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Front cover: Salicornia emerici (Shiny Glasswort) at Castle Coote, photographed by Lliam Rooney in 2020. The group's 2021 meeting did not re-find it, alas: the shell-shingle banks had moved, encroaching on its habitat.

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2021 field meeting reports

BURHAM DOWN, Monday 12 July

Covid 19 had cancelled all but the first of our planned meetings for 2020 and it wasn't until July 2021 that we decided we might safely offer a few field meetings. We chose Burham Down Kent Wildlife Trust reserve for the first one, feeling confident that its glorious views and fine chalk grassland flora would provide us with a great day and lift everyone's spirits. But on the day, the weather forecast for heavy rain by lunchtime threatened to spoil our plans and the eleven who set off from Bluebell Hill car park did so fully prepared for a soaking.

The meeting was led by Daphne Mills and Sue Buckingham, and the group was pleased to have the company of Phil Williams, Conservation Advisor for Natural England and two colleagues who were undertaking chalk grassland SSSI condition assessments. Straight away we were admiring flowering *Carduus nutans* (Nodding Thistle) along with *Rumex pulcher* (Fiddle Dock) and patches of *Thymus polytrichus* (Wild Thyme). We discussed the difference in structure and scent between that and *T. pulegioides* (Large Thyme) which we came across later. We followed a steep path which was wet and muddy from the previous night's torrential rain down through woodland where a very smelly stinkhorn (*Phallus impudicus*) was photographed, and then we came out onto a rectangular field with a colourful arable reversion flora. This is a field which was previously arable and is in the process of naturally acquiring more chalk grassland species. At the upper margin and on very thin soil over the chalk we found plants of Rare Plant Register species *Ajuga chamaepitys* (Ground-pine). Some were flowering and others still very tiny and we counted at least 22 plants. Close by and admired by all was a remarkable amount of another flowering RPR plant, *Clinopodium acinos*, (Basil Thyme). Others were *Carlina vulgaris* (Carline Thistle) and *Euphorbia exigua* (Dwarf Spurge). More common chalk grassland species included *Polygala vulgaris* (Common Milkwort), *Blackstonia perfoliata* (Yellow-wort), *Silene vulgaris* (Bladder Campion), *Reseda lutea* (Wild Mignonette) and *Rosa micrantha* (Small-flowered Sweet-briar).

We finally left the field with its heady scent of Marjoram and juicy wild strawberries, and we moved on to the margin of a barley crop to admire RPR species *Anthemis cotula* (Stinking Chamomile) and *Valerianella dentata* (Keel-fruited Cornsalad), plus a fruiting plant of *Roemeria hybrida* (Rough Poppy). We arrived at the main chalk grassland bank of the KWT reserve at lunch time having had not a single drop of rain and with skies brightening, butterflies flying, and the grass dry enough to sit on for lunch.

Burham Down. Photo by Sue Buckingham

The bank has a very rich chalk grassland flora with many Kent RPR species. Of those we recorded *Briza media* (Quaking-grass), *Euphrasia pseudokerneri* (Chalk Eyebright), *Helianthemum nummularium* (Common Rock-

rose), *Knautia arvensis* (Field Scabious), *Plantago media* (Hoary Plantain) and fruiting spikes of *Orchis anthropophora* (Man Orchid). Other good chalk plants were *Anthyllis vulneraria* (Kidney Vetch), *Atropa belladonna* (Deadly Nightshade), *Cirsium acaule* (Dwarf Thistle) and *Scabiosa columbaria* (Small Scabious).

As we wandered along the foot of the Reserve, Daphne spotted a single bush of *Juniperus communis* (Wild Juniper) which apparently has been known there for at least the last 50 years but had grown very little in size. *Filipendula vulgaris* (Dropwort) was spectacular in its abundance especially as we reached the western boundary of the accessible part of the reserve. There we climbed up onto the slope adding *Campanula rotundifolia* (Harebell) to the list of rare plants and Richard Moyse spotted a patch of *Rosa spinosissima* (Burnet rose) which hadn't flowered but was showing plenty of short spiny stems. This is a very local species in Kent with the bulk of records from our location in the Medway gap area of the mid Kent downs. A large colony of *Gymnadenia conopsea* (Chalk Fragrant Orchid) had obviously had a good year although only a few flowers remained.

Filipendula vulgaris. Photo by Daphne Mills

A steep climb up with several stops for breath got us back onto the top of the downs and Common Road where our cars were parked and there by the roadside, we stopped to admire *Stachys palustris* (Marsh Woundwort) in what seemed an odd spot.

In spite of the dismal weather forecast not a single drop of rain fell on us all day and as well as the plants and the views we were able to enjoy butterflies (including Marbled White, Ringlet, Meadow Brown, Small Skipper and Small Heath) and abundant small Mint Moth. Owen later confirmed a couple of additional moths as Small Purple-barred and *Pancalia leuwenhoekella*.

We finished the meeting with a much overdue presentation to Owen of his award as winner of the KBRG 2020 Giant Echium competition.

Owen's presentation. Photo by Daphne Mills

Sue Buckingham.

HEMSTED FOREST, north of Benenden, Thursday 29 July

Knowing how easy it is to lose your bearings in Hemsted Forest, I paid a visit prior to the meeting to establish a route that might give us some good plants and so that I wouldn't have the embarrassment of getting everyone lost on the day. I came up with a route all right, but hardly noticed any interesting plants and not one that I'd listed in the programme as possibilities. I told the 13 members who arrived in the main car park at Goddards Green not to expect much, but at least the forecast was good and we'd be getting some nice butterflies.

I had forgotten that just being together was still a novelty after all the restrictions of Covid and everyone seemed happy to chat with friends and simply enjoy the colourful display of common flowering plants that lined both sides of our route along the main ride. There was an assortment of St John's-worts with *H. tetrapterum* (Square-stalked St John's-wort), *H perforatum* (Perforate St John's-wort), *H pulchrum* (Slender St John's-wort) and *H humifusum* (Trailing St John's-wort) with abundant rare plant register species *Mentha arvensis* (Corn Mint) and everyone was pleased to see the delightful *Centaurium pulchellum* (Lesser Centaury).

Looking at Allseed, Hemsted Forest.
Photo by Sue Buckingham

We listed *Epipactis helleborine* (Broad-leaved Helleborine), *Sanicula europaea* (Sanicle), *Linum catharticum* (Fairy Flax), *Euphrasia nemorosa* (Eyebright), *Lotus uliginosus* (Greater Birds'-foot-trefoil), *Potentilla erecta* (Tormentil) and *Erica cinerea* (Bell Heather) plus the first flowers opening on *Succisa pratensis* (Devil's-bit Scabious).

On a small damp grassy path, we searched for target species *Centunculus minimus* (Chaffweed) and found it (I'd missed it on my earlier visit) and then Stephen Lemon appeared with news that he had found *Erica tetralix* (Cross-leaved Heath) and *Oreopteris limbosperma* (Lemon-scented Fern), two more of our targets for the day. They were both under a mature Scots Pine plantation and we followed Stephen down through the plantation to what remained of a sphagnum flush on which the pines had been planted and where our plants were managing to survive along with *Carex echinata* (Star Sedge) and *C. laevigata* (Smooth-stalked Sedge) . Our sedge list was improving as Joyce spotted *Carex pallescens* (Pale Sedge). *Carex demissa* became quite frequent along a natural grassy path which had a lot of *Danthonia decumbens* (Heath Grass), *Galium saxatile* (Heath Bedstraw) *Ranunculus flammula* (Lesser Spearwort) and *Scutellaria minor* (Lesser Skullcap).

Linum radiola. Photo by Daphne Mills

A few of us were looking for a suitable spot for lunch when *Linum radiola* (previously *Radiola linoides*) (Allseed) was spotted on the edge of a ride by those at the rear of the party. We decided that there were quite probably hundreds of the very tiny plants along with more Chaffweed and I was wondering how I had managed to miss so many plants just a week or so earlier.

We had lunch watching a White Admiral butterfly and we had already seen some magnificent Silver-washed Fritillaries. By this time, we had reached an even more interesting ride which hadn't been surfaced and had more of the typical acid-loving plants such as *Pedicularis sylvatica* (Lousewort), and *Isolepis setacea* (Bristle Clubrush). A *Potamogeton* almost covering the surface of a pool gave us problems, was it Bog Pondweed or Broad-leaved Pondweed? It had very large leaves but not the hinged petiole that you usually see on *P. natans*. Danny offered to take a specimen to Lliam for his opinion and a couple of days later Lliam confirmed it as *P. polygonifolius* (Bog Pondweed) from its large fruits and absence of hinge. I collected two very leafy but obviously different flowering hawkweeds to check out at home. The first had a conspicuously hairy stem and appressed phyllaries (the bracts that subtend the flower heads) and on considering other features as well, it was keyed out to *Hieracium sabaudum* forma *sabaudum* (Autumn Hawkweed). The second consisted of shorter plants with stems not conspicuously hairy and the phyllaries were conspicuously recurved. Those were *Hieracium umbellatum* (Umbellate Hawkweed).

By now we were between Chittenden and Causton Woods and well into the northern part of Hemsted Forest and after coming across *Melampyrum pratense* subsp *pratense* (Common Cow-wheat) and a lovely flowering patch of *Achillea ptarmica* (Sneezewort) plus more Allseed and Chaffweed, we decided it was time to head back to the car park but via a different route, which was less interesting and so allowed us to make good progress. Thanks to everyone's efforts our total of Rare Plant Register species was eighteen and with thirteen species of *Carex* (sedges) this far exceeded my expectations.

Joyce reported that the toothed bracket fungus with brown spores found with the oak is *Hydnellum concrescens*; several young caps being present around the tree and so quite a long-established colony. It is a new site for a rare species.

Sue Buckingham

SISSINGHURST, Thursday 12 August

Twelve members of the group met in a layby on Satins Hill with the intention of searching several different blocks of woodland around Sissinghurst Castle Estate, where there have been some notable records of *Wahlenbergia hederacea* (Ivy-leaved Bellflower) in the past. The leader was Jacques Turner-Moss who grew up in Sissinghurst and knew the Estate we would be exploring very well.

The first part of the route took us along the Horse Race; we headed off the main track down a small forestry track into the private Sissinghurst Park Wood SSSI, cited for its acidic woodland flora. The wood has historically been the easternmost site in the UK for *Wahlenbergia*, with several non-flowering patches found during a KBRG search in 2012.

The area had been recently coppiced, allowing an abundance of typical damp-loving acidic flora to proliferate, indicated by *Lythrum portula* (Water-purslane), *Gnaphalium uliginosum* (Marsh Cudweed) and *Juncus bufonius* (Toad Rush). The first RPR plants we encountered were several surprisingly large specimens of *Lysimachia minima* (Chaffweed) which were growing in the ruts of the forestry track.

Heading further down the slope we encountered an old faint trackway which dropped down towards a seepage area. Here the trackway was slightly shaded by surrounding vegetation, creating a humid sunny ride. On a ten-metre stretch of the trackway was the highlight of the walk, 12 healthy patches of *Wahlenbergia*, their delicate blue flowers in full bloom. Associated flora surrounding the patches included *Agrostis canina* (Velvet Bent), *Sagina procumbens* (Procumbent Pearlwort), *Teucrium scorodonia* (Wood Sage), *Potentilla erecta* (Tormentil) and *Hypericum humifusum* (Trailing St John's-wort).

Wahlenbergia hederacea. Photo by David Steere

Photographer at work (David Steere), photo by Owen Leyshon

The bottom of the slope was un-coppiced and the understorey was rich in ferns including *Oreopteris limbosperma* (Lemon-scented Fern). A large pool was full of *Potamogeton polygonifolius* (Bog Pondweed) while the silted-up stream held several plants of *Myosotis secunda* (Creeping Forget-me-not).

Heading back up the slope we made our way back onto the Bridleway. On the edge of track close to Spencer's Shaw were several plants of *Urtica dioica* subsp. *galeopsifolia* (Stingless Nettle). Large areas of coppice had recently been cleared by the National Trust allowing for a similar flora to that which was found in the previous area of coppice.

Dropping down into Bull & Birches Wood, alongside the footpath, were a few plants of *Dryopteris borreri* (Scaly Male Fern). A quick check of another site, which has held *Wahlenbergia* in the past, didn't produce any further records, although it hoped that this area will be opened up in the near future. The extremely muddy track held a good population of *Ranunculus flammula* (Lesser Spearwort).

Upon exiting the woodland, we crossed the Estate Road towards Roundshill Park Wood. The Tumbledown stile, an unusual type known locally as a Clapper-gate due to the distinctive sound made when it closes, was new for many of the members and caused much amusement; Owen posted a short video on his Twitter account! Lunch was taken on a beautiful fallen tree trunk close to a damp area alongside a small stream where there was a small area of *Alnus* carr and an open *Juncus* dominated sward with a good example of *Galeopsis bifida* (Bifid Hemp-nettle).

After lunch we headed into woodland, searching several small ponds. One of the ponds had started to mature with a rich scrub surrounding it. A few small *Oreopteris limbosperma* ferns were growing close to a little seasonal stream, while the pond contained *Alisma plantago-aquatica* (Water Plantain) and *Potamogeton natans* (Broad-leaved Pondweed).

Photo by Owen Leyshon

Heading east through the wood, we found that the damp edges to the tracks were rich in *Scutellaria minor* (Lesser Skullcap), *Persicaria hydropiper* and *Lythrum portula* (Water-purslane) but surprisingly no *Lysimachia minima* (Chaffweed) or *Radiola linoides* (Allseed) was seen.

Eventually the group came to a clearing with abundant *Calluna vulgaris* (Heather) and a dominant canopy of *Pteridium aquilinum* (Bracken). A damp flush held a good population of *Hydrocotyle vulgaris* (Marsh Pennywort) while a drier area had scattered *Potentilla erecta*, *Veronica officinalis* (Heath Speedwell) and *Hypericum humifusum*.

Looping round past the lakes we headed up the slope towards the Castle gardens. Growing along the edge of the moat were several *Hieracium sabaudum* f. *sabaudum* (Autumn Hawkweed) plants before we re-joined the start of the Horse Race where *Sison amomum* (Stone Parsley) was growing along the edge of the hedgerow.

