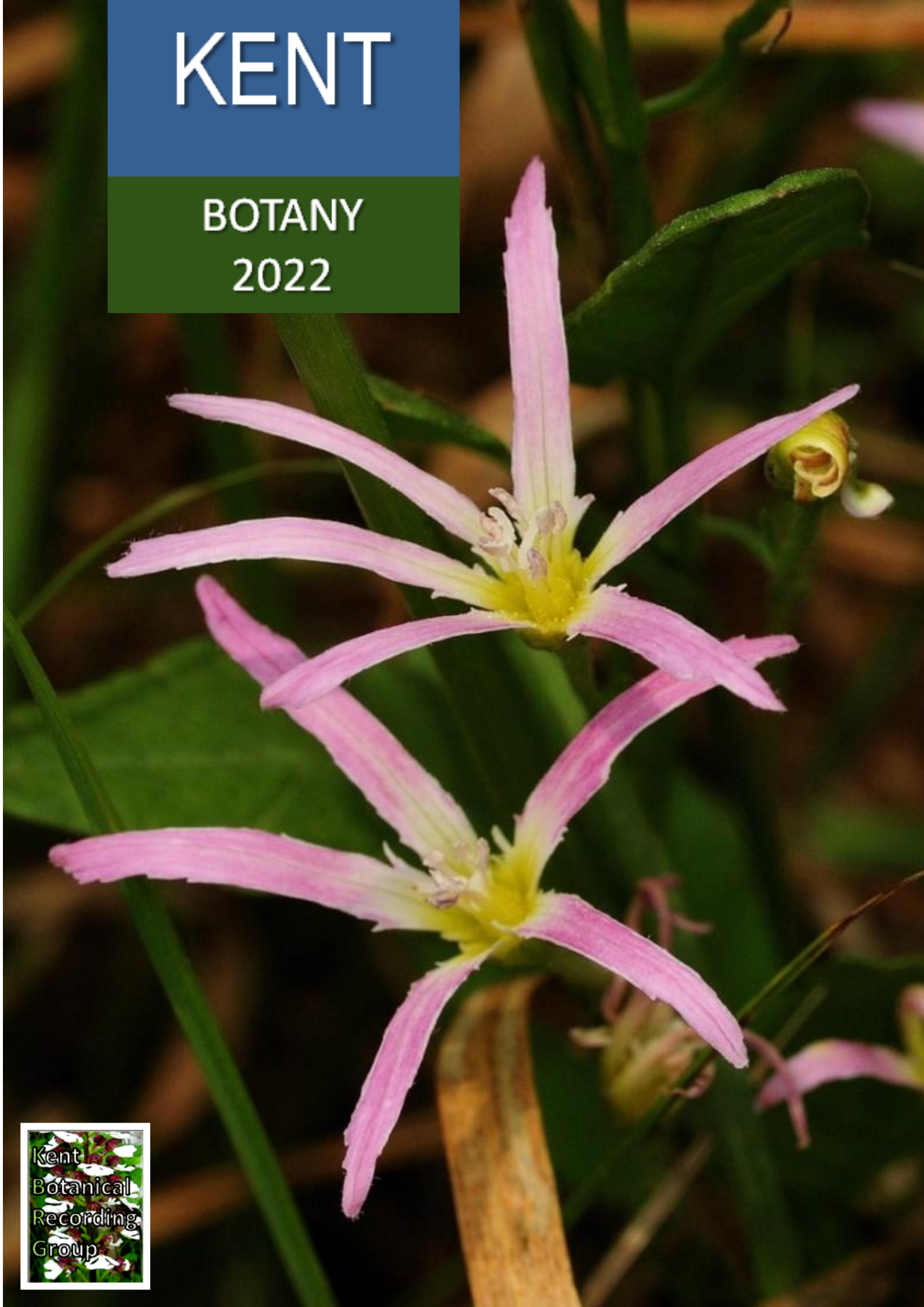
KENT

BOTANY 2022



Kent Botanical Recording Group

Kent Botany 2022

Contents

Compiled by Geoffrey Kitchener
(January 2023, web version 1)

Front cover:
Convolvulus arvensis var. *stonestreetii* (Stonestreet's Field Bindweed), discovered by Danny Chesterman at Oare. Photo 23 June 2022, © Lliam Rooney

Introduction

Kent Botany 2022 comes as the thirteenth report in the Kent Botany series, covering current botanical developments in the county. This report is issued primarily as a web version, maintained on the Kent page of the BSBI website, https://bsbi.org/kent, which should be regarded as the definitive version. Hard copy is published in substantially similar form within the Kent Field Club Bulletin.

Highlights

- A count of *Himantoglossum hircinum* [R] (Lizard Orchid) at Betteshanger Country Park revealed over 3,000 flower spikes, amounting to the second largest population in the British Isles, although at the same time the developer-owner sought to develop over the colony, digging up and moving the orchids. The scheme has its supporters, but there has been widespread opposition
- *Carex* x *elytroides* (the hybrid between *C. acuta* [R], Slender Tufted-sedge, and *C. nigra* [R], Common Sedge) has been found for the first time in East Kent, at Dungeness in the absence of *C. acuta*
- *Convolvulus arvensis* L. var. *stonestreetii*, a Field Bindweed with narrow strap-like corolla-lobes, was recorded for the first time in Kent, at Oare Marshes
- A first county record in the wild for *Persea americana* (Avocado) was reported, in remote East Kent woodland
- Some 60 spikes of *Orobanche caryophyllacea* [R] (Bedstraw Broomrape) were discovered near Canterbury, perhaps the third largest population nationally
- At least two of our sites for *Ranunculus tripartitus* [R] apparently hold *Ranunculus* x *novae-forestae* [R] (New Forest Crowfoot), so re-evaluation is needed for all sites
- Following designation of the Swanscombe peninsula as an SSSI, further surveys have shown even greater botanical riches, e.g. *Alopecurus aequalis* [R] (Orange Foxtail); *Geranium purpureum* [R] (Little-Robin); *Pyrola rotundifolia* [R] (Round-leaved Wintergreen) in tens of thousands; *Rumex palustris* [R] (Marsh Dock) with its hybrids; *Rumex* x *heteranthos* and *Rumex* x *wirtgenii*
- Completion of the rare plant register (subject to ongoing update) after 11 years(!) with the issue of Part W-Z.

