searching for mosses in early eighteenth century Sussex

Brad Scott

Botany did not start with Linnaeus; for at least two hundred years before *Species plantarum* was first published in 1753, the booksellers of Europe traded in herbals and other books listing plants, their descriptions and uses. At a national level, David Pearman (2017) has reported that about 85 per cent of the native lowland vascular plant flora of Britain and Ireland had been described by the 1720s, which is a remarkable statistic. The same is not true for the bryophytes, lichens and fungi, though these taxa certainly do appear to some extent in books from the sixteenth and seventeenth centuries, for example in works by Bauhin, Tabernaemontanus, Tournefort and Ray.

The earliest published 'botanical' works are primarily descriptive, including medicinal and cultural uses of plants, and such content continues into the seventeenth century and beyond, alongside the more taxonomic focus of the later texts.

Nationally, Mark Hill has been working on an account of the early bryophyte records, and that text

is eagerly awaited. For now, I'd like to focus on Sussex, and illustrate the (limited) extent of the study of this group of plants in the county some three hundred years ago.

For this, our sources are the works and herbarium of Johann Jacob Dillen, otherwise known as Dillenius (1687–1747), who was from the German state of Hesse, where his father was professor of medicine at Giessen. Though initially also starting out on a medical career, the young Dillenius developed an interest in plants and compiled his first book on the local flora in 1718. Not only did it include vascular plants, but also what Linnaeus subsequently called the cryptogams (mosses, algae, fungi and lichens). His work attracted the attention and correspondence of William Sherard, who enticed Dillenius to England in 1721 where he embarked on the third edition of John Ray's great work *Synopsis methodica stirpium britannicarum* (1724). Elected FRS in 1724, Dillenius eventually became professor of botany at Oxford, probably in 1735, hosted Linnaeus in Oxford during the summer of 1736, and his ground-breaking *Historia muscorum* was published in 1741 (Boulger 2004; Kippis 1778–1793).

It isn't clear how Dillenius met Thomas Manningham (1684–1750), though the eighteeenth century educated elite was quite a small network of people. Manningham was rector of Slinfold and Selsey, and his father the bishop of Chichester. His botanical excursions with Dillenius are frequently alluded to in the 1724 book and include discoveries of what we now know as *Geranium purpureum* (Little-Robin), *Petrorhagia nanteuilii* (Childing Pink) and *Oenanthe lachenalii* (Parsely Water-dropwort) at Selsey and on the Manhood peninsula. He also found *Ornithogalum pyrenaicum* (Spiked Star-of-Bethlehem) at Fishbourne, and is the likely discoverer of *Tephroseris palustris* (Marsh Fleawort) at Amberley Wild Brooks. Like Borrer after him in Henfield, Manningham's garden is probably the source of other interesting plants in the vicinity of Slinfold: *Asplenium maritimum* (Sea Spleenwort) and *Euphorbia corallioides* (Coral Spurge) (Abraham *et al.* 2018).

Also in the third edition of John Ray's (1724) book we find the earliest reliable published bryophyte records for Sussex, in which Manningham also figures. On page 63 there is a plant named as '*Ulva palustrus furcata, angustioribus & firmioribus segmentis*'. Mapping the polynomial names to their modern equivalents can often be a bit tricky, but was clearly a common problem in the eighteenth century as attested by the existence of Giseke's index (1779) which provides a mapping between the names in *Historia muscorum* to those in *Species plantarum*, though it is not always a reliable guide to the modern taxon. This particular plant is an instance of the liverwort ***Riccia fluitans***, of which Dillenius notes that 'Mr. Manningham and I observed it plentifully in the Ditches about Chichester'. It is noteworthy that Dillenius names it as *Ulva*, which is now a genus of green seaweeds, and indeed this plant has that quality about it.

Riccia fluitans on Chailey Common (Photo: Brad Scott)

Later in the same book (p. 111) we find a species described as '*Lichenastrum filicinum crispum*', found near Chichester by Manningham, and subsequently given the more amplified (and accurate) name '*Lichenastrum filicinum pulchrum villosum*' in *Historia muscorum*. Dillenius also crafted the English name 'The handsome woolly Fern-like Lichenastrum', and we now know this stunning liverwort as ***Trichocolea tomentella***; charmingly, the English name in the current field guide (Atherton *et al.* 2010), 'Handsome Woollywort', has Dillenian echoes. Importantly for us, this is the only record of this plant from anywhere near Chichester, and it is hard to imagine where it might have been, being typically found in flushed banks in woodland, and is only known from scattered sites around Sussex, mostly in the Weald and on the Greensand.

Trichocolea tomentella at Forest Row (Photo: Brad Scott)

Alongside Dillenius' books there is also the herbarium, which adds additional collections and details. Usefully, George Claridge Druce compiled an extensive annotated guide to the Dillenian herbarium (1907), which includes other Sussex plants probably collected after the publication of the *Synopsis*.