Tea and biscuits currently not being allowed, we piled off home rather later than most of us expected! Thanks to Sue for taking down the records which have since been passed onto the NT Warden for Sissinghurst Castle.

Jacques Turner-Moss

ORLESTONE FOREST, Friday 20 August

Ten KBRG members met at the car park on Malthouse Lane to botanise the Forestry Commission's Orlestone Forest near Hamstreet. This field meeting had originally been scheduled for August 2019 as a joint meeting with the British Pteridological Society but was unfortunately cancelled due to a very strong summer gale. Coronavirus saw off any chance of holding the meeting in 2020 so it was good that it could finally take place on this occasion, albeit without the Pteridological Society.

The Orlestone Forest and Hamstreet Woods complex is mostly situated on the Wealden Clay and is one of the most important areas of ancient woodland in Kent for plants, invertebrates and birds. Our objective for this meeting was to explore the parts of Orlestone north of Birchett Lane, which include Longrope Wood, Sir Edward Street's Wood, Bayland Wood and Birchett Wood. These woodlands are characterised by being on very level ground with acidic soils and by the presence of many woodland ponds and ditches.

An *Agrostis canina*-carpeted clearing with the party contemplating grasshoppers.

Photo by Sue Buckingham

Upon leaving the car park our first interesting plant of the day was *Stachys officinalis* (Betony) growing in deep shade under oak. Once we crossed Birchett Lane, we entered Sir Edward Street's Wood where we explored a large area of open ground that is being managed to encourage the return of Nightjars. This held a very large expanse of *Agrostis canina* (Velvet Bent),

with *Veronica officinalis* (Heath Speedwell), *Scutellaria minor* (Lesser Skullcap), *Hypericum pulchrum* (Slender St John's-wort), *Carex demissa* (Common Yellow-sedge) and patches of *Calluna vulgaris* (Heather). A large pond that had recently been created here supported *Alisma plantago-aquatica* (Water-plantain) with *Gnaphalium uliginosum* (Marsh Cudweed) on the margins. Some non-botanical interest was provided by a colony of the Woodland Grasshopper and a pair of Ravens, whilst further on Jacques found a Deathcap toadstool in perfect condition. We proceeded north-westwards along the main ride until we arrived at a pond in Bayland Wood which holds a patch of *Osmunda regalis* (Royal Fern) perched on an island at its centre. The leaves of *Hottonia palustris* were abundant in the pond and there was also some *Oenanthe aquatica* (Fine-leaved Water-dropwort).

We stopped for lunch in Bayland Wood and then headed south-eastwards towards Longrope Wood. On the margins of a pond very close to the ride, we found six plants of *Carex canescens* (White Sedge), one of the special plants of the Orlestone and Hamstreet area. The tufts of *Carex canescens* had shed most of their fruit, but were still quite distinctive due to their pale green leaves. After taking a turn north-eastwards, we found an extensive spread of *Calamagrostis epijegos* (Wood Small-reed) and another pond with three more plants of *Carex canescens*. The ride flora was superb with a wonderful display of *Succisa pratensis* (Devil's-bit Scabious) in particular. However, we failed to find any *Carex canescens* at an additional pond where it was seen on the 2011 KBRG Orlestone meeting and it was thought that the pond may have become too shady for the sedge.

Succisa pratensis.
Photo by Daphne Mills

We crossed the road into Birchett Wood where the woodland rides were lined with plenty more *Succisa pratensis* and *Centaurea nigra* (Common Knapweed). Here we found *Centaurium pulchellum* (Lesser Centaury) and *Pedicularis sylvatica* (Lousewort), new for the day, and in a damp area at the junction of rides, a small colony of *Veronica scutellata* (Marsh Speedwell). A few of us searched in vain for *Centunculus minima* (Chaffweed), a species which has not been recorded from Orlestone despite some very suitable looking habitat. However, we did find a single fruiting plant of *Agrimonia procera* (Fragrant Agrimony) on the ride edge and we were able to study the characters by which it differs from *Agrimonia eupatoria* (Agrimony); its ungrooved fruiting cups and the reflexed hooked spines along the outer edge of the fruits. With the day advancing, we decided to return to the car park where Lesley showed us a patch of *Lathyrus linifolius* (Bitter-vetch) close by. Overall, we had a very enjoyable meeting with some memorable flower-rich woodland rides and a long list of plant records from five monads.

Alfie Gay

SEASALTER, Wednesday 15 September

This was the last meeting of the year and was led by Lliam Rooney. The main purpose of the meeting, other than being sociable, was to walk from the Sportsman Pub along the beach through the KWT South Swale Nature Reserve to Castle Coote, a bird reserve not open to the public, and then back again along the landward side of the seawall. This was the same meeting as the previous year but due to Covid restrictions being lifted we were able to have a full complement of botanists. The emphasis was slightly different this year as we were hoping to not only see *Spartina maritima* (Small Cord-grass) and *Salicornia emerici* (Shiny Glasswort) which were discovered after the previous year's meeting, but also to brush up on our *Atriplex* (Orache) identification skills.

We met at the lay-by by the Sportsman Pub where we numbered sixteen in total and after fond reacquainting we set off. Initially Lliam had planned to walk from the pub car park along the seawall to the kissing-gate which allows access to the beach but it transpired that a student of Alex Lockton had discovered *Cynoglossum officinale* (Hound's-tongue) on the beach behind private beach huts adjacent to the car park. Lliam was particularly eager to find this plant as he is currently in the Sisyphean task of writing a New Flora of Faversham and it was first recorded from the beach at Seasalter in 1839 by Matthew Henry Cowell ('*Seasalter- On the Sands nr. the Preventive Station*') and last recorded in 1857 by Rev. Hugh Ashworth Stowell ('*On the beach at Seasalter*'). So with this in mind it was decided that we should walk along the beach behind the beach huts, paying careful attention to stay below the line separating the private beach from the beach which was publicly

accessible.

Sue Buckingham kindly agreed to record all the species we came across whilst Lliam made notes of the Rare Plant Register plants (RPRs). Almost right away we came across our first RPR plant, *Glaucium flavum* (Yellow horned-poppy) which was still showing off its attractive yellow flowers. There was also *Carlina vulgaris* (Carline Thistle), another RPR, sheltering by a boat, although it was well past flowering. We then came to our first Orache plants. If you have ever wondered how to pronounce the vernacular name (I have commonly heard 'Or-rak-ee' and 'Or-ak') then it is very much like the word porridge but without the p. There were two species growing together looking very similar to each other; one was *Atriplex prostrata* (Spear-leaved Orache) and the other *Atriplex glabriuscula* (Babington's Orache). Looking as similar as they do the most reliable way to distinguish between them is to look at the two bracteoles which surround the seed. These are modified scale-like leaves which subtend the flower and in these two species appear as two spongy triangles or diamonds which protect the developing seed. The differences are rather subtle and soon a circle of botanists were hovering around the plants with hand lenses, trying to not only see the differentiating details but also remember which detail belonged to which plant! It turned out that *A. prostrata* has bracteoles which are joined only at the base whilst *A. glabriuscula* has bracteoles joined about halfway. Sue also managed to prize apart the bracteoles to reveal the seed and the position of the radicle, an embryonic primary root, which is also subtly diagnostic.

Orache interrogation. Photo by Owen Leyshon

Once everyone was satisfied, or satisfactorily confused, we moved onto the next Orache. This one was a lot easier to identify and was probably everyone's favourite, the rather attractive *Atriplex laciniata* (Frosted Orache). Despite being dotted all along the beach to Castle Coote it was missing from this area of coastline during the recording of the two county Atlases, being first picked up by Sue Buckingham at Castle Coote in 2010.

Still behind the beach huts we found a couple of plants of *Euphorbia paralias* (Sea Spurge). This is another RPR plant and has steadily increased its range over the last ten years or so. Again, this wasn't recorded along this coastline for the county Atlases but made a first appearance in 2016 during a KBRG meeting further along the coast near Whitstable. It is quite probable that this last location was the original one for the first Kent record dating back to 1597 by John Gerard. Close by the Sea Spurge was another Spurge but one that is definitely not on the RPR, *Euphorbia characias* (Mediterranean Spurge), an alien garden escape from the beach huts area which also provided another alien garden escape *Rosa rugosa* (Japanese Rose). This neighbourhood also yielded another RPR plant, the sought-after *Cynoglossum officinale* (Hound's-tongue)! Whilst not that rare a plant in Kent, Lliam was thrilled that there was continuity in its appearance at the beach dating back to the 1800s, although it would mean completely rewriting its entry in the Faversham Flora.

Moving away from the beach huts a rather unexpected plant was found. There was one plant of *Salicornia ramosissima* (Purple Glasswort) growing on the shingle beach. Ordinarily this genus of plants is found on saltmarshes and, although this particular species can on occasions be found on the landward side of seawalls, Lliam, who has an interest in these plants, had never before seen one growing on a beach. At the top of the beach some eagle-eyed botanists found another RPR plant, *Medicago minima* (Bur Medick), along with *Trifolium scabrum* (Rough Clover) although all rather dried-up now.

Cakile maritima. Photo by Daphne Mills

We were now on the stretch of beach where the concrete sea defences began and Castle Coote was still a way off. As the tide was out it allowed us the opportunity to look at *Zostera marina* (Eelgrass) which was rather abundant on the bare tidal mud. This is another RPR species and is particularly favoured by Wigeon and Brent Geese. Two more RPR plants were promptly found, *Artemisia maritima* (Sea Wormwood) and *Eryngium maritimum* (Sea-holly), the former being quite plentiful and attracting the noses of those botanists who find its rather spicy aroma appealing. Although not on the Rare Plant Register it was nice to come across *Cakile maritima* (Sea Rocket) showing off its attractive whitish-pink flowers.

Further along, two different Samphire plants were found growing from the concrete sea defences, *Crithmum maritimum* (Rock Samphire) and *Limbarda crithmoides* (Golden Samphire). Rock Samphire was once very popular, so much so that great brined barrels filled with plants were sent up to London from Kent to be pickled. It is also reported that people would abseil down treacherous cliffs to gather those more out of reach. This is alluded to in King Lear, '*Half-way down, hangs one that gathers samphire; dreadful trade!*' The vernacular and taxonomic naming of Golden Samphire is derived from its connection to Rock Samphire as it was eaten as a substitute. Lliam encouraged people to try some of the succulent leaves from both plants to compare tastes which in his opinion tasted very similar with a somewhat sharp citrus-like flavour. *L. crithmoides* is also another RPR plant and Daphne Mills pointed out that it can sometimes have a gall. It is made by the Picture-winged Fly, *Myopites eximia*, and can be detected, as Daphne demonstrated, by rubbing one's finger across the top of the receptacle to feel the hard pointed bumps of the galls.

Further along growing from the concrete sea defences was *Phragmites australis* (Common Reed). Although hardly worthy of note as a species it did gain the interest of people as it was putting out these extremely lengthy runners along the wall. Alex Lockton stated that these are called 'legehalme', the German for 'laying stalks'. Moving closer to Castle Coote we found more Oraches, *Atriplex patula* (Common Orache) and *Atriplex littoralis* (Grass-leaved Orache). When Edward Jacob wrote '*Plantae Favershamienses*', published in 1777, he gave three separate species accounts for A. littoralis -- one as Narrow-leaved Orache and two as Grass-leaved Orache -- each one he considered uncommon.

As Castle Coote was finally within sight more Sea Spurge was spotted, showing how it was slowly moving westward and as the tide was still way out Lliam and Jacques Turner-Moss ventured out onto the sea mud to look for another RPR plant, *Zostera noltei* (Dwarf Eelgrass). Leaf width measurements are helpful for determination, but as there is a crossover with those of *Z. marina*, we were ideally looking for leaves on sterile shoots below 1mm wide, which would rule that species out. This way we would know for definite that we had found it and after a little searching some very narrow leaves were found. After they had been measured and compared with leaves previously collected, we were happy that Dwarf Eelgrass had indeed been found.

By now the group was rather fragmented with Lliam and others making a determined hike to Castle Coote, which was also our all-important planned lunch spot, whilst others were happy to perambulate casually at their own speed. Just before entering the bird reserve we were rather amused to see one plant of *Helianthus annuus* (Sunflower) looking somewhat incongruous on the shingle beach. We had finally made it to Castle Coote which is not usually open to the public as it is an important site for nesting and roosting birds, but Caroline Ware had got us permission from the Kent Wildlife Trust to enter. Even though Lliam had been observing the grasses *Elymus athericus* (Sea Couch) and *Elymus junceiformis* (Sand Couch) he managed to walk past the hybrid between the two, *Elymus x obtusiusculus*. This was, however, picked up by Geoffrey Kitchener who demonstrated to those present how clearly intermediate the plant was and how much taller in comparison with the adjacent parents due to hybrid vigour. The lunch spot was to be at the site of *Spartina maritima* (Small Cord-grass) which is now a RPR plant, having being rediscovered in 2020 after being considered probably extinct in the county. The patch of plants was on an area of higher drier saltmarsh dotted with saline pools close by to an impressive bank made from countless white cockleshells. It was on this accommodating dry bank that we decided to sit for lunch.

Spartina maritima (Small Cord-grass). Photo by Owen Leyshon

This particular part of the saltmarsh where the Small Cord-grass grew was also the location of another RPR plant *Salicornia emerici* (Shiny Glasswort). This, too, was discovered in 2020 and was found in what appeared to be a niche habitat, in that it only grew on the extreme margin of the upper saltmarsh against the cockleshell bank. Lliam scoured the line of shells only to see that the bank had recently moved, probably due to a storm, and had completely covered the narrow habitat zone which the Shiny Glasswort seemed to favour. Lliam had also found in the previous year an unknown glasswort which he couldn't identify or categorise as either being in the diploid *europaea* group or the tetraploid *procumbens* group. After searching he found some plants which matched. They were small upright stubby plants with very large bulging cymes and seemingly annual as they could be pulled up easily like a *Salicornia*. However, it suddenly dawned on him that the plants were in fact the RPR plant

Sarcocornia perennis (Perennial Glasswort), but acting as annual because they were in their first year's growth after germination. Other features that confused identification were the cymes, which were rather neatly arranged and well-spaced as opposed to the more compact and less neatly arranged cymes one typically sees with mature plants, and the fact they were upright rather than having the usual sprawling decumbent habit. So whilst Lliam was satisfied he had now solved the identity of the mystery plants he was rather vainly disappointed he hadn't discovered *Salicornia roonii*.