Botanical developments in Kent, 2022

Weather

What many plants will have registered in 2022, as well as us, was the extremely dry and hot summer, with a temperature of 38.9°C recorded at Faversham on 19 July and major fires taking place that day at Dartford Heath and Durrell Dene / Joyce Green / Dartford Marshes. These gave rise to national media reports at https://www.bbc.co.uk/news/uk-england-kent-62235135 and https://www.itv.com/news/meridian/2022-07-19/firefighters-tackling-huge-blaze-in-dartford, referring to attendance by 30 fire engines and 150 fire-fighters, with (allegedly) four square miles ablaze at Joyce Green. That estimate of area seems surprisingly large, but a whole landscape here displayed burnt scrub and trees, bare ground and charred grass afterwards. Some plants rapidly showed resilience in regeneration, as the accompanying photo illustrates.

Fire damage at Joyce Green Lane, Dartford Marshes, with recovery growth of *Lepidium latifolium* (Dittander). Photo © Geoffrey Kitchener, 24 August 2022

Whether there are significant losses of flora remains to be seen, but the outcome is not necessarily negative. Regeneration by fire has always been a feature at Dartford Heath, controlling scrub and opening up ground for annuals. Elsewhere in the county, even without fire, heat and drought should have benefited those annuals which set seed, since competing perennials will have been constrained, but the KBRG May meeting at Sandwich found that the early annuals had already been set back by dry conditions.

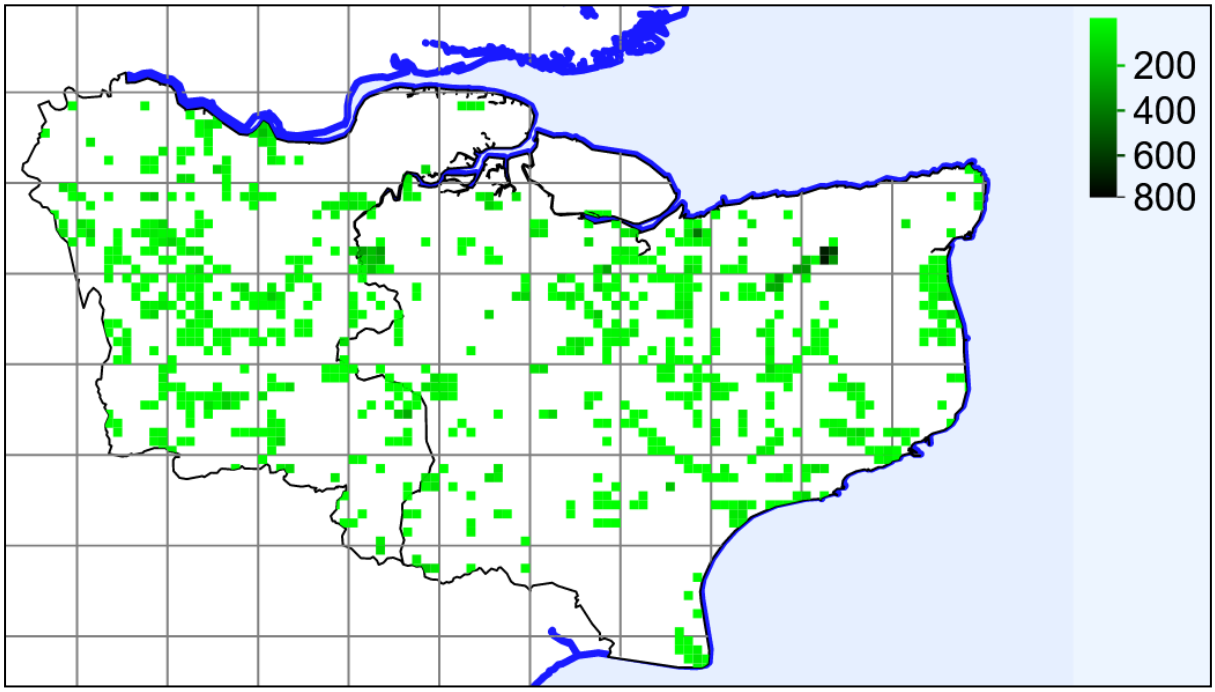
Water levels at reservoirs dropped, leading to hosepipe bans, and an extensive flora developing on the exposed ground, with zonation reflecting the needs of early- or late-germinating species. Some related records are reported later in this account.

Drought conditions at Bough Beech reservoir, following hosepipe ban. Exposed tree stumps date from before reservoir construction in 1969. Foreground shows *Chenopodium* spp. zonation. Photo © Geoffrey Kitchener, 18 September 2022

Recording

29,844 Kent records for 2022 were provided to the BSBI database as at 1 January 2023, of which 85% were made by, or reported to, KBRG members; the remainder are subject to validation. Seen or notified in that year were nine plants new to East Kent and one new to West Kent. The spread of recording across the county was reasonably wide, as shown by the following map, which indicates recording in 774 monads, although no records are reported from the Isle of Sheppey. The more intense areas of recording, shown by darker squares, are largely attributable to Alex Lockton's surveys of Seasalter plus his recording of Stodmarsh ditches in conjunction with Natural England. The latter gave numerous records of rare plant register species, e.g. *Hydrocharis morsus-ranae* [R] (Frogbit), *Potamogeton acutifolius* [R] (Sharp-leaved Pondweed) and *Utricularia vulgaris* [R] (Greater Bladderwort). There was also a recording hotspot in the Medway valley near Maidstone attributable to several recorders,

notably Daphne Mills. Recording was supported by ten KBRG meetings, including joint sessions with BSBI, Kent Field Club, Surrey Botanical Society, Sussex Botanical Recording Society and Wild Flower Society.