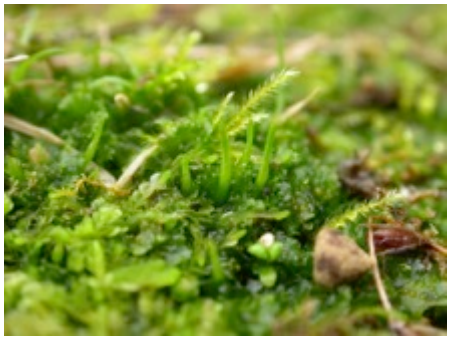
The first (referencing p. 78 of the *Synopsis*) was 'On Tunbridge rocks 1733 in July' and is described as '*Mnium minus non ramosum, angustioribus & pellucidis foliis*'. That this was almost certainly in Sussex is suggested when another Dillenius herbarium note described a different plant at Tunbridge rocks, *Hymenophyllum tunbrigense* (Tunbridge Filmy-fern), 'which rocks are about a mile off from Tunbridge Wells, lying west or rather north west'. This is surely High Rocks, and they and the other sandrocks in the area are still home to abundant ***Tetraphis pellucida***.

Another specimen 'from Dr. Manningham' was '*Hypnum terrestre erectum*' (p. 81) to which Druce added the note 'doubtless from Sussex'. The identity of this plant is slightly ambiguous from *The Dillenian Herbarium*, and it could either be ***Leucodon sciuroides*** or (as the Druce note appears to suggest) ***Pseudoscleropodium purum***. Druce similarly annotates '*Hypnum erecturm aut fluitans aquaticum*' as 'from Dr. Manningham', adding that it was 'A Sussex spec[imen]', and recording the determination *Hypnum Kneiffii*, which is now known as ***Leptodictyum riparium*** (Kneiff's Feather-moss).

Two others in the Dillenian herbarium have more precise location data, and are both from Slinfold: '*Hypnum repens trichoides arboreum majus, capitulis & surculis erectis*' is the moss with the modern name ***Anomodon viticulosus***; and '*Lichenastrum capitulis oblongis juxta foliorum divisuras enascentibus*' is a liverwort species complex now named ***Aneura pinguis***.

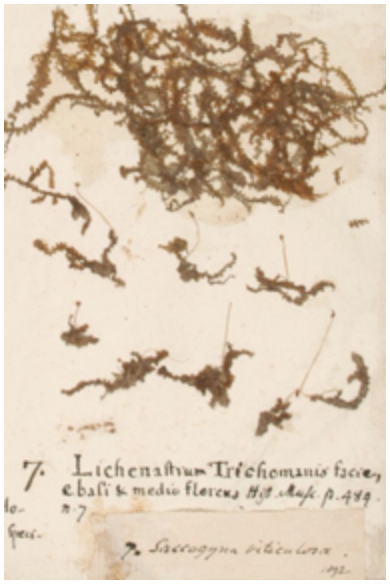
The remainder of the early records were published in Dillenius' *Historia muscorum* (1741), and it is worth reminding ourselves that at that time 'moss' was much more widely applied than it is by botanists today. Not only does this work include the bryophytes, but also the seaweeds and other algae, lichens, club-mosses, and fungi. In it, the first mention of Sussex occurs in the 'Uses' section of the plant he calls '*Polytrichum quadrangulare vulgare, Juccae foliis serratis*' (p. 421), which he partially translates as 'The common bigger square-headed Bog Polytrichum, or great Goldilocks'. Here we find that this large moss is used in Sussex for making some sort of broom. There aren't many bryophytes that you could make a brush with, so it should not be surprising that this is the plant we now know as ***Polytrichum commune***, with its tough stems up to 40 cm long.

The second Dillenius record in the 1741 volume is of a hornwort, which he called '*Anthoceros foliis minoribus, magis laciniatis*' (p. 476) and notes that this was found by himself and Manningham at Fernhurst: 'beside the road called Farnhurst Lane in a shady and boggy place, where they were densely sprouting on pedicels similar in appearance to fresh shoots of grass'[1]. The specimens in the Dillenian herbarium at Oxford are now labelled ***Anthocerus punctatus***, though as none of them has its provenance indicated it is possible that the Sussex plant isn't even there. Though there are a few subsequent hornwort records in the county, these are really scarce plants; Ron Boniface recorded this species on Black Down in 1950.



Anthocerus punctatus at Wakehurst Place (Photo: Brad Scott)

Our last early eighteenth century bryophyte is even more interesting. This is '*Lichenastrum Trichomanis facie, e basi et medio florens*' ('The Trichomanes-like Lichenastrum, with Flowers from the Middle and Bottom') which Dillenius saw in copious quantities near Slinfold, presumably with Thomas Manningham. This unambiguously corresponds to the Linnaean *Jungermannia viticulosa* which is our ***Saccogyna viticulosa***, and the specimen in the Dillenian herbarium could plausibly be that from Slinfold. So where could it have been? This is the only West Sussex record ever for this plant. Tom Ottley notes that it is 'Very rare on damp shaded sandstone rocks in humid valleys with probably just two remaining colonies in SE England. A western species in Britain.'



Saccogyna viticulosa: specimen from Dillenius' herbarium

It seems extraordinary that we have these ten bryophyte records from Sussex from 300 years ago, and that many are noteworthy plants, though it is even more extraordinary that Dillenius had described somewhere between 200 and 240 bryophyte species by 1741. The study of the cryptogams was lagging behind that of the vascular plants, but it is remarkable how much of the national flora was known by the time of Dillenius' death in 1747.

Note

1. Thanks to Nick Sturt for the translation.

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