Lunch at Castle Coote. Photo by Owen Leyshon

Still at the lunch site two more RPR plants were found on the shell bank, *Salsola kali* (Prickly Saltwort) and *Polygonum oxyspermum* subsp*. raii* (Ray's Knotgrass), the former being a location found the previous year and the latter being a new location, albeit close to previously known sites where it had been searched for unsuccessfully in recent years. Now lunch was over it was time to head back along the landward side of the seawall but first we had to get off Castle Coote. It was nice to see *Crambe maritima* (Sea-kale) in good numbers along the shingle ridge as we headed back and plenty of *Sedum album* (White Stonecrop) amongst a sea of *Cladonia* lichen. One more RPR plant was found before we got to the wall, a coastal grass *Phleum arenarium* (Sand Cat's-tail) which was very much at home on the dry sand and shingle.

After we had all skilfully vaulted over the concrete wall to the landward side we had it in mind to find *Ononis spinosa* (Spiny Restharrow), a largely coastal RPR plant which has been known from the area for some years. Unfortunately we didn't find it but there was a large amount of another *Fabaceae* species, *Lotus tenuis* (Narrow-leaved Bird's-foot-trefoil) covering the seawall. Some people walked along the top of the wall whilst others walked along the bottom and along a farm access trackway. The trackway is known to have two RPR grasses, *Puccinellia rupestris* (Stiff Saltmarsh-grass) and *Parapholis incurva* (Curved hard-grass) and whilst they were very small and dried up at this time of year they were promptly found, still recognisable. Faversham Creek is well known for its large population of the RPR *Peucedanum officinale* (Hog's Fennel) but on occasions the odd plant is spotted away from the main colony and one such plant was found all alone at the base of the seawall amongst the tall grasses. The seawall had plenty of *Trifolium pratense* (Red Clover) but we were looking for the RPR clover *Trifolium squamosum* (Sea Clover). It wasn't long before it was found and John Puckett demonstrated how the dried calyces differed from Red Clover in being much smaller and distinctly spikier. Whilst we were down looking at the clover the RPR sedge *Carex divisa* (Divided Sedge) became apparent, forming as it does large swathes due to its rhizomatous habit. As Geoffrey Kitchener was with us, it is customary for any dock plants present to produce a hybrid and so not before long a plant was adroitly picked out by him. It was the hybrid between *Rumex crispus* (Curled Dock) and *R. conglomeratus* (Clustered Dock), *Rumex x schulzei*.

In 2011 Lliam re-found a RPR rose, *Rosa agrestis* (Small-leaved Sweet-briar) so he knew exactly where to find it. On the previous year's meeting Lliam managed to completely walk past it but this year he was mindful of where it was. However, this year was no exception and he managed to walk past it again! Fortunately Geoffrey Kitchener was more on the ball and found it still in its original location by the end of a dyke, although now behind a wooden fence. Another RPR plant that wasn't found the previous year was *Bupleurum tenuissimum* (Slender Hare's-ear). Looking carefully amongst the grass at the bottom of the seawall Lliam managed to pick out its slender form, the grass-like stems now brown and its delicate yellow flowers hard fruits.

Approaching the Sportsman Pub our final RPR plant was found along the path atop the seawall, *Lepidium latifolium* (Dittander) with some plants still bearing white flowers. As we came to the car park we had one last plant to find. It is well known that *Silaum silaus* (Pepper-saxifrage) grows on the bank there but it had been a while since anyone had seen it. Although not on the Rare Plant Register it's always good to see and soon we were rewarded with some lovely robust flowering plants.

On the whole it was a very successful meeting and we managed to find twenty-three plants in total from the Rare Plant Register. It would have been twenty-four but Lliam couldn't locate the access point to a dyke where *Hydrocharis morsus-ranae* (Frogbit) grew because the reeds had completely smothered the area, but it's still an impressive number of plants. People were very pleased with the walk and certainly happy to be reacquainted again, and as it was the last meeting of the year Owen Leyshon wished us all a Happy Christmas!

Lliam Rooney

Kent biodiversity strategy species reports

Polygala amarella Kentish Milkwort in Kent, 2021

Kent biodiversity strategy species Kentish Milkwort received much attention in 2021, with surveys undertaken of the three current sites, and introductions made in two other locations. We also look forward to the prospect that it will recover status by being named as distinct from the Northern populations of *Polygala amarella*, which should help further the seriousness with which its conservation ought to be regarded.

The main 2021 survey took place on 21 June, three days short of Midsummer Day, but with near-continuous rain for much of the time and a temperature of 12°, so it was a challenge to complete. All participants ended up wet and cold! The recorders were (at least to begin with) Holly Stanworth (organiser, on behalf of the Species Recovery Trust) plus Alfie Gay, Fred Rumsey, Geoffrey Kitchener, Jenny Peach (Kew), Rob Pennington (KWT), Stephanie Miles (Kew) and Sue Buckingham. The plan was to begin at the main colony on Godmersham Downs, then to proceed to Purple Hill near Sittingbourne and afterwards Magpie Bottom, Shoreham. In the event, recording at Godmersham continued well into the afternoon, a depleted party continued to Purple Hill and no attempt was made on Magpie Bottom (for which records had already been obtained earlier in the year).

Godmersham

Recording at Godmersham was assisted by a suite of 2019 records and by Alfie Gay's site knowledge. In total, 49 plants were found, as listed in the appendix below. The site comprises chalk grassland on the east facing slopes of the Great Stour valley. The sward was fairly tall and included *Brachypodium ruprestre* (Tor-grass), which increases its coarseness. Kentish Milkwort favoured the shorter sward which to a degree reflected rabbit-grazing, but being two-thirds the way down the slope may also have resulted from thinner soils relatively free from downwash which influenced the coarseness of vegetation at the top and bottom. It is noticeable that records broadly followed the 60m contour line of the valley slope.

Kentish Milkwort 2019 records

The record set is shown on a satellite view of the site. Most markers refer to a single plant, but may represent up to ten (see Appendix below).

Kentish Milkwort 2021 records

The position may be compared with records made in 2019, shown below. Here the markers represent plant numbers ranging from one to 72, a total of 196 plants. Assuming correct identification of the 2019 sightings, there is an ostensible decline of 75%.

The question arises as to why there has been such a large change over the two-year period. *Polygala amarella* has been thought to be a perennial and if that is so, then it should not be at the same risk of yearly fluctuations as annual species. However, Fred Rumsey has

suggested that that the Kent plant often behaves as an annual and rarely persists beyond a second season of flowering. In this regard he thinks that it differs from the Northern British *P. amarella* and was just one of the reasons why he is very keen to see the two taxonomically discriminated once more. While there are differences between the three Northern populations (particularly as between the Upper Teesdale population and the others), the short life of the Kent plants may be responsible for the more marked fluctuations seen in our county and perhaps has also has been responsible for the greater decline.

Normally, we only see tiny plants in Kent, and these give the impression of annual growth. That is not to say that longer growth is not possible, although unusual, and this is likely to have been the case with what appears on the herbarium sheet illustrated here, with specimens collected by the Rev. E.S. Marshall (of the Hanbury & Marshall Kent Flora) near Wye in 1888. Note the 10cm scale at the side!

So far as concerns Godmersham, numbers may also perhaps be affected by the habitat has becoming less suitable through the grazing regime or for other reasons. The 2021 survey clearly covered the areas of 2019 finds and indeed found more extensive presence. It may not have been fully systematic, but the team members combed the area for a long time, marking all finds with red marker flags for grid references to be taken at the end of the session. So, in spite of the weather conditions, one would not expect the surveying team to have been any less thorough than the previous survey.

Godmersham, 21 June 2021.
Photo by Geoffrey Kitchener

The 2021 survey was, however, over a month later and, although 2021 weather conditions had generally set plants back by at least a fortnight's growth, it may be expected that vegetation growth would have been higher in 2021, perhaps concealing the small Kentish Milkwort plants. Also, the abundance of *Asperula cynanchica* (Squinancywort) then in flower was a distraction from spotting the pale flowers of Kentish Milkwort. Other distractions were *Veronica officinalis* (Heath Speedwell) and small flowers of a pale form of *Polygala vulgaris* (Common Milkwort) with inner sepals measuring 6–6.5mm, still markedly larger than those of Kentish Milkwort.

Purple Hill, 8 June 2020. Photo by Sarah Kitchener

Purple Hill

The survey of Purple Hill on 21 June failed to locate any plants. As the whole, the steeply sloping site appeared capable of providing suitable habitat but was undergrazed, and vegetation was taller with some terrain where the plant had previously been seen beginning to be swamped by bramble and coarse growth. The quality of the chalk flora otherwise remained undiminished, with much *Galium pumilum* (Slender Bedstraw), *Polygala calcarea* (Chalk Milkwort),

Polygala vulgaris (Common Milkwort) and *Euphrasia nemorosa* x *pseudokerneri* (Hybrid Eyebright). The last sighting here was 8 June 2020, where it was found at least at TQ 8129 6210 and TQ 8128 6211 (no full census was undertaken). In view of the habitat deterioration, a KWT/Species Recovery Trust initiative on 11 October involved the use of shears and loppers to cut the sward and an adze to poach and disturb the ground.

Magpie Bottom

The June 2021 survey did not reach this site, but two records were made earlier in the year:

1) 20 May 2021. One flowering plant 6cm high on a steep chalk grassland valley slope was seen by Geoffrey Kitchener and Joyce Pitt at TQ 54404 61204. Associates: *Poterium sanguisorba*, *Plantago lanceolata*, *Bromopsis erecta*, *Cirsium acaule*, *Carlina vulgaris*, *Linum catharticum*, *Succisa pratensis*, *Lotus corniculatus*, *Carex flacca*, *Primula veris*, *Ctenidium molluscum*. *Polygala vulgaris* and *P. calcarea* were not far off.

2) 1 June 2021. One plant in the main rabbit scrape was noted by Joyce Pitt at TQ 54399 61203.

Magpie Bottom, 20 May 2021. Photo by Geoffrey Kitchener

Introductions

Plants were cultivated at Kew from seed collected at Godmersham in 2014. They were planted out by the Species Recovery Trust with KWT on 19th April 2021 at Fackenden Down and Queendown Warren, in locations which appeared suitable but did not have previous records, so there should be no issues of confusion of introductions with unexpected natural re-appearances of indigenous plants. There was a second planting at those sites on 20 October.

Fackenden Down, Otford/Shoreham introductions (first and second plantings)	**Queendown Warren, chalk bank below reserve introductions (first and second plantings)**
(1) 3 plants at TQ 53048 60341	(1) 4x plants at TQ 83027 62902 (south-facing side of bank)
(1) 3 plants at TQ 53049 60344	(1) 3x plants at TQ 83025 62918 (north-facing side of bank)
(1) 2 plants at TQ 53051 60331	(2) 5 plants at TQ 8303 6291
(2) 4 plants at TQ 5304 6035	(2) 5 plants at TQ 8303 6290
(2)3 plants at TQ 5304 6033	
(2) 3 plants at TQ 5305 6032	

Queendown Warren, 11 October 20 May 2021.
Photo by Alfie Gay

Alfie Gay reports as follows:

> '[after the habitat works at Purple Hill on 11 October] I joined Holly from the Species Recovery Trust and Rob Pennington from KWT to look at the *P. amarella* plants that were planted on the bank of chalk spoil at Queendown Warren earlier in the year.
>
> I hadn't attended the planting of the milkworts in April and didn't think we would have much chance of finding anything in October. However, four of the plants were still in good flower. Two plants had clearly died back after flowering earlier in the year (presumably at the time of planting), but had since resprouted with vigorous flowering shoots (see photo above). There was also an additional *P. amarella* rosette close by, which being approx. 20cm from one of the original plantings, could only be from seed that was produced and germinated this year. The plants had obviously benefitted from the wet summer.
>
> Although it is artificial, it did occur to me that the colony might be an interesting one to follow and could provide an opportunity to find out more about the life cycle/behaviour of *P. amarella*. The chalk spoil bank itself could make a very interesting study of chalk grassland succession.'

Appendix: Godmersham records for 21 June 2021

Grid reference	No. of plants	Grid reference	No. of plants	Grid reference	No. of plants
TR 05835 50081	1	TR 05865 50112	2	TR 05893 50233	1
TR 05840 50085	10	TR 05892 50161	1	TR 05892 50234	1
TR 05843 50087	1	TR 05880 50166	1	TR 05891 50232	5
TR 05843 50093	1	TR 05910 50187	1	TR 05892 50235	1
TR 05837 50087	2	TR 05905 50195	3	TR 05891 50236	3
TR 05856 50109	2	TR 05909 50205	1	TR 05888 50236	1
TR 05856 50108	2	TR 05911 50226	2	TR 05892 50236	1
TR 05858 50108	1	TR 05896 50227	2	TR 05910 50228	1
TR 05859 50108	1	TR 05895 50229	1	**Total**	**49**

Geoffrey Kitchener

Orchis purpurea Lady Orchid in Kent, 2021

A very cold dry spring meant that Lady Orchid monitoring started a little later this year with Dave Steere first out on 16 May at **Stockbury** KWT reserve where he recorded a total of 121 plants of which 105 were flowering and 16 were blind rosettes. Danny Chesterman visited the same site just over a week later with a similar count. Both recorders filled in the recording form, adding their thoughts on the effects of recent work by KWT to open up the woodland canopy. Dave, who knows the site well and has witnessed a decline of *Orchis purpurea* there since 2013, expressed concern at the resulting explosion of *Tamus communis* (Black Bryony) and *Mercurialis perennis* (Dog's Mercury) whilst Danny considers that opening up the canopy has helped expand the Lady Orchid colony. Their somewhat conflicting comments tie in with the difficulty of getting the management right and continuing to maintain ideal conditions for Lady Orchid with its preference for sheltered yet not too shaded conditions.