Kent 2022 monad records input to BSBI database

Other areas which received surveys of interest included Swanscombe peninsula and Betteshanger (formerly Fowlmead) Country Park. The former site had, as reported in Kent Botany 2021, been designated as an SSSI in the face of the threat of development by The London Resort as a theme park. On 28 March 2022, the developer withdrew its application for a Development Consent Order, although stating an intention to re-submit. In the light of this intention, we undertook further surveys of the area, the highlights of which are given elsewhere in this report, demonstrating that the area has even greater botanical value than had been supposed when designated as an SSSI. Threats here are not restricted to development: in early June some over-zealous mowing sliced through a colony of *Orchis anthropophora* [R] (Man Orchid).

Betteshanger was the subject in 2022 of planning applications for development as a 120-bed hotel and a 10 hectare (24 acres) aquatic centre with machinery which will generate waves for surfing together with associated buildings, including holiday accommodation. The application was accompanied by an ecological appraisal with (incomplete) data, stated to be derived from a habitat and orchid survey dated July 2022, informed also by 2020/21 survey work. The July survey provided a count of *Himantoglossum hircinum* [R] (Lizard Orchid) on affected land from which it could be ascertained that the population as a whole was the second largest in the British Isles. The appraisal evaluated this as only of regional importance, whereas the BSBI's objection to the proposals rightly ranks it of national importance. Further details are given elsewhere in this report.

Photomontage of rare plant register species by Lliam Rooney

Rare plant register

Himantoglossum hircinum is one of 335 plants (on current listing) on the county rare plant register, all of which have been the subject of detailed accounts giving conservation status, Kentish historic and recent trends, records of modern occurrences, ecological details, analysis and photographs. These accounts have been prepared in alphabetical sequence, Parts A and B having been circulated as preliminary drafts to KBRG members in 2011 and then issued more

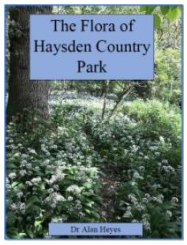
formally in February 2012 to go on-line. Each year has seen further progress, as well as work on updating issued parts, until in December 2022 the final instalments, Parts U&V and W-Z, were issued to KBRG members by way of consultation. At 1,240 pages this is likely to be the most comprehensive of any set of county RPR accounts; the length of time in production is at least in part due to the 'gold standard' of its specification.

If December 2022 represented a milestone for the RPR, then it is still a milestone on the way to somewhere else. Consultation has begun on the next steps, which include revision of the list of plants covered, in the light of our knowledge of local distribution acquired since the RPR was commenced, and in the light of changes to recognised national rarity and scarcity arising out of the BSBI's Atlas 2020, due for publication March 2023. Recording of RPR plants remained a priority through 2022, with 1,536 records made, higher than usual. These records flow through into annual updating of the RPR. Although such updating was undertaken in spring 2022 for the previous year's records, regrettably this was not carried by the BSBI into the online register on the Kent webpage maintained by them. Special surveys and reports were undertaken for Kent Biodiversity Strategy species, which included recording 3,529 spikes of *Orchis purpurea* (Lady Orchid) across 26 sites – results were published in KBRG's newsletter, which did go on-line (https://bsbi.org/kent).

Publications

Published in 2022 and relevant to botany in Kent were (in addition to Kent Botany and the KBRG newsletter):

- Kent's Vascular Plants by Sue Buckingham and Geoffrey Kitchener, downloadable at: https://kentnature.org.uk/state-of-nature/chapter-5-the-state-of-kents-species/ and constituting part of chapter 5 of the report, State of Nature in Kent 2021, published by Kent Nature Partnership. This is an account of the status of the Kent Flora, its gains, losses and developments over the last ten years, with the threats that it faces.



- The Flora of Haysden Country Park by Alan Heyes which sets out to document the flora of the country park as fully as possible, to inform park management and volunteers of plant locations, but is of wider interest to visiting botanists, over 400 plants being detailed. The Flora has had some circulation, but a request to the BSBI to post onto the Kent webpage was not fulfilled in 2022.
- The "Yellow" Fly orchid *Ophrys insectifera* var. *ochroleuca* in Kent by David Johnson appeared in the *Journal of the Hardy Orchid Society* Vol. 19 No.2 (105): 55-57 and gave an account of this colour variant, which appears to occur more consistently in Kent than in other counties.
- Travels of a Cambridgeshire Naturalist: Leonard Jenyns 1824–1842 is a paper by T. Carter in *Nature in Cambridgeshire* (2022) **64:** 95-98. Its Kentish interest lies particularly in Jenyns's manuscript accounts of tours 1826-1842 which include Kent and have detailed plant observations, published separately at: https://www.natureincambridgeshire.org.uk/jenyns_travels.html.

Corrections to Kent Botany 2021

Carex elata at Dungeness on 19 December 2021: this record is now withdrawn, see *Carex* x *elytroides* below.

Plant records: selection criteria and recorders

Kent Botany 2022 covers Kent plant records mostly made or reported in that year. 'Kent' for these purposes is the traditional botanical recording county, which is more extensive than the administrative county of Kent plus Medway Council unitary authority's area; it reaches northwest into London as far as Deptford. It is divided by the River Medway as far upstream as Yalding into vice counties 15 (East Kent) and 16 (West Kent). Their boundaries may be viewed at: https://www.cucaera.co.uk/grpprev/.