Lady Orchid seedlings at Ranscombe, May 2021, showing possible slug or snail damage to leaf-tips. Photo by Richard Moyse.

As recently retired warden of Plantlife's **Ranscombe Farm** reserve, Richard Moyse has had plenty of experience of managing for Lady Orchids and he and Kathy Friend kindly completed forms for the well-known colony just outside Ranscombe and some smaller populations within the Reserve.

They used coloured flags to assist with counting; red to mark flowering plants and yellow for blind rosettes with the large number of the latter apparent in the accompanying photograph.

Counting Lady Orchid at Ranscombe, May, 2021. Photo by Richard Moyse.

I haven't asked recorders to try to differentiate between seedling plants and blind rosettes (which would be 'older seedlings' yet to flower) but Richard has taken the trouble to do just that and informs that 15 of the blind rosettes marked in the photograph appear to be seedlings. Lady Orchid is notorious for poor seed set and when a

colony within the reserve was found not to be setting seed, some hand pollination was periodically carried out. Richard reports that this was a success and that particular colony had nine obvious young seedlings alongside this year.

Moving from west to east across the county, in July Daphne Mills and I took a late look at the **Burham Downs** colony where earlier it appeared there had been a good number of flowering spikes under shade of hazel and yew, but only five capsules had managed to develop. No seed set was noted at all from a small heavily shaded colony of very robust plants under beech in **Eggringe Woods** whilst in a fairly open situation at **Bonsai Bank** where there are hundreds of plants to attract the pollinators, 12 spikes from a patch of 29 all had varying numbers of well-developed capsules, one with 18.

Rabbit damage at Bonsai Bank, 2021. Photo by Sue Buckingham

On 25 May Danny Chesterman recorded a single flowering plant on Primrose Bank in **Bredhurst Woods** and another from what appears to be a new location much further southwest within the wood. **Queendown Warren** was on my original list of sites but lacked good recent Lady Orchid sightings. Danny has put that right with a record of three plants. Permission was acquired in order to check up on the caged Lady Orchids at **Ospringe** where Danny notes that slugs were causing some damage to the plants.

Fallow deer damage at Cutlers Wood, 2021. Photo by Sue Buckingham

Alfie Gay's count of flowering plants on the **Wye Downs NNR** was identical to last year's at 34. Just northeast of Wye in the Crundale Downs a small colony turned up six plants and Dan Tuson discovered another across the valley at the edge of **Towns Wood**. Some KBRG members will certainly remember a visit in 2018 to **Cutlers Wood** where we marvelled at the site of a very large flowering colony of Lady Orchids near the northern margin of Kings Wood. With permission Alfie and I revisited in May this year and were shocked to see that the fallow deer which had clearly been responsible for managing the clearings and wood pasture so well for the orchids in 2018, had been through this year and eaten virtually all of the Lady Orchids before they could flower! We concluded that this year's very dry April with little grass growth had forced the deer to browse their way into the scrub to graze off the orchid rosettes beneath.

The large area of woodland that is **Eggringe, Denge and Down Woods**, managed by Forest England, The Woodland Trust and private owners also includes the largest Kent Lady Orchid colony at **Bonsai Bank.** Several smaller populations are on valley slopes and respond well to localised ride and forest clearance. Dead ash in the

canopy also seems to be having an effect by allowing extra light which initially brings about a rush of growth on the woodland floor along with the Lady Orchids where already present, but also with less desirable species such as *Mercurialis perennis*, *Gallium aparine* (Cleavers) and *Rubus fruticosus* (Bramble), as mentioned earlier. **Bonsai Bank** had fewer flowering orchids this year and with plenty of evidence of rabbit damage. I put both down to the cold dry weather in April.

A new and slightly larger count for **Yockletts Bank KWT Reserve** with 56 more than last year was down to a very fine colony new to me at the very northern tip of the reserve and it looks to have grown up recently in response to canopy clearance on a steep slope with *Taxus baccata* (Yew). At **Parkgate Down Reserve**, Heather Silk reports that the solitary Lady Orchid sighted was in a slightly different spot from usual this year. **Covet Wood** had fewer flowering plants than in 2020 whilst **Canon Wood,** a private site owned by Affinity Water and managed by White Cliffs Countryside Partnership, had more. A total of 53 Lady Orchids was recorded there on a survey task led by Alfie Gay. Alfie has searched for Lady Orchid in **Sladden Wood** KWT reserve for some years and this year he was rewarded with one flowering plant and two blind rosettes.

The three flowering Lady Orchids and five blind ones recorded by John Puckett and Leonie Seymour at privately owned **Jumping Down** included a single white-flowered one. Plants were scattered along the edge of Hoath Wood just above the grassland slope that was used for many years by motor bike scramblers. **Long Ruffet** and **Knowle Woods,** also in private ownership, are well managed for their orchid populations, their owners taking counts, managing coppice and glades and keeping the rabbits out.

Larkey Valley KWT Reserve received visits from both Danny and me, each of us recording from slightly different spots; Lady Orchid numbers compared well with previous counts. Records from privately owned **Ileden** and **Woodlands Wood**, Adisham reached us from a local resident who monitors the orchids and has provided the best total for Woodlands Wood that we have seen in recent years.

My thanks to everyone mentioned who has counted Lady Orchids this year and filled in my rather exacting forms. I am using the information that you have given me about slope, aspect, density, habitat, management, grazing damage, associates, etc. to put a picture together which will hopefully add to our knowledge of Lady Orchids in Kent. There are two more years for this survey and if there are still members who think they may like to contribute, I have gaps in recording with vc 16 sites around Halling and Luddesdown which haven't had a visit plus some additional vc 15 sites—and all sites will benefit from re-visits for comparative counting.

Bonsai Bank, 2021. Photo by Sue Buckingham

Finally, thanks to Forest England, KWT, Natural England and Plantlife for sterling work with reserve management.

Sue Buckingham

Lady Orchid survey data

Tetrad	Site	Number of plants 2020	Number of plants 2021	Highest counts since 2010 except where indicated
TQ46Q	Rushmore Hill	0		Last recorded 1991 & 1987-99
TQ76D	Ranscombe west	38 flowering + 21 blind	58 flowering + 67 blind	71 flowering (2013)
TQ76E	Great Wood	11 flowering	8 flowering + 7 blind	17 in 2016
TQ76E	Clay Pond Wood		7 flowering + 10 blind	13 flowering (2013)
TQ76G	Burham Downs	168 flowering + 139 blind	late visit observed only 5 swollen capsules	285 (2013)
TQ86A	Bredhurst Woods		1 flowering at 2 separate locations	50 spikes (2011)
TQ86F	Stockbury Hill		91-105 flowering + 16-36 blind (2 recorders, 2 weeks apart!)	299 in 2019
TQ86G	Queendown Warren		2 flowering + 1 blind	few records
TQ96V	Ospringe		10 flowering + 24 blind	35 flowering (2013)
TR04	Wye Downs	34 flowering	34 flowering	Over 3 populations in NNR
TR04U	Warren Wood east	18 flowering + 10 blind		40-50 flowering (2010)
TR04U	Warren Wood west	4 flowering + 10 blind		Small colony
TR04Y	Franscombe		2 flowering + 6 blind	1 flowering, 7 blind (2019)
TR05K	Cutlers Wood		20 flowering + 300-500 blind or bitten	Estimated 300 flowering (KBRG 2016)
TR05L	Park Wood	1 flowering	1 flowering	

TR05V	Down Wood		6 flowering + 7 blind	10 flowering (2010)
TR05V	Eggringe Wood		7 flowering	3 flowering, 2 blind (2014)
TR05V	Thruxted		6 flowering	15 flowering (2011)
TR14H	Spong Wood	7 flowering		
TR14H	Little Profit (private)		90 flowering (estimate)	90 flowering (estimate)
TR14I	Yockletts Bank	320 flowering + >100 blind	376 flowering	505 flowering (2013)
TR14N	Fryarne Park & Lynsore Bottom	54 flowering + 9 blind	35 flowering by KWT RNR	similar numbers
TR14T	Parkgate Down		1 flowering	1 on KWT Reserve
TR14T	Elhampark (Madams) Wood		1 flowering	
TR14U	Covet Wood	361 flowering	124 flowering + approx. 70 blind	Up to 3,000 in 1990s
TR14U	Quilters Wood		2 flowering	
TR14Z	Jumping Down		3 flowering + 5 blind	5 plants (2013)
TR14Z	Long Ruffet Wood		40 flowering + 80 blind	24 flowering (2011)
TR15A	Bonsai Bank	1550 flowering + > 2,000 blind	1224 flowering + >2,000 blind	3,481 flowering (2013)
TR15B	Denge Wood (Woodland Trust)	34 flowering + >20 blind		
TR15H	Larkey Valley		32 flowering + 3 blind	29 flowering (2013)
TR15R	Whitehill Wood	4 flowering + 10 blind		8 flowering (2011)
TR15V	Knowle Wood		13 flowering + 20 blind	12 (2011)
TR24L	Sladden Wood		1 flowering + 2 blind	
TR24M	Cannon Wood	33 flowering + 17 blind	53 flowering	400 flowering (2003)
TR25A	Ileden Wood		3 blind	
TR25B	Woodlands Wood	33 flowering + 15 blind	36 flowering + 160 blind	133 flowering (2012)
		TOTAL flowering: 2,636	**TOTAL flowering - 2,302**	
		TOTAL non-flowering: 2,351	**TOTAL non-flowering - 3,478**	

Thoughts on the True-fox Sedge, *Carex vulpina*, in Kent

I have been taking stock of the Kent Botanical Recording Group's twelve years of records of the True-fox Sedge *Carex vulpina*. They can be compared directly with earlier records to draw some conclusions on this species' current status in the county and continued threats to it.

Penshurst, Eden valley, 28 May 2013. Photo by Stephen Lemon

C. vulpina's historic distribution in Kent follows the Low Weald, running from the western border of Kent at Edenbridge along to Ashford and Orlestone in the east, with outlier populations extending into the High Weald at Penshurst in the west and formerly at Tenterden in the east. Its Low Weald distribution extends outside Kent, along the River Eden into Surrey. Considered as a whole, the current recording picture indicates an overall decline in the Kentish distribution, based on a lack of re-finds in the eastern Low Weald. However, the species seems to be maintaining itself along its historic range in western Low Weald. It shows no signs of range expansion in Kent.

Most of the records collected since 2010 come from along the floodplains of the River Eden and River Medway (described here as West Kent), all located within half a kilometre of the rivers. East of the Medway and Yalding (described here as East Kent), there are far fewer post-2010 records, where historically the plant grew both on the floodplain of the River Beult and more widely. This lack of recent records and re-finds from former sites in East Kent suggests a fairly severe decline, although more searching is needed. We could speculate that in the past much of the flat ground in the eastern Low Weald functioned as a large interconnected floodplain which suited *C. vulpina*, but with draining the area does not suit it as well.

C. vulpina prefers seasonally waterlogged ground and shows a strong preference in Kent for the Weald Clay formation; and the importance of the Weald Clay to this species was noted by Francis Rose. The post-2010 records include many growing over High Weald geologies, both sandstone and clay, close to the geological boundary with the Weald Clay. The growing medium is therefore likely to be less significant for *C. vulpina* than the habitat created by the underlying geology. It is likely that the topography of the Weald Clay in Kent plays a major role in the species' distribution. In West Kent the Weald Clay forms a rolling landscape, limiting and concentrating *C. vulpina*'s flat waterlogged habitat to river floodplains. The Weald Clay occupies a greater area in East Kent and is generally flatter and less rolling. This wide flat landscape in East Kent once produced records for *C. vulpina* but, as mentioned above, the post-2010 recording suggests that, despite the area once being suitable, the plant has declined there.

With a strong bias towards growing in the vicinity of the rivers in West Kent, it is interesting to consider where *C. vulpina* is absent along the River Medway. The plant is unconfirmed along the Medway below Yalding. In contrast, the False-fox Sedge *Carex otrubae* is common along lower reaches of the Medway, including the grazing marsh at Holborough. *C. vulpina*'s floodplain habitat is more restricted along the lower Medway below Yalding, but it does not disappear, so other factors must work against the plant establishing colonies lower down the river. It may be intolerant of brackish conditions which could also explain its absence from flooded ditches and pastures on the Romney Marsh. *C. vulpina* is unknown from the upper reaches of the River Medway above Penshurst. This is curious as the upper Medway's floodplain is similar to the floodplain of the upper Eden used by *C. vulpina*.

Hale Street, May 2020. Photo by Stephen Lemon

I believe a crucial factor that has assisted *C. vulpina* in maintaining itself along the river floodplains of West Kent is its ability to re-distribute itself continually to new areas. When habitat becomes unsuitable in one area and the plant dies out, seed can be dispersed from other colonies when the rivers flood, allowing *C. vulpina* quickly to colonise any new habitat that appears and also re-occupy former habitat when it becomes suitable again. This was noted when searching unsuccessfully for the plant at former sites along the Eden and Medway, but finding it in apparently newly created sites nearby. It has appeared at a new wetland developing near Swansnest Island next to the River Eden and has re-colonised at its former site at Hale Street site where quarrying wiped out a large colony and created the new areas which have now been occupied. Both sites are subject to periodic flooding by the river. This demonstrates the importance of the populations along the River Eden in Surrey, which potentially act as a source of seed for populating areas along the floodplain downstream in Kent along the Eden and possibly the Medway. Populations in close proximity to flooded ground can also build up large numbers of plants, such as the largest population in Kent at Tonbridge Sportsground which occupies ditch directly connected to the river.

Tonbridge sportsground, 1 September 2021.
Photo by Alan Heyes

The plant also has the ability to spread rapidly on bare ground created naturally by flooding or artificially by man, such as a rapid increase in plants following the removal of scrub below power lines at Yalding. In East Kent, the position is more complicated with records from both the River Beult floodplain and outside of it. It may be a factor in the decline of C. vulpina populations in East Kent that not all are connected to river floodplains. *C. vulpina* is doing well in East Kent away from a river floodplain between Marden and Staplehurst, but the habitat here functions in a similar way, being a low-lying valley running along either side of the railway that is poorly drained and subject to periodic floods. The reason why *C. vulpina* does not appear to have maintained itself in a similar fashion along the floodplain of the River Beult is unclear and needs further investigation. Land use along the river may play a role in its loss, although the River Beult's floodplain is inaccessible in many places so the picture may not be as bad as it appears.