The record selection criteria are flexible, but they focus on plants which are unusual in Kent, or where the plant's location, habitat or population characteristics are unusual. Preference is given to publication of new discoveries and taxa which are new to vice county 15 or 16 are given in **bold**. Records of known populations of RPR species will usually be carried through for publication in the register, and are not necessarily set out in these records. Nomenclature follows Stace (2019). All dates given in the records are for 2022, unless otherwise indicated.

Recorders, referees and other persons mentioned in reports

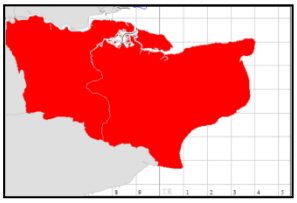
AG Alfred Gay	DC Danny Chesterman	JTM Jacques Turner-Moss	RMB Rodney Burton
AH Alan Heyes	DM Daphne Mills	KF Kathy Friend	RVL Richard Lansdown (BSBI aquatic plants referee)
AJR Prof. John Richards	DN David Newman	KFS Kate Fidczuk-Sterry	RW Robin Walls
AL Alex Lockton	DO Dan Oates	LC Lou Carpenter	SB Sue Buckingham
AW Tony Witts	FJR Fred Rumsey (BSBI *Orobanche* referee)	LR Lliam Rooney	SC Sue Cambray
CB Caroline Bateman	GH Georgina Hopkins	MP Mike Porter (BSBI *Carex* referee)	SK Sarah Kitchener
CC Chris Cook	GK Geoffrey Kitchener	OL Owen Leyshon	SL Stephen Lemon
CH Claire Horder	JL Jack Lowe	RM Richard Moyse	SPe Sian Pettman
CO Colin Osborne	JP Joyce Pitt	RMa Roger Maskew (BSBI *Rosa* referee)	

Thanks are due to all these who have contributed; and to Charmian Clay for comments on the report presentation.

Other abbreviations or notation

BSBI = Botanical Society of Britain & Ireland (formerly Botanical Society of the British Isles)	Plant records which are marked [R] represent plants on the 2022 draft Kent rare plant register list
KBRG = Kent Botanical Recording Group	RPR = rare plant register
KWT = Kent Wildlife Trust	RSPB = Royal Society for the Protection of Birds
MOD = Ministry of Defence	SSSI = Site of Special Scientific Interest
	vc = vice county (plural, vcc)

Plant records across Kent (vice counties 15 & 16)



Calamagrostis epigejos (Wood Small-reed) was a candidate for the rare plant register, unsuccessful because 11 tetrad records were given for it in Philp (2010), whereas ten sites for both Kent vice counties would normally point towards local scarcity meriting inclusion. As it happens, our 2010-22 records amount to 21 monads, so it is not scarce, although still uncommon. Two new sites were found in 2022, both in areas of botanical importance which are, or have been, threatened by development. SB recorded it on 22 September at Betteshanger Country Park, TR 3568 5396, in a permanently wet area by the cycle track, growing with *Silene flos-cuculi* (Ragged-Robin). On 23 July, it was discovered by GK in a scrubby area at the Swanscombe peninsula, TQ 60040 75367, a large patch on a calcareous bank and damp ground below.

***Erysimum cheiranthoides*, 28 July 2022. Photo © Daphne Mills**

Erysimum cheiranthoides [R] (Treacle-mustard) is nationally Near Threatened, very much a declining arable weed, so it was a surprise that there were sightings in four monads in 2022, twice as many as in any other recent year. In East Kent, DM discovered it in the course of a KBRG meeting at Sandhurst Cross on 28 July, when five plants were seen in an arable field corner near the Kent Ditch floodplain, TQ 77357 27836. In West Kent, GK & SK on 2 August found three plants, 0.4km apart in two monads at TQ 4838 5910 and TQ 47978 59038, by a bean field on clay-with-flints near Knockholt. They also came across a plant at a known site north of Fordcombe, TQ 5223 4106, on damp clay / alluvium in stubble on the Medway floodplain. All occurrences have in common an arable context on heavy soil with a clay component.

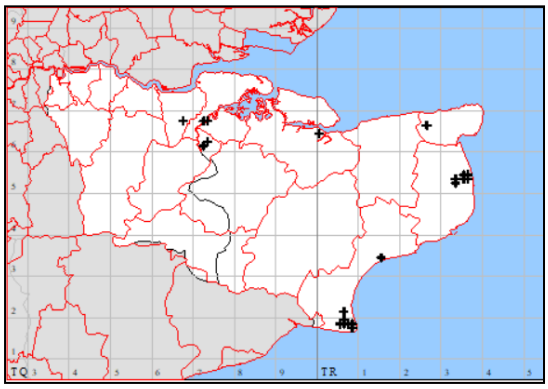
***Euphorbia maculata*, 8 August 2022. Photo © Caroline Bateman**

Euphorbia maculata (Spotted Spurge) continues its spread across urban pavements in Kent, being seen as far apart as Tukar Street, Greenwich, TQ 3929 7800 (on pavement cracks, 8 August, CB); Bedlington Square, Faversham, TR 01534 61351 (cobbled surface, 8 September, DC); and St Mary's Island, Chatham Maritime, TQ 7653 7039 (brick paving, 26 October, SB & DM).

Himantoglossum hircinum [R] (Lizard Orchid) was the subject of nine reported records in 2022, of which three were for new sites. In East Kent, on 22 May DO spotted one plant flowering on a tiny patch of grass at the Eclipse Retail Estate, Penenden Heath, TQ 77821 57129 together with a few vegetative *Ophrys apifera* (Bee Orchid) plants. On 13 July SB recorded nine tall flowering and fruiting spikes alongside a ditch on RSPB land at Worth Minnis, TR343 556. In West Kent, GH noted on 24 June a plant on a chalk grassland slope in a private garden at Shoreham Road, Otford, TQ5360. However, as alluded to earlier in this report, the main news for Kentish Lizard Orchids was the publication of survey data as part of an ecological appraisal supporting development proposals

for a 3ha hotel and 10ha leisure development at Betteshanger Country Park. The ecologists had mapped the footprint of the main development together with an additional survey area added 'to inform opportunities for habitat management and enhancement'. Most of these areas were divided up into 10 x 20m transect sections and Lizard Orchid spikes (not, apparently, rosettes as well) were counted in July. The number of spikes per section varied from 0 to 82 and the appraisal report totalled them at 768 within the development footprint plus c.2,400 in the additional survey area (and apparently 51 elsewhere). Counting the sectional data as published, however, gives a total of 815 and 2,378, with an overall total of 3,193 (excluding the further 51). On whichever basis, this amounts to the second largest population in the UK, exceeded only by that at Sandwich, and so is of national significance. The developers' proposal was to translocate development site plants, together with substrate and seed-bank (which might be capable of interpretation as simply meaning that the spoil generated by the development would be dumped elsewhere in the Park). The proposal, at least in relation to the Lizard Orchid, attracted much public opposition, with representations made by the BSBI, Plantlife, CPRE, KWT, etc., as well as Kent and out-county botanists.

Ranunculus parviflorus [R] (Small-flowered Buttercup) was suspected to have been affected by earth scraping and tipping at its main West Kent site at the junction of Roman Road and the A228, Rochester. However, apart from the north east end, the species was found by GK on 13 May to be present still on the middle level (for 25m) and lower level (for 160m between TQ 72470 67796 to TQ 72338 67715) of this site, numbering thousands of plants overall. They preferred semi-bare ground; rabbits appear to sustain this. Rabbits were also in evidence at a new West Kent site found by GK on 26 May below the railway north of Cobhambury Wood for 20m from TQ 6778 6765 to TQ 6780 6765. This was an arable margin on chalky soil, where rabbits had grazed up to 2m into the adjoining crop. In East Kent, DM on 22 May came across another new site, with eight plants on bare ground at the side of a concrete track near Burham, TQ 72164 61156. These East and West Kent sites broadly cluster round the Medway valley; otherwise the distribution foci are at Dungeness and Deal.



***Ranunculus parviflorus* monad records, 2010-22**

***Ranunculus parviflorus* plus rabbit droppings, Rochester, 13 May 2022. Photo © Geoffrey Kitchener**

***Ranunculus parviflorus*, arable margin, Cobhambury, 26 May 2022. Photo © Geoffrey Kitchener**

Rose recording in Kent, 2022

Our recording is becoming increasingly attuned to the current differentiation of dog-roses, under which *Rosa canina* has been split into three species:

- true *Rosa canina* (glabrous, with uniserrate leaflets;
- a hairy version of this, *Rosa corymbifera* (Hairy Dog-rose) ; and
- a glandular version (at least on the rachis, i.e. the part of the leafstalk bearing the leaflets) with biserrate or multiserrate leaflets, *Rosa squarrosa* (Glandular Dog-rose).

These species are all capable of being found as fertile hybrids with a northern species, *Rosa vosagiaca* (Glaucous Dog-rose) which contributes some distinctive features – clusters of large hips, wavy reddening shoots and folding leaflets. The hybrid involving true *Rosa canina* is *Rosa* x *subcanina* (uniserrate leaflets, no glands on petiole and rachis); that with *Rosa corymbifera* is *Rosa* x *semiglabra* (pubescent on leaflet midribs, leaflets glabrous above, pubescent, but not densely so, on petiole and rachis); that with *Rosa squarrosa* is *Rosa* x *dumalis* (biserrate or multiserrate leaflets, some glands on petiole and rachis).

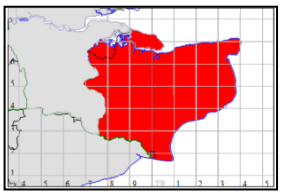
Records across the county for 2022 comprised:

- true *Rosa canina*, 23
- *Rosa corymbifera,* 20
- *Rosa squarrosa,* 9
- *Rosa* x *subcanina,* 16
- *Rosa* x *semiglabra,* 0
- *Rosa* x *dumalis, 20.*
- *Rosa canina agg.*or not confirmed as true *Rosa canina*, 35

Some of these records were a little more complex than the identity given. RMa confirmed as *Rosa* x *subcanina*, with (probably) *Rosa corymbifera* introgression, a specimen collected by GK on 26 August from chalk scrub at the former Darenth Southern hospital site, TQ 56963 72075, with leaflets hairy on the midrib below. He also confirmed as *Rosa* x *subcanina* hybridised with *Rosa corymbifera* (and so a triple hybrid) a specimen collected by GK on 25 September at the edge of Dartford Fresh Marshes, whose leaves were minutely pubescent on the upper surface, pubescent (but not tomentose) on the lower surface and also on the petiole and rachis. The varying degree of pubescence according to the interpretation of introgression or hybridisation involving a hairy species such as *Rosa corymbifera* could be compared with a specimen of that species collected by GK on 15 September at the former Darenth Southern hospital site, TQ 56804 72026, with obvious hairs on both sides of the leaflets as well as on petiole and rachis. This prompts consideration as regards whether any records made elsewhere as *Rosa corymbifera*, but with hairs largely confined to the leaflet midrib underside, might owe that reduced hairiness to hybridity and in fact be *Rosa* x *semiglabra.* While this has hardly been recorded in the British Isles yet, it would be worth seeking referee confirmation for possible candidates.

Other interesting *Rosa* records include *Rosa arvensis* x *canina*, the hybrid between Field-rose and Common Dog-rose, seen by GK & SK on 29 August near Winkhurst Green, TQ 5082 85053, where it was extensive along field/woodland boundary, having hips with a conical disk, although hardly any of these developing, leaflets mostly sharper-serrate than *R. arvensis*, but the plant as a whole being closer to *R. arvensis*. Fairly similar leaflets and similarity to *R. arvensis* were possessed by another such hybrid seen by them near Knockholt, TQ 4698 5853, on 2 August, but in this case the hips were the shape of *R. arvensis* but were smaller and lacking the extended style. *Rosa* x *toddiae*, the hybrid between Common Dog-rose and Small-flowered Sweet-briar, was reported by SL from Chiddingstone reserve, TQ 5112 4712, a different plant from that mentioned in Kent Botany 2019 and indicating that the previous find, surprising in view of the infrequency of the *Rosa micrantha* parent in the Weald, was not unique.

Plant records for East Kent (vice county 15)



Ammi majus (Bullwort) was seen by CO on 16 June at the top of Seasalter Beach, Whitstable, *c*.TR 0955 6545, tucked under the concrete sea wall, a third East Kent, vc15, record and probably a garden escape here.

Anthemis tinctoria (Yellow Chamomile) is seldom recorded in Kent. Despite being a dye plant, it does not seem to have historic record of such use in the county, so appearances tend to be attributable to escapes from gardens, or wildflower sowings. CH recorded its presence as late as 2 November, on an arable margin at Badlesmere, TR 0104 5434, growing at the edge of a track, beyond houses and without appearing to be cultivated nearby, so its origin was unclear.

***Blitum bonus-henricus*, 14 August 2022. Photo © Stephen Lemon**

Blitum bonus-henricus [R] (Good-King-Henry) in 19th century Kent was regarded as not uncommon throughout the county, following its use as a pot-herb; but even then its use had declined. Anne Pratt (1873) referred to it as 'of old time much cultivated' but 'Though hardy and of early growth, it scarcely affords such an amount of nutriment as would have merited its name; but this was given at a period when good edible vegetables were fewer'. It is very seldom encountered outside gardens now, but SL on 14 August recorded a plant in a wide scrubby road-verge at Pimp's Court, Loose, TQ 7541 5275.

***Campanula garganica*, 13 June 2022. Photos © Danny Chesterman**

***Campanula garganica* (Adriatic Bellflower)** is one of several broadly similar cultivated bellflowers originating from countries bordering the Adriatic Sea, hotspots for *Campanula* generally. Those usually encountered are *Campanula portenschlagiana* (Adria Bellflower) and *Campanula poscharskyana* (Trailing Bellflower), both native to mountains on the Balkan side of the sea, in contrast with *C. garganica*, which is native to south east Italy (Mount Gargano). *C. garganica* is grown much less than the others, exemplified by the Royal Horticultural Society listing only eight suppliers for it, but 24 and 26 for the others. It was recorded by DC on 13 June at New House Lane, Sheldwich, TR 02237 57188, one plant having self-seeded in a garden wall, some 40 yards from the presumed parents. Stace (2019) separates the three species by virtue of *C. portenschlagiana* having a funnel-

shaped corolla whereas the others have broadly bell- or star-shaped corollas. *C. garganica* is then separated from *C. poscharskyana* by having corollas less than 20mm across, and 3-5mm calyx teeth (8-12mm for *C. poscharskyana*). However, more obvious is, perhaps, the length of the style (see photo). **This is a first record for East Kent, vc15**, and for Kent as a whole.

Carex* x *elytroides (the hybrid between *C. acuta* R, Slender Tufted-sedge, and *C. nigra* R, Common Sedge) has been recognised in the Eden catchment in West Kent, but not hitherto in any part of East Kent. Sedge tussocks were found by SL on 19 December 2021 in a scrubby unmanaged pit north west of Dungeness waterworks, TR 0647 2055. The plants presented identification difficulties, being at first supposed to be *C. elata* R (Tufted-sedge) – see Kent Botany 2021 – but flowering material reviewed by SL on 22 April 2022 showed bracts as long as or exceeding the inflorescence, pointed female glumes and also had stomata on both sides of the leaves, no laddering to sheaths and the tussocks were smaller than normal *C. elata*. The plants were determined as *Carex* x *elytroides* by MP and RW, and represent **the first record of this hybrid for East Kent, vc15**. The parents appear to hybridise readily and, although the *C. acuta* parent is not known at Dungeness, the hybrid may at times be found in the absence of that parent. The *C. nigra* parent in this case appears to be the tussock-forming version.

***Carex x elytroides*, 22 April 2022. Photos © Stephen Lemon**

Carex canescens R (White Sedge) is one of our rarer sedges, with sites especially in the Orlestone Forest area. SL on 1 May added a further site to our records with the finding of six substantial tussocks on a large island of peat in the shady half of a pond on the west side of the main track through Fifty Acre Wood, Orlestone Forest, north-west of Hamstreet, TQ 9789 3493.

Carex nigra R (Common Sedge) was the verdict by MP on the identity of a mystery sedge encountered by a KBRG meeting on 23 May at Sandwich Bay. It was growing in an old dune slack where periodically scraped back to sand, on the northern side of a public footpath in Royal St. George's Golf Course, TR 3578 5793. What struck observers was (so far as could be seen in the very rainy conditions) that the sedge was growing very uprightly with stomata on both sides of its straight inrolled leaves (*C. nigra* R normally has curved leaves with stomata mostly only on the upper surface) and that some of the female glumes were aristate at the apex rather than rounded as is usual in *C nigra* R. This suggested the possibility of *Care*x x *timmiana* (*Carex trinervis* x *C. nigra* R), a cross which may have occurred with the *C. trinervis* parent (not a current British species) in East Norfolk in the 19th century. It was, however, determined by MP and RW as part of the disconcertingly wide range of variation of *C. nigra* R.

Carex panicea R (Carnation Sedge) was found by AG on 14 May at Alex Farm Pastures SSSI, Shadoxhurst, TQ 9669 3678, a new hectad record for this elusive (in Kent) species: a single patch in a damp neutral meadow on Weald Clay with *Viola canina* R (Heath Dog-violet).

Centaurea cyanus (Cornflower) is now eclipsed as a formerly plentiful arable weed, with 'wildflower' sowings confusing any assessment of status. Nevertheless, a couple of sightings by JL have at least some potential for relict status: a single plant at the edge of an arable field with apparently no wildflower management at Adisham, TR 21452 54159; and five flowering plants near Kingston, TR 2012 5144, each side of a footpath through former arable reverted to meadow.

Convolvulus arvensis* L. var. *stonestreetii Druce (Stonestreet's Field Bindweed) is a remarkable bindweed variant in which the corolla, instead of being funnel- or trumpet-shaped, is deeply and narrowly lobed, making it appear quite a different plant. It was found by DC on 22 June growing on the track to the East Hide at Oare Marshes, TR 0132 6426, **a first record for East Kent, vc15**, and for Kent as a whole. There are only 11 other records in the BSBI database. Plants in Convolvulaceae do on occasion produce divided or schizoflorous corollas, better known in *Calystegia* species, but this is an exceptionally laciniate example. The condition is thought to be genetic, rather than attributable to growth conditions, although probably recessive, in view of the reluctance of seed (in the case of *Calystegia silvatica* var. *quinquepartita*) to produce offspring other than with normal corollas (Stace, 1973). The variety is named after the Rev. William Stonestreet (1659-1716), a collector of natural history and other artefacts, who found it near Henley, c. 1690 and whose specimen went into the herbarium of Charles DuBois, thence to Oxford University. Druce (1897) drew attention to this, afterwards naming it as a distinct variety - the publication of the name is not noted in the standard sources of authorities, such as the International Plant Names Index, Tropicos, World Flora Online Plant List etc., but is at *BEC Report for 1913* (1914), **3(5)**:330, in relation to a find at Aldeburgh. Stonestreet's original was apparently white-flowered ('*flore albo parvo*') rather than the deep pink of the Oare plant, but both are within the variable colour range of normal *C. arvensis*. The variety was noted as new to Belgium in De Langhe (1972) and although the corolla-lobe shape of several specimens is illustrated there, none matches the extreme narrowness of those of the Oare plant.

***Convolvulus arvensis var. stonetreetii*, 22 June 2022.**
Photo © Danny Chesterman

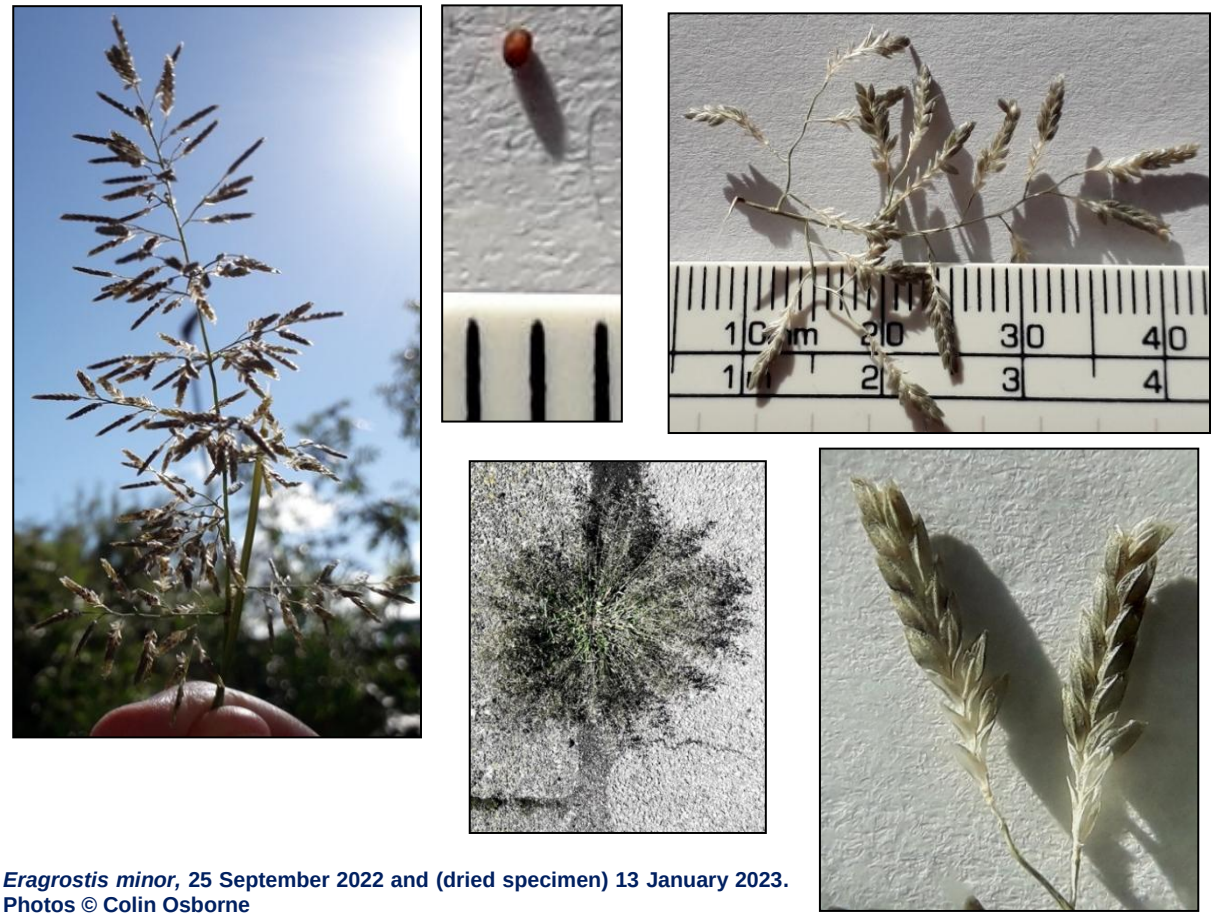
Crassula tillaea [R] (Mossy Stonecrop), when discovered in Kent at Lydd in 2012 (having been unrecorded in the county since 1908) appeared to be associated with use by military vehicles, perhaps having brought it in from East Anglia or Dorset. It has now been found at the Chequer's Wood and Old Park SSSI, Canterbury by CO & SB on 26 April and 1 June, scattered on dry and gravel paths where MOD vehicles have been driven. The Lydd ranges are a possible point of origin. Sightings extended into two monads and were made at TR 16968 58948, TR 16964 58920, TR 16986 58786, TR 17324 58998 and TR 1727 5890. Use of the tracks has presumably been beneficial in keeping the ground open, with compaction holding the autumn rains to enable this tiny winter annual to germinate.