Land management is probably the biggest threat to *C. vulpina* in Kent. The species utilises various types of wetland: ponds, ditches and hollows within grazed pastures or meadows cut for silage, which are either seasonally wet or permanently flooded, as well as lightly shaded wooded marshes and more human-disturbed sites like quarries and recreation grounds. Despite its association with river floodplains, it is not a plant of river banks. The banks of the Medway and Eden are mostly unsuitable, being steep and too well drained in summer. The change in land use along the Medway floodplain immediately east of Tonbridge, from livestock grazing up to the 1980s, to arable, was very likely the main cause for the species' disappearance at this site. Another probable reason for the failure to re-find the species at some of its historic sites is the lack of management of its pond and ditch habitat and the subsequent development of heavy shade from tree growth. Changes to more intensive forms of management of the floodplain fields along Eden, Medway and Beult and /or a lack of management of Low Weald wetlands could have or be having a detrimental effect on *C. vulpina*'s current population.

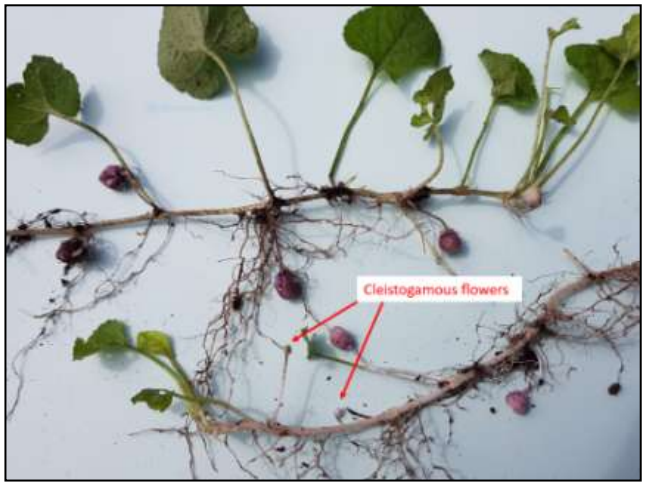
Stephen Lemon

Cleistogamy in *Viola odorata* (Sweet Violet)

Viola odorata is prolific in my garden, in the grass and in the flowerbeds. In August this year we decided to dig up a small shrub that wasn't doing very well in our back garden.

It had a patch of violets underneath and with the shrub up came a mass of Sweet Violet with leaves and root. To our surprise, amongst the violet roots were many fuzzy purple balls which on close inspection were ripe seed capsules containing plenty of seed. I laid some out on paper and photographed them straight away.

I've read that violets can produce cleistogamous flowers in the summer which don't open in the usual way but self-pollinate and set seed and I knew that those flowers are called cleistogamous, as opposed to the normal opening ones which are chasmogamous. This is mentioned in various books including on page 4 of the BSBI *Violets Handbook*.

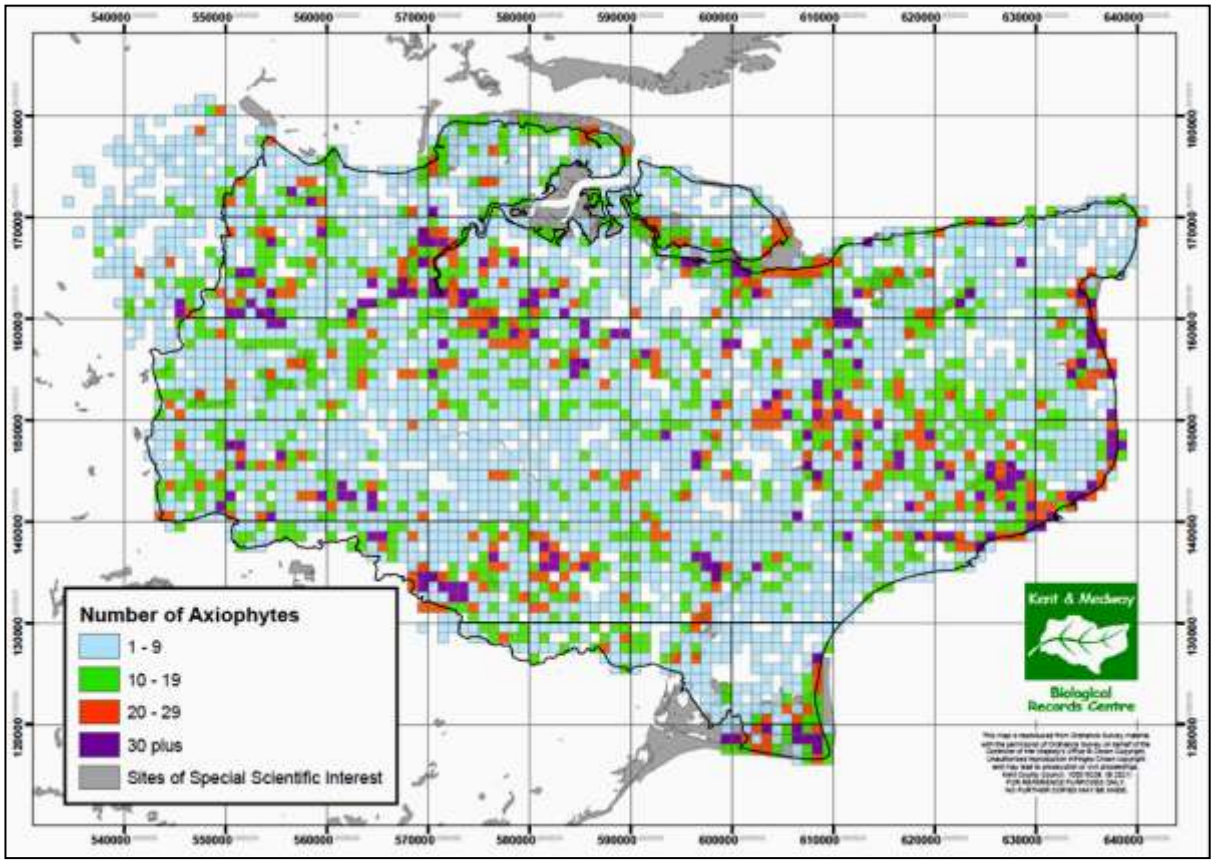


However, I didn't realise that both the production of the tiny petal-less flowers and the fruits takes place out of sight and underground. Thinking this was something only I wasn't aware of, I showed material to a few people at a KBRG meeting but they were similarly unfamiliar with this appearance. I thought I'd put something together here to share with other members and I'd be interested to hear if anyone has come across this as well.

In searching online for information, I came across this which you may enjoy, I certainly did.
https://awkwardbotany.com/tag/viola-odorata/

Sue Buckingham

Habitat quality in Kent



KMBRC have produced this very interesting map for the Kent Nature Partnership to show the distribution of axiophytes in the county in relation to that of our most valued wildlife sites, so as to prompt consideration of the potential for connecting up sites to help nature recovery. It uses different colours to illustrate the numbers of axiophytes that we have recorded since 2010 in each monad and these overlay the locations, shown in grey, of SSSIs (so that there is actually little visibility of the grey sites, because of the overlay, but their location can often be inferred, as axiophyte hotspots). For KBRG members who enjoy the challenge of adding to our records, here is an opportunity to colour up squares on the map by finding more axiophytes. I am sure we can turn some from white to pale blue and even from pale blue to green.

All counties were encouraged by BSBI to draw up an axiophyte list and you can find ours if you scroll down to the very bottom of our web page at: https://bsbi.org/kent. Axiophytes are the "worthy plants", the 40% or so of species that indicate habitat which is important for conservation, such as ancient woodland, species-rich grassland, clean water or even good brownfield sites. Although many are associated with a particular type of vegetation assemblage, others are indicative of good habitat no matter where they occur (with exceptions, marked on the list). They aren't the same as rare plants even though many are included in the Kent rare plant register. Others are much more common and widespread such as *Adoxa moschatellina* (Moschatel), *Anacamptis pyramidalis* (Pyramidal Orchid) or *Butomus umbellatus* (Flowering-rush). Some of the species in the RPR are not listed as axiophytes because they may only ever have been recorded in one or two sites in Kent and therefore have limited ecological significance. Lists of axiophytes are intended to provide a powerful technique for determining conservation priorities because the localities with the most may be expected to be of more importance than those with least.

Sue Buckingham

A survey in Sheppey, August 2021

It was a suggestion by Tony Witts that set us off, together with Lesley Mason, on a survey starting from the old Ferry Road, which tails off alongside the Kingsferry Bridge. This is now signed as a 'road unsuitable for some types of vehicle' and originally served the ferry linking Sheppey and the mainland before a combined rail- and road-bridge was constructed in 1860, leaving the road with little purpose. The objective of the survey was to establish the current status of the Elmley population of *Lactuca saligna* (Least Lettuce).

On arrival we found much tipped ground with great quantities of chenopods and amaranth. The imported soil had brought in all sorts of plants and the result was not only a wide range of weeds, including *Datura stramonium* (Thorn-apple), in its white trumpet flowered form, var. *stramonium*, but also garden escapes. *Petunia* x *hybrida* (Petunia) and *Sisyrinchium striatum* (Pale Yellow-eyed-grass) may not be particularly exciting records, but they at least were new to the island. Indeed, for the day as a whole we found at least a dozen taxa which appear to be new to Sheppey.

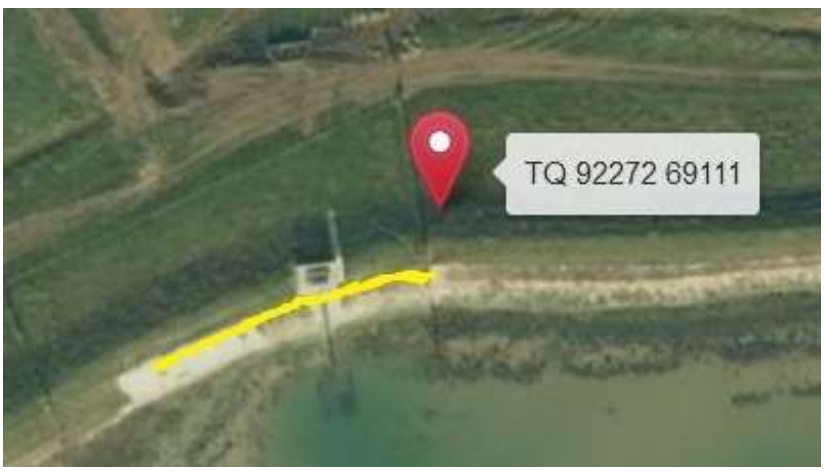
The Sheppey flora 'list' is an appendix to a botanical account in the Kent Field Club's *The Natural History of the Isle of Sheppey* (2014). This account was to have been written by Eric Philp after he presented to a conference on the topic in 2007, but it was not forthcoming, and as I had had the advantage of going round various parts of the island with Eric, the task of writing up fell to me. I hope to add it to the KBRG website by early 2022, plus an update of the flora list (which in the meantime is given later in this newsletter) to include both the 2021 and earlier finds.

Lactuca saligna habitat, Sheppey, 27 August 2013. Photo by Lliam Rooney

The path to the *Lactuca saligna* site runs alongside the Swale, with the London Clay estuarial embankment providing a heavily cattle-trampled habitat down to the level of tidal influence, with a line of *Hordeum marinum* (Sea Barley) showing the salinity. The habitat was very similar to that where *Lactuca saligna* is found on Grain, on the east side of Yantlet Creek, but we saw none until its site at the inlet where The Dray lies just inland. The Dray is a former tidal channel (these are called fleets in north Kent) which once separated the Isle of Elmley from the main island of Sheppey. The inlet is lined with a sea wall, whose batter of concrete over stone is dissected with cracks in which the *Lactuca* grows, and we were delighted to see it in quantity. Tony began a count at one end and I started at the other, from which Lesley began counting at speed. She was finishing as Tony and I met at the middle so we added our totals together and averaged with Lesley's to produce a final total of 1700 plants. There will always be a level of uncertainty in such numbers, not necessarily in missing plants, but especially because it is not always readily ascertainable how far a group of stems represent separate plants or are connected at the base.

The good news was that numbers were well up with the last recorded total of 1028, in 2013 when Lliam Rooney and I spent a morning there. The not-so-good news came afterwards when I analysed the results and it became apparent that we had lost the west end of the colony since 2013. The story can be told from the accompanying satellite views.

This shows as a yellow line a section of the sea wall where *Lactuca* was recorded in 2013, but not in 2021.



This shows the Environment Agency carrying out works on 20 April 2015, with The Dray to the north and vehicles and equipment present in the area from which *Lactuca* has since gone.

This shows the site in May 2018, where the white area is the result of concrete having been poured over the sea wall, sealing the cracks which were there before, but removing the habitat favoured by *Lactuca saligna*. It is particularly unfortunate that it should be the Environment Agency who was responsible and should have been guardians of this nationally Endangered species. It has Schedule 8 protection and it is an offence to destroy it intentionally. The Agency is now aware of its presence, if occasion for further works should arise.

After we finished our count, we looked at the immediate neighbourhood, and it was apparent that the fluctuating brackish water levels at the margins of The Dray, as well as the raised ground of its surrounds, provided a remarkable array of *Rumex* spp. (Docks) and their hybrids. The writer appreciates that non-rumiciphiles may be less than excited over teasing out the differences between them from the characteristics of their fruiting parts. Nor may it seem special that the fewer fruits are developed, then the more likely it is that the plant is hybrid: so the scruffier it is, the greater the interest. Tony and Lesley were very patient and found other things to record, but I must confess to having been engrossed by one of the best sites for Dock hybrids that I have encountered in Kent. There were five different species, two of them on the rare plant register: *Rumex maritimus* (Golden Dock) and *R. palustris* (Marsh Dock). There were also five different hybrid combinations, four of them new to Sheppey, and the only disappointment was that they did not include the very rare and highly sterile *maritimus-palustris* cross, which has yet to be recorded in the county.

So this survey ended up being a memorable one, not just for the Least Lettuce.

Geoffrey Kitchener

The Vascular Plants of Sheppey
Updated flora list (to 2021)

The following list of Sheppey plants incorporates those given in the paper published in *Transactions of the Kent Field Club* (2014) **18**: 67-85 together with records which have subsequently been made or brought to attention. The additions are <u>underlined</u>. Nomenclature has not been fully updated.

Notes:
Plants marked † are pre-1970, without later record; those also marked [1] are only represented by single records and lack supporting evidence, so these are not as satisfactory as one would wish.

[2] indicates possibly planted, or originating from planting.

[3] relates to *Viola tricolor*, whose identification has been withdrawn by the recorder of the record cited in Philp (1982), and a subsequent record has also proved unsatisfactory.

Acer campestre	Field Maple
Acer platanoides	Norway Maple
Acer pseudoplatanus	Sycamore
Achillea millefolium	Yarrow
Achillea ptarmica	Sneezewort
Aegopodium podagraria	Ground-elder
Aesculus hippocastanum	Horse-chestnut
Aethusa cynapium	Fool's Parsley
Agrimonia eupatoria	Agrimony
Agrostis capillaris	Common Bent
Agrostis gigantea	Black Bent
Agrostis stolonifera	Creeping Bent
Aira caryophyllea	Silver Hair-grass
Aira praecox	Early Hair-grass
Ajuga reptans	Bugle
Alcea rosea	Hollyhock
Alisma plantago-aquatica	Water-plantain
Alliaria petiolata	Garlic Mustard
Allium triquetrum	Three-cornered Garlic
Allium tuberosum	Chinese Chives
Allium vineale	Wild Onion
Alnus glutinosa	Alder
Alopecurus bulbosus	Bulbous Foxtail
Alopecurus bulbosus x *geniculatus = A.* x *plettkei*	Hybrid Foxtail
Alopecurus geniculatus	Marsh Foxtail
Alopecurus myosuroides	Black-grass
Alopecurus pratensis	Meadow Foxtail
Amaranthus hybridus	Green Amaranth
Amaranthus retroflexus	Common Amaranth
Ambrosia artemisiifolia	Ragweed
Ammophila arenaria	Marram
Anacamptis morio[1] †	Green-winged Orchid
Anacamptis pyramidalis	Pyramidal orchid
Anagallis arvensis	Scarlet Pimpernel
Angelica sylvestris	Wild Angelica
Anisantha diandra	Great Brome
Anisantha sterilis	Barren Brome
Anthriscus caucalis	Bur Parsley
Anthriscus sylvestris	Cow Parsley
Anthroxanthum odoratum	Sweet Vernal-grass
Anthyllis vulneraria	Kidney Vetch
Antirrhinum majus	Snapdragon
Aphanes arvensis	Parsley-piert
Apium graveolens	Wild Celery
Apium nodiflorum	Fool's Water-cress
Arabidopsis thaliana	Thale Cress
Arctium lappa	Greater Burdock
Arctium minus subsp. *minus*	Lesser Burdock
Arctium minus subsp. *pubens*	Hairy Burdock
Arctium nemorosum	Wood Burdock
Arenaria serpyllifolia subsp. *serpyllifolia*	Thyme-leaved Sandwort
Armeria maritima	Thrift
Armoracia rusticana	Horse-Radish
Arrhenatherum elatius	False Oat-Grass
Artemisia maritima	Sea Wormwood
Artemisia vulgaris	Mugwort
Arum italicum subsp. *italicum*	Italian Lords-And-Ladies
Arum maculatum	Lords-And-Ladies
Asparagus officinalis	Asparagus
Asplenium adiantum-nigrum	Black Spleenwort
Asplenium ruta-muraria	Wall-Rue
Asplenium scolopendrium	Hart's-tongue
Asplenium trichomanes	Maidenhair Spleenwort
Aster novi-belgii	Michaelmas-daisy
Aster tripolium	Sea Aster
Aster x versicolor	Late Michaelmas-daisy
Atriplex glabriuscula	Babington's Orache
Atriplex glabriuscula x prostrata	Hybrid Orache
Atriplex laciniata	Frosted Orache
Atriplex littoralis	Grass-leaved Orache
Atriplex patula	Common Orache
Atriplex portulacoides	Sea Purslane
Atriplex prostrata	Spear-leaved Orache
Atriplex sagittata	Purple Orache
Atriplex x gustafssoniana	Kattegat Orache
Atropa belladonna	Deadly Nightshade
Avena fatua	Wild-oat
Avena sativa	Oat
Avena sterilis subsp. *ludoviciana*	Winter Wild-oat
Avena strigosa †	Bristly Oat
Azolla filiculoides	Water Fern
Ballota nigra	Black Horehound
Barbarea verna	American Winter-cress
Barbarea vulgaris	Winter-Cress
Bassia scoparia	Summer-cypress
Bellis perennis	Daisy
Berula erecta	Lesser Water-parsnip
Beta vulgaris subsp. *maritima*	Sea Beet
Betula pendula	Silver Birch
Betula pubescens[1] †	Downy Birch
Bidens cernua	Nodding Bur-marigold
Blackstonia perfoliata	Yellow-wort
Bolboschoenus maritimus	Sea Club-rush
Borago officinalis	Borage
Brachypodium sylvaticum	False-Brome
Brassica napus subsp. *oleifera*	Oil-seed Rape
Brassica nigra	Black Mustard
Bromopsis ramosa[1] †	Hairy-brome
Bromus commutatus	Meadow Brome
Bromus hordeaceus subsp. *hordeaceus*	Soft-Brome
Bromus hordeaceus subsp. *longipedicellatus*	Soft-Brome
Bromus hordeaceus subsp. thominei	Lesser Soft-Brome
Bromus racemosus	Smooth Brome
Bromus secalinus	Rye Brome
Bromus x pseudothominei	Lesser Soft-brome
Bryonia dioica	White Bryony
Buddleja davidii	Butterfly-bush
Bupleurum tenuissimum	Slender Hare's-ear
Cakile maritima	Sea Rocket
Calamagrostis epigejos	Wood Small-reed
Calendula officinalis	Pot Marigold
Callitriche obtusangula	Blunt-fruited Water-starwort
Calystegia sepium	Hedge Bindweed
Calystegia silvatica	Large Bindweed
Calystegia soldanella	Sea Bindweed
Calystegia x lucana	Hybrid Bindweed
Campanula persicifolia	Peach-leaved Bellflower
Campanula poscharskyana	Trailing Bellflower
Capsella bursa-pastoris	Shepherd's-purse
Cardamine flexuosa	Wavy Bitter-cress
Cardamine hirsuta	Hairy Bitter-cress
Cardamine pratensis	Cuckooflower
Carduus crispus	Welted Thistle
Carduus nutans	Musk Thistle
Carduus tenuiflorus	Slender Thistle

Carex arenaria	Sand Sedge
Carex distans	Distant Sedge
Carex divisa	Divided Sedge
Carex divulsa subsp. *divulsa*	Grey Sedge
Carex divulsa subsp. *leersii*	Leers' Sedge
Carex flacca	Glaucous Sedge
Carex hirta	Hairy Sedge
Carex otrubae	False Fox-sedge
Carex pendula	Pendulous Sedge
Carex spicata	Spiked Sedge
Carlina vulgaris	Carline Thistle
Catapodium marinum	Sea Fern-grass
Catapodium rigidum	Fern-Grass
Catapodium rigidum subsp. *majus*	Fern-Grass
Centaurea nigra	Common Knapweed
Centaurea scabiosa	Greater Knapweed
Centaurium erythraea	Common Centaury
Centaurium pulchellum†	Lesser Centaury
Centranthus ruber	Red Valerian
Cerastium diffusum	Dark-Green Mouse-ear
Cerastium fontanum	Common Mouse-ear
Cerastium glomeratum	Sticky Mouse-ear
Cerastium semidecandrum	Little Mouse-ear
Cerastium tomentosum	Snow-In-summer
Ceratophyllum demersum	Rigid Hornwort
Ceratophyllum submersum	Soft Hornwort
Chaenorhinum minus	Small Toadflax
Chaerophyllum temulum	Rough Chervil
Chamerion angustifolium	Rosebay Willowherb
Chelidonium majus	Greater Celandine
Chenopodium album	Fat-hen
Chenopodium chenopodioides	Saltmarsh Goosefoot
Chenopodium ficifolium	Fig-leaved Goosefoot
Chenopodium glaucum	Oak-leaved Goosefoot
Chenopodium hybridum	Maple-leaved Goosefoot
Chenopodium murale	Nettle-leaved Goosefoot
Chenopodium polyspermum	Many-seeded Goosefoot
Chenopodium rubrum	Red Goosefoot
Chenopodium vulvaria	Stinking Goosefoot
Cichorium intybus	Chicory
Circaea lutetiana	Enchanter's-nightshade
Cirsium arvense	Creeping Thistle
Cirsium palustre	Marsh Thistle
Cirsium vulgare	Spear Thistle
Clematis vitalba	Traveller's-joy
Clinopodium calamintha	Lesser Calamint
Clinopodium vulgare	Wild Basil
Cochlearia anglica	English Scurvygrass
Cochlearia danica	Danish Scurvygrass
Colutea arborescens	Bladder-senna
Conium maculatum	Hemlock
Consolida ajacis	Larkspur
Convolvulus arvensis	Field Bindweed
Conyza canadensis	Canadian Fleabane
Conyza floribunda	Bilbao's Fleabane
Conyza sumatrensis	Guernsey Fleabane
Cordyline australis	Cabbage-palm
Cornus sanguinea	Dogwood
Cortaderia selloana	Pampas-grass
Corylus avellana	Hazel
Cotoneaster lacteus	Late Cotoneaster
Cotoneaster simonsii	Himalayan Cotoneaster
Cotula coronopifolia	Buttonweed
Crambe maritima	Sea-kale
Crassula helmsii	New Zealand Pigmyweed
Crataegus laevigata [1] †	Midland Hawthorn
Crataegus monogyna	Hawthorn
Crepis capillaris	Smooth Hawk's-beard
Crepis vesicaria	Beaked Hawk's-beard
Crithmum maritimum	Rock Samphire
Crocosmia masoniorum 'Lucifer'	Giant Montbretia
Crocosmia x crocosmiiflora	Monbretia
Cymbalaria muralis	Ivy-leaved Toadflax
Cynoglossum officinale	Hound's-Tongue
Cynosurus cristatus	Crested Dog's-tail
Cyrtomium falcatum	House Holly-fern
Cytisus scoparius	Broom
Dactylis glomerata	Cock's-foot
Dactylorhiza fuchsii	Common Spotted-orchid
Dactylorhiza incarnata [1] †	Early Marsh-orchid
Dactylorhiza praetermissa [1] †	Southern Marsh-orchid
Damasonium alisma †	Starfruit
Datura ferox	Angel's-trumpets
Datura stramonium var. *stramonium*	Thorn-apple
Daucus carota subsp. *carota*	Wild Carrot
Descurainia sophia	Flixweed
Digitalis purpurea	Foxglove
Diplotaxis muralis	Annual Wall-rocket
Diplotaxis tenuifolia	Perennial Wall-rocket
Dipsacus fullonum	Wild Teasel
Dryopteris filix-mas	Male-fern
Echinochloa crus-galli	Cockspur
Echinops bannaticus	Blue Globe-thistle
Echium vulgare	Viper's-bugloss
Eleocharis palustris	Common Spike-rush
Elodea canadensis	Canadian Waterweed
Elodea nuttallii	Nuttall's Water-weed
Elymus repens	Common Couch
Elytrigia atherica	Sea Couch
Elytrigia atherica x *juncea* subsp. *boreoatlantica* = *Elytrigia* x *acuta* nothosubsp. *obtusiuscula*	Hybrid Couch
Elytrigia atherica x *repens* = *E.* x *drucei*	Hybrid Couch
Elytrigia juncea	Sand Couch
Elytrigia repens	Common Couch
Epilobium ciliatum	American Willowherb
Epilobium hirsutum	Great Willowherb
Epilobium montanum	Broad-leaved Willowherb
Epilobium obscurum	Short-fruited Willowherb
Epilobium parviflorum	Hoary Willowherb
Epilobium roseum	Pale Willowherb
Epilobium tetragonum	Square-stalked Willowherb
Epilobium tetragonum x *ciliatum* = *E.* x *mentiens*	Hybrid Willowheb
Equisetum arvense	Field Horsetail
Equisetum fluviatile	Water Horsetail
Equisetum palustre	Marsh Horsetail
Equisetum telmateia	Great Horsetail
Eranthis hyemalis	Winter Aconite
Erigeron acris	Blue Fleabane
Erigeron glaucus	Seaside Daisy
Erodium cicutarium	Common Stork's-bill
Erodium moschatum	Musk Stork's-bill
Erophila verna	Common Whitlowgrass
Eryngium maritimum	Sea-holly
Erysimum cheiri	Wallflower
Eschscholzia californica	Californian Poppy
Euonymus europaeus	Spindle