***Crassula tillaea*, 22 June 2022.**
Photo © Sue Buckingham

***Eragrostis minor* (Small Love-grass)** is a southern Eurasian and African native which has been widely introduced elsewhere, but to a limited degree in the British Isles, where recorded for nine vice counties. Those records largely apply to it as a wool-alien, introduced through the use as agricultural soil-conditioner of industrial waste from cleaning seeds and other detritus from imported raw wool. This practice had

largely ceased by the 1980s and very few British records have been made after that decade. However, CO on 25 September encountered two large plants by the old London-bound platform access at Herne Bay station and about five small plants on the London-bound platform edge, TR1767. The decline and current rarity of this species in the British Isles contrasts with the position in Belgium, where it started to become properly naturalised in urban areas in the 1980s. 'At present it is very common in most (sub-)urban of Flanders and is increasingly found along motorways and railways in other parts of Belgium... usually found in cracks of pavement, foot of walls, gravelly and sandy areas,... and certainly is one of the most successful neophytes of the past decades' (Groom, 2011). This certainly resonates with the Herne Bay railway discovery, and perhaps it is elsewhere on the Kent rail network unrecognised. Spread via railways has also taken place in Czechia (Nesvadbová & Pecháčková, 2011). The principal identification issue with *Eragrostis minor* is separation from *Eragrostis cilianensis* (Stink-grass), a very variable taxon, with which it intergrades such that it is preferable not to rely on any one distinguishing character. The accompanying table gives a number of characters, derived from various sources, and although there is some overlap between the species in any event, the better match is *E. minor*. **This is a first record for East Kent, vc15, and for Kent as a whole.**

	E. cilianensis	***E. minor***	***Herne Bay specimen***
Spikelets	Ovate, 6-20 mm long, 2-4 mm wide	Parallel-sided, 4-7(11) mm long, 1.1-2.2 mm wide	Parallel-sided, no more than 10 mm long, 2 mm wide
Florets per spikelet	10-40, often some with more than 20	7-12(20). N.B. illustration in Stace (2019) has 14	Up to 15, and many with less
Grain	*c.* as long as wide, 0.4-0.6mm diameter	Longer than wide, (0.5)0.6-0.8 mm long	Longer than wide, 0.6-0.8 mm long (5 grains measured)
Lemmas	(1.7)2-2.8 mm long, with 1-3 crateriform glands along the keels	1.4-1.8 mm long, rarely with 1 or 2 crateriform glands along the keels	Largest *c*. 2 mm long, most shorter, glands scarcely present along the keels
Glands on pedicels	Usually not	Prominent at top of pedicel	Prominent at top of pedicel



***Eragrostis minor*, 25 September 2022 and (dried specimen) 13 January 2023. Photos © Colin Osborne**

Fumaria capreolata subsp. *capreolata* f. *speciosa* (the form of White Ramping-fumitory whose corollas turn bright crimson after fertilisation), hitherto found from Dungeness/Romney Marsh to Dover, has extended its range to Herne Bay, with CO's discovery of a patch near the swimming pool; TR1768, on 5 May, perhaps originating with imported soil.

Hydrocotyle ranunculoides (Floating Pennywort) is prohibited from sale or release into the wild, due to its capacity to cover waterways at up to 20cm per day, to the detriment of fish, invertebrates and other plant life. So it is regrettable that 2022 brought news of its presence in various locations. At the Seasalter Levels, AL listed five ditch locations in TR0864 on 21 May plus, on 14 May with DC, a record of it in the main drain at TR 0742 6478. RM & KF noted it in September in a ditch near Woodchurch sewage treatment works, TQ 94909 33923, where it has persisted on/off for many years. SB on 25 July found it to be a serious problem on the Royal Military Canal west of Hythe, with heaps of dredged-out material on both banks eastward from the footbridge at TR 1400 3403 as far as the eye could see, and westward at least to TR 1325 3409, where rafts of *Hydrocotyle* could be seen spreading out from the banks and across the canal. The District Council's current maintenance plan recognises the problem with a works specification of 'Scoop out mats using weed barge, leave on site but well clear of waterway. Clean