Euonymus japonicus	Evergreen Spindle
Eupatorium cannabinum	Hemp-agrimony
Euphorbia characias	Mediterranean Spurge
Euphorbia exigua	Dwarf Spurge
Euphorbia helioscopia	Sun Spurge
Euphorbia lathyris	Caper Spurge
Euphorbia paralias	Sea Spurge
Euphorbia peplus	Petty Spurge
Euphrasia nemorosa	Eyebright
Fagus sylvatica	Beech
Fallopia baldschuanica	Russian Vine
Fallopia convolvulus	Black Bindweed
Fallopia japonica	Japanese Knotweed
Festuca brevipila	Hard Fescue
Festuca ovina agg.	Sheep's-fescue agg.
Festuca rubra	Red Fescue
Festuca rubra subsp. *litoralis*	Red Fescue
Ficaria verna	Lesser Celandine
Ficus carica	Fig
Filago vulgaris	Common Cudweed
Foeniculum vulgare	Fennel
Fragaria vesca	Wild Strawberry
Frankenia laevis	Sea-heath
Fraxinus excelsior	Ash
Fumaria capreolata	White Ramping-fumitory
Fumaria densiflora	Dense-flowered Fumitory
Fumaria muralis	Common Ramping-fumitory
Fumaria officinalis subsp. *officinalis*	Common Fumitory
Galanthus nivalis	Snowdrop
Galega officinalis	Goat's-rue
Galinsoga parviflora	Gallant Soldier
Galium album	Hedge Bedstraw
Galium aparine	Cleavers
Galium palustre subsp. *palustre*	Common Marsh-bedstraw
Galium tricornutum†	Corn Cleavers
Galium verum	Lady's Bedstraw
Gastridium ventricosum†	Nit-grass
Gentianella amarella†	Autumn Gentian
Geranium columbinum [1] †	Long-stalked Crane's-bill
Geranium dissectum	Cut-leaved Crane's-bill
Geranium lucidum	Shining Crane's-bill
Geranium molle	Dove's-foot Crane's-bill
Geranium pusillum	Small-flowered Crane's-bill
Geranium pyrenaicum	Hedgerow Crane's-bill
Geranium robertianum	Herb-Robert
Geranium rotundifolium	Round-Leaved Crane's-bill
Geum urbanum	Wood Avens
Glaucium flavum	Yellow Horned-poppy
Glaux maritima	Sea-milkwort
Glechoma hederacea	Ground-ivy
Glyceria fluitans	Floating Sweet-grass
Glyceria fluitans x *notata* = *G.* x *pedicellata*	Hybrid Sweet-grass
Glyceria maxima	Reed Sweet-grass
Glyceria notata	Plicate Sweet-grass
Gnaphalium luteoalbum	Jersey Cudweed
Gnaphalium uliginosum	Marsh Cudweed
Gymnadenia conopsea	Fragrant Orchid
Hedera helix	Ivy
Hedera hibernica	Atlantic Ivy
Helianthus annuus	Sunflower
Helminotheca echioides	Bristly Oxtongue
Heracleum sphondylium	Hogweed
Hesperis matronalis	Dame's-violet
Hippophae rhamnoides	Sea-buckthorn
Hippuris vulgaris	Mare's-tail
Hirschfeldia incana	Hoary Mustard
Holcus lanatus	Yorkshire-fog
Honckenya peploides	Sea Sandwort
Hordeum distichon	Two-rowed Barley
Hordeum jubatum	Foxtail Barley
Hordeum marinum	Sea Barley
Hordeum murinum	Wall Barley
Hordeum secalinum	Meadow Barley
Hordeum vulgare	Six-rowed Barley
Humulus lupulus	Hop
Hyacinthoides hispanica	Spanish Bluebell
Hyacinthoides x *massartiana*	Garden Bluebell
Hydrocharis morsus-ranae	Frogbit
Hyoscyamus niger	Henbane
Hypericum hircinum	Stinking Tutsan
Hypericum hirsutum	Hairy St. John's-wort
Hypericum perforatum	Perforate St. John's-wort
Hypericum tetrapterum	Square-stalked St John's-wort
Hypochaeris radicata	Cat's-ear
Ilex aquifolium	Holly
Impatiens glandulifera	Indian Balsam
Inula crithmoides	Golden-samphire
Inula helenium†	Elecampane
Iris foetidissima	Stinking Iris
Iris orientalis	Turkish Iris
Iris pseudacorus	Yellow Iris
Juncus acutiflorus [1] †	Sharp-flowered Rush
Juncus articulatus	Jointed Rush
Juncus bufonius	Toad Rush
Juncus conglomeratus	Compact Rush
Juncus effusus	Soft Rush
Juncus gerardii	Saltmarsh Rush
Juncus inflexus	Hard Rush
Juncus maritimus	Sea Rush
Kickxia elatine	Sharp-leaved Fluellen
Kickxia spuria	Round-leaved Fluellen
Kniphofia bruceae x *linearifolia* = *K.* x *praecox*	Greater Red-hot-poker
Kniphofia uvaria	Red-hot-poker
Lactuca saligna	Least Lettuce
Lactuca serriola	Prickly Lettuce
Lactuca virosa	Greater Lettuce
Lamiastrum galeobdolon subsp. *argentatum*	Yellow Archangel
Lamium album	White Dead-nettle
Lamium amplexicaule	Henbit Dead-nettle
Lamium hybridum	Cut-leaved Dead-nettle
Lamium maculatum	Spotted Dead-nettle
Lamium purpureum	Red Dead-nettle
Lappula squarrosa	Bur Forget-me-not
Lapsana communis	Nipplewort
Lathyrus aphaca	Yellow Vetchling
Lathyrus hirsutus	Hairy Vetchling
Lathyrus japonicus	Sea Pea
Lathyrus latifolius	Broad-leaved Everlasting-pea
Lathyrus nissolia	Grass Vetchling
Lathyrus odoratus	Sweet Pea
Lathyrus oleraceus	Garden Pea
Lathyrus pratensis	Meadow Vetchling
Lathyrus sylvestris	Narrow-leaved Everlasting-pea
Lemna gibba	Fat Duckweed
Lemna minor	Common Duckweed

Lemna minuta	Least Duckweed
Lemna trisulca	Ivy-leaved Duckweed
Leontodon hispidus	Rough Hawkbit
Leontodon saxatilis	Lesser Hawkbit
Lepidium campestre	Field Pepperwort
Lepidium didymum	Lesser Swine-cress
Lepidium draba	Hoary Cress
Lepidium ruderale	Narrow-leaved Pepperwort
Lepidium squamatum	Swine-Cress
Leucanthemum vulgare	Oxeye Daisy
Leucanthemum x superbum	Shasta Daisy
Leycesteria formosa	Himalayan Honeysuckle
Ligustrum ovalifolium	Garden Privet
Ligustrum vulgare	Wild Privet
Limonium binervosum	Rock Sea-lavender
Limonium humile	Lax-flowered Sea-lavender
Limonium vulgare	Common Sea-lavender
Linaria purpurea	Purple Toadflax
Linaria repens	Pale Toadflax
Linaria vulgaris	Common Toadflax
Linum bienne†	Pale Flax
Linum catharticum	Fairy Flax
Linum usitatissimum	Flax
Lithospermum arvense [1] †	Field Gromwell
Lobelia erinus	Garden Lobelia
Lobularia maritima	Sweet Alison
Lolium multiflorum	Italian Rye-grass
Lolium perenne	Perennial Rye-grass
Lonicera japonica	Japanese Honeysuckle
Lonicera periclymenum	Honeysuckle
Lotus corniculatus	Common Bird's-foot-trefoil
Lotus pedunculatus	Large Bird's-foot-trefoil
Lotus tenuis	Narrow-leaved Bird's-foot-trefoil
Lunaria annua	Honesty
Luzula campestris	Field Wood-rush
Lycium barbarum	Duke of Argyll's Teaplant
Lycopersicon esculentum	Tomato
Lycopus europaeus	Gypsywort
Lysimachia nummularia	Creeping-Jenny
Lysimachia punctata	Dotted Loosestrife
Malus pumila	Apple
Malva arborea	Tree-mallow
Malva moschata	Musk-mallow
Malva neglecta	Dwarf Mallow
Malva sylvestris	Common Mallow
Matricaria discoidea	Pineapple Weed
Matricaria recutita	Scented Mayweed
Medicago arabica	Spotted Medick
Medicago lupulina	Black Medick
Medicago minima†	Bur Medick
Medicago polymorpha	Toothed Medick
Medicago sativa subsp. *falcata*†	Sickle Medick
Medicago sativa subsp. *sativa*	Lucerne
Melilotus albus	White Melilot
Melilotus altissimus	Tall Melilot
Melilotus indicus	Small Melilot
Melilotus officinalis	Ribbed Melilot
Mentha aquatica	Water Mint
Mentha spicata	Spear Mint
Mercurialis annua	Annual Mercury
Mercurialis perennis	Dog's Mercury
Myosotis arvensis	Field Forget-me-not
Myosotis discolor	Changing Forget-me-not
Myosotis ramosissima	Early Forget-me-not
Myosotis scorpioides	Water Forget-me-not
Myosotis sylvatica	Wood Forget-me-not
Myosoton aquaticum	Water Chickweed
Myriophyllum spicatum	Spiked Water-milfoil
Narcissus spp.	Garden Daffodil
Nasturtium microphyllum	Narrow-fruited Water-cress
Nasturtium officinale	Water-cress
Neottia ovata [1] †	Common Twayblade
Nicandra physalodes	Apple-of-Peru
Nigella damascena	Love-in-a-mist
Odontites vernus	Red Bartsia
Oenanthe crocata	Hemlock Water-dropwort
Oenanthe fistulosa	Tubular Water-dropwort
Oenanthe lachenalii	Parsley Water-dropwort
Oenanthe pimpinelloides	Corky-fruited Water-dropwort
Oenanthe silaifolia	Narrow-leaved Water-dropwort
Oenothera glazioviana	Large-flowered Evening-primrose
Ononis repens	Common Restharrow
Ononis spinosa	Spiny Restharrow
Onopordum acanthium	Cotton Thistle
Ophioglossum vulgare	Adder's-tongue
Orchis mascula[1] †	Early-purple Orchid
Origanum vulgare	Marjoram
Ornithogallum umbellatum	Star-of-Bethlehem
Orobanche ramosa †	Hemp Broomrape
Oxalis articulata	Pink-Sorrel
Oxalis corniculata var. *atropurpurea*	Procumbent Yellow-sorrel
Oxalis debilis	Large-flowered Pink-sorrel
Papaver dubium	Long-headed Poppy
Papaver lecoqii	Yellow-juiced Poppy
Papaver rhoeas	Common Poppy
Papaver somniferum	Opium Poppy
Parapholis incurva	Curved Hard-grass
Parapholis strigosa	Hard-grass
Parietaria judaica	Pellitory-of-the-wall
Parthenocissus inserta	False Virginia-creeper
Passiflora caerulea	Blue Passionflower
Pastinaca sativa	Wild Parsnip
Pentaglottis sempervirens	Green Alkanet
Persicaria amphibia	Amphibious Bistort
Persicaria hydropiper [1] †	Water-pepper
Persicaria lapathifolia	Pale Persicaria
Persicaria laxiflora†	Tasteless Water-pepper
Persicaria maculosa	Redshank
Petasites fragrans	Winter Heliotrope
Petroselinum segetum	Corn Parsley
Petunia x *hybrida*	Petunia
Phacelia tanacetifolia	Phacelia
Phalaris canariensis	Canary-grass
Phalaris paradoxa	Awned Canary-grass
Phleum arenarium	Sand Cat's-tail
Phleum bertolonii	Smaller Cat's-tail
Phleum pratense	Timothy
Phragmites australis	Common Reed
Picris hieracioides	Hawkweed Oxtongue
Pilosella aurantiaca	Fox-and-cubs
Pilosella officinalis	Mouse-ear Hawkweed
Pimpinella saxifraga [1] †	Burnet-saxifrage
Pisum sativum	Garden Pea
Plantago coronopus	Buck's-horn Plantain
Plantago lanceolata	Ribwort Plantain
Plantago major subsp.	Greater Plantain

intermedia	
Plantago major subsp. *major*	Greater Plantain
Plantago maritima	Sea Plantain
Plantago media	Hoary Plantain
Poa angustifolia	Narrow-leaved Meadow-grass
Poa annua	Annual Meadow-grass
Poa bulbosa	Bulbous Meadow-grass
Poa humilis	Spreading Meadow-grass
Poa infirma	Early Meadow-grass
Poa pratensis	Smooth Meadow-grass
Poa trivialis	Rough Meadow-grass
Polycarpon tetraphyllum	Four-leaved Allseed
Polygala vulgaris	Common Milkwort
Polygonum arenastrum	Equal-leaved Knotgrass
Polygonum aviculare	Knotgrass
Polygonum oxyspermum	Ray's Knotgrass
Polygonum rurivagum†	Cornfield Knotgrass
Polypodium interjectum	Intermediate Polypody
Polypogon monspeliensis	Annual Beard-grass
Polypogon viridis	Water Bent
Populus alba	White Poplar
Populus tremula [1] †	Aspen
Populus x *canadensis*	Hybrid Black-poplar
Portulaca oleracea	Common Purslane
Potamogeton berchtoldii	Small Pondweed
Potamogeton crispus	Curled Pondweed
Potamogeton pectinatus	Fennel Pondweed
Potentilla anserina	Silverweed
Potentilla reptans	Creeping Cinquefoil
Potentilla x *mixta*	Hybrid Cinquefoil
Poterium sanguisorba	Salad Burnet
Primula vulgaris	Primrose
Prunella vulgaris	Selfheal
Prunus avium	Wild Cherry
Prunus cerasifera	Cherry Plum
Prunus cerasifera var.*pissardii*	Purple-leaved Plum
Prunus domestica	Wild Plum
Prunus domestica subsp. *insititia*	Damson
Prunus laurocerasus	Cherry Laurel
Prunus spinosa	Blackthorn
Pseudofumaria lutea	Yellow Corydalis
Pteridium aquilinum	Bracken
Puccinellia distans	Reflexed Saltmarsh-grass
Puccinellia fasciculata	Borrer's Saltmarsh-grass
Puccinellia maritima	Common Saltmarsh-grass
Puccinellia rupestris	Stiff Saltmarsh-grass
Pulicaria dysenterica	Common Fleabane
Pyracantha coccinea	Firethorn
Pyrus communis	Pear
Quercus cerris	Turkey Oak
Quercus ilex	Holm Oak
Quercus petraea	Sessile Oak
Quercus robur	Pedunculate Oak
Quercus x *rosacea*	Hybrid Oak
Ranunculus acris	Meadow Buttercup
Ranunculus aquatilis	Common Water-crowfoot
Ranunculus arvensis	Corn buttercup
Ranunculus baudotii	Brackish Water-crowfoot
Ranunculus bulbosus	Bulbous Buttercup
Ranunculus repens	Creeping Buttercup
Ranunculus sardous	Hairy Buttercup
Ranunculus sceleratus	Celery-leaved Buttercup
Ranunculus trichophyllus	Thread-leaved Water-crowfoot
Raphanus raphanistrum subsp. *maritimus*	Sea Radish
Raphanus raphanistrum subsp. *raphanistrum*	Wild Radish
Rapistrum rugosum	Bastard Cabbage
Reseda alba	White Mignonette
Reseda lutea	Wild Mignonette
Reseda luteola	Weld
Rhamnus cathartica	Buckthorn
Rhinanthus minor	Yellow-Rattle
Rorippa sylvestris	Creeping Yellow-cress
Rosa caesia x *canina* = *R.* x *dumalis sensu lato* (i.e. incl. *R.* x *subcanina*)	Hybrid Rose
Rosa canina	Dog-rose
Rosa canina 'group *Dumales*' (*R. squarrosa*)	Glandular Dog-rose
Rosa canina 'group '*Pubescentes*' (*R. corymbifera*)	Hairy Dog-rose
Rosa micrantha	Small-flowered Sweet-briar
Rosa multiflora	Many-Flowered Rose
Rosa rubiginosa	Sweet-briar
Rosa rugosa	Japanese Rose
Rubus armeniacus	Bramble
Rubus caesius	Dewberry
Rubus conjungens†	Bramble
Rubus fruticosus agg.	Bramble
Rubus ulmifolius	Bramble
Rumex acetosa	Common Sorrel
Rumex acetosella subsp. *acetosella*	Sheep's Sorrel
Rumex conglomeratus	Clustered Dock
Rumex conglomeratus x *maritimus* = *R.* x *knafii*	Hybrid Dock
Rumex conglomeratus x *palustris* = *R.* x *wirtgenii*	Hybrid Dock
Rumex conglomeratus x *pulcher* = *R.* x *muretii*	Hybrid Dock
Rumex crispus	Curled Dock
Rumex crispus subsp. *littoreus*	Curled Dock
Rumex crispus x *conglomeratus*	Hybrid Dock
Rumex crispus x *maritimus* = *R.* x *fallacinus*	Hybrid Dock
Rumex crispus x obtusifolius = *R.* x *pratensis*	Hybrid Dock
Rumex crispus x *palustris* = *R. x heteranthos*	Hybrid Dock
Rumex crispus x *pulcher* = *R.* x *pseudopulcher*	Hybrid Dock
Rumex crispus x *sanguineus* = *R.* x *sagorskii*	Hybrid Dock
Rumex cristatus	Greek Dock
Rumex cristatus x *obtusifolius* = *R. x lousleyi*	Hybrid Dock
Rumex hydrolapathum	Water Dock
Rumex maritimus	Golden Dock
Rumex obtusifolius	Broad-leaved Dock
Rumex palustris	Marsh Dock
Rumex patientia	Patience Dock
Rumex pulcher	Fiddle Dock
Rumex sanguineus	Wood Dock
Ruppia cirrhosa	Spiral Tasselweed

Ruppia maritima	Beaked Tasselweed
Sagina apetala subsp. *apetala*	Annual Pearlwort
Sagina filicaulis	Fringed Pearlwort
Sagina maritima	Sea Pearlwort
Sagina procumbens	Procumbent Pearlwort
Salicornia dolichostachya	Long-spiked Glasswort
Salicornia europaea	Common Glasswort
Salicornia fragilis	Yellow Glasswort
Salicornia obscura	Glaucous Glasswort
Salicornia pusilla	One-flowered Glasswort
Salicornia pusilla x *ramosissima*	Hybrid Glasswort
Salicornia ramosissima	Purple Glasswort
Salix alba	White Willow
Salix caprea	Goat Willow
Salix cinerea subsp. *oleifolia*	Grey Willow
Salix viminalis	Osier
Salix viminalis x *caprea* = *S.* x *smithiana*	Hybrid Willow
Salix x fragilis	Crack Willow
Salsola kali	Saltwort
Salvia verbenaca	Wild Clary
Sambucus nigra	Elder
Samolus valerandi	Brookweed
Saponaria officinalis	Soapwort
Sarcocornia perennis	Perennial Glasswort
Saxifraga granulata	Meadow Saxifrage
Saxifraga tridactylites	Rue-leaved Saxifrage
Scandix pecten-veneris [1] †	Shepherd's-needle
Schedonorus arundinaceus	Tall Fescue
Schedonorus giganteus [1] †	Giant Fescue
Schedonorus pratensis	Meadow Fescue
Schoenoplectus tabernaemontani	Grey Club-rush
Scleranthus annuus	Annual Knawel
Scorzoneriodes autumnalis	Autumn Hawkbit
Scrophularia auriculata	Water Figwort
Sedum acre	Biting Stonecrop
Sedum album	White Stonecrop
Senecio erucifolius	Hoary Ragwort
Senecio inaequidens	Narrow-leaved Ragwort
Senecio jacobaea	Common Ragwort
Senecio squalidus	Oxford Ragwort
Senecio sylvaticus	Heath Groundsel
Senecio viscosus	Sticky Groundsel
Senecio vulgaris	Groundsel
Sherardia arvensis	Field Madder
Silaum silaus	Pepper-Saxifrage
Silene coronaria	Rose Campion
Silene dioica	Red Campion
Silene latifolia	White Campion
Silene uniflora	Sea Campion
Silene vulgaris	Bladder Campion
Silene x *hampeana*	Hybrid Campion
Silybum marianum	Milk Thistle
Sinapis alba	White Mustard
Sinapis arvensis	Charlock
Sison amomum	Stone Parsley
Sisymbrium officinale	Hedge Mustard
Sisymbrium orientale	Eastern Rocket
Sisyrinchium striatum	Pale Yellow-eyed-grass
Smyrnium olusatrum	Alexanders
Solanum dulcamara	Bittersweet
Solanum lycopersicum	Tomato
Solanum nigrum	Black Nightshade
Solanum tuberosum	Potato
Solidago canadensis	Canadian Goldenrod
Solidago gigantea	Early Goldenrod
Sonchus arvensis	Perennial Sow-thistle
Sonchus asper	Prickly Sow-thistle
Sonchus oleraceus	Smooth Sow-thistle
Sorbus aria [2]	Common Whitebeam
Sorbus intermedia	Swedish Whitebeam
Sparganium erectum	Branched Bur-reed
Spartina anglica	Common Cord-grass
Spartina maritima	Small Cord-grass
Spergula arvensis	Corn Spurrey
Spergularia marina	Lesser Sea-spurrey
Spergularia media	Greater Sea-spurrey
Spergularia rubra	Sand Spurrey
Spiranthes spiralis †	Autumn Lady's-tresses
Stachys palustris	Marsh Woundwort
Stachys sylvatica	Hedge Woundwort
Stellaria graminea	Lesser Stitchwort
Stellaria holostea	Greater Stitchwort
Stellaria media	Common Chickweed
Stellaria pallida	Lesser Chickweed
Suaeda maritima	Annual Sea-blite
Suaeda vera	Shrubby Sea-blite
Succisa pratensis	Devil's-bit Scabious
Symphoricarpos albus	Snowberry
Symphyotrichum (Aster) novi-belgii	Confused Michaelmas-daisy
Symphytum asperum x *officinale* = *S.* x *uplandicum*	Russian Comfrey
Symphytum officinale	Common Comfrey
Symphytum orientale	White Comfrey
Syringa vulgaris	Lilac
Tamarix gallica	Tamarisk
Tamus communis	Black Bryony
Tanacetum parthenium	Feverfew
Tanacetum vulgare	Tansy
Taraxacum acroglossum	Broad-bracted Dandelion
Taraxacum mimulum	Sharp-lobed Dandelion
Taraxacum oblongatum	Oblong-leaved Dandelion
Taraxacum officinale agg.	Dandelion
Taraxacum pachymerum	Dirty-leaved Dandelion
Taraxacum polyodon	Common Dandelion
Taraxacum pseudohamatum	False Hook-lobed Dandelion
Taraxacum subcyanolepis	Reddish-bracted Dandelion
Taxus baccata [1] †	Yew
Tetragonolobus maritimus	Dragon's-teeth
Thlaspi arvense	Field Penny-cress
Thymus vulgaris	Garden Thyme
Tilia x europaea	Lime
Torilis arvensis	Spreading Hedge-parsley
Torilis japonica	Upright Hedge-parsley
Torilis nodosa	Knotted Hedge-parsley
Tragopogon porrifolius	Salsify
Tragopogon porrifolius subsp. *australis*	Salsify
Tragopogon porrifolius subsp. *porrifolius*	Salsify
Tragopogon pratensis subsp. *minor*	Goat's-beard
Trifolium arvense	Hare's-foot Clover
Trifolium campestre	Hop Trefoil
Trifolium dubium	Lesser Trefoil
Trifolium fragiferum	Strawberry Clover
Trifolium glomeratum†	Clustered Clover
Trifolium hybridum	Alsike Clover
Trifolium micranthum	Slender Trefoil
Trifolium ornithopodioides	Bird's-foot Clover

Trifolium pratense	Red Clover
Trifolium repens	White Clover
Trifolium scabrum	Rough Clover
Trifolium squamosum	Sea Clover
Trifolium striatum	Knotted Clover
Trifolium subterraneum	Subterranean Clover
Triglochin maritima	Sea Arrowgrass
Triglochin palustris [1] †	Marsh Arrowgrass
Tripleurospermum inodorum	Scentless Mayweed
Tripleurospermum maritimum	Sea Mayweed
Trisetum flavescens	Yellow Oat-grass
Tristagma uniflorum	Spring Starflower
Triticum aestivum	Bread Wheat
Tropaeolum majus	Nasturtium
Tussilago farfara	Colt's-foot
Typha angustifolia	Lesser Bulrush
Typha latifolia	Bulrush
Typha x *glauca*	Hybrid Bulrush
Ulex europaeus	Gorse
Ulmus glabra	Wych Elm
Ulmus procera	English Elm
Umbilicus rupestris	Navelwort
Urtica dioica subsp. *dioica*	Common Nettle
Urtica dioica subsp. *galeopsifolia*	Common (Stingless) Nettle
Urtica urens	Small Nettle
Valerianella locusta	Common Cornsalad
Valerianella officinalis	Common Valerian
Verbascum blattaria	Moth Mullein
Verbascum lychnitis	White Mullein
Verbascum speciosum	Hungarian Mullein
Verbascum thapsus	Great Mullein
Verbascum virgatum	Twiggy Mullein
Verbena officinalis	Vervain
Veronica anagallis-aquatica	Blue Water-speedwell
Veronica arvensis	Wall Speedwell
Veronica beccabunga	Brooklime
Veronica catenata	Pink Water-speedwell
Veronica chamaedrys	Germander Speedwell
Veronica filiformis	Slender Speedwell
Veronica hederifolia subsp. *hederifolia*	Ivy-leaved Speedwell
Veronica hederifolia subsp. *lucorum*	Ivy-leaved Speedwell
Veronica persica	Common Field-speedwell
Veronica polita	Grey Field-speedwell
Veronica serpyllifolia	Thyme-leaved Speedwell
Vicia bithynica	Bithynian Vetch
Vicia cracca	Tufted Vetch
Vicia faba	Broad Bean
Vicia hirsuta	Hairy Tare
Vicia sativa subsp. *nigra*	Narrow-leaved Vetch
Vicia sativa subsp. *sativa* [1] †	Common Vetch
Vicia sativa subsp. *segetalis*	Common Vetch
Vicia tetrasperma	Smooth Tare
Vinca major	Greater Periwinkle
Viola arvensis	Field Pansy
Viola hirta	Hairy Violet
Viola odorata	Sweet Violet
Viola odorata var. *dumetorum*	Sweet Violet
Viola odorata var. *odorata*	Sweet Violet
Viola riviniana	Common Dog-violet
[*Viola tricolor*] [3]	[Wild Pansy]
Vulpia bromoides	Squirrel-tail Fescue
Vulpia myuros	Rat's-tail Fescue
X *Agropogon lutosus*	Perennial Beard-grass
Zannichellia palustris	Horned Pondweed
Zostera marina	Eelgrass
Zostera noltii	Dwarf Eelgrass

Geoffrey Kitchener

Lythrum hyssopifolia (Grass-poly) seed collection

The population of around 500 plants of Grass-poly that was first noticed in 2020 in Betteshanger Sustainable Park grew this year to an estimated 3,000. This should have been a cause for celebration except that in spite of massive opposition from individuals and conservation organisations, Dover District Council's Planning Committee decided in May, on the casting vote of the chairman, to grant permission for this species-rich brownfield site to be built upon. Up to 210 houses, 12 self-build plots plus office and retail units will be developed there and the Grass-poly location will disappear beneath the construction works.

BSBI News No.146 (January 2021) includes an article entitled *Resurrection of a Norfolk pond gem: Grass-poly Lythrum hyssopifolia.* The article celebrates the appearance in 2020 of just six Grass-poly plants after restoration work on a Norfolk pond. What a tragedy that in Kent we have to say goodbye to our population of thousands of this delightful Schedule 8 species which is Nationally Scarce and listed as Endangered both in England and Great Britain as a whole.

The developer is bound by a mitigation agreement to attempt to translocate Grass-poly to the nearby Betteshanger Park. (There does not appear to be any evidence that translocation has been effectively achieved anywhere before and the species' habitat requirements are exacting). It was discovered there in a ditch by the children's play area in 2011 when the Park was known as Fowlmead. The ditch has been securely fenced off from public access for several years and it is no longer possible to see into it and establish if any Grass-poly remains.

When the Millenium Seed Bank, Kew was informed that the development had been approved, the UK Collections Co-ordinator considered it a priority to sample, collect and store seed of *Lythrum hyssopifolia* in the seed bank. The photograph below shows the collection taking place on August 2 this year. So, although the site will be destroyed, we can take a crumb of comfort in the knowledge that some seed has been saved.

Sue Buckingham

Contributions and photographs for the next newsletter will be welcome!

- The editor will be glad of articles, letters, queries, comments and photographs, etc.
- Whilst KBRG does not produce a research journal as such, there may also be scope to put articles of a substantial nature and other papers onto the website by way of publication, as an alternative.
- If sending photographs for inclusion in the newsletter by email, please provide at reasonably high resolution.
- All contributions should be sent to Geoffrey Kitchener, contact details below.

Web version 1

Thanks to all contributors to this issue, both authors and photographers, and to those who led meetings, and to Sarah Kitchener for reviewing this newsletter.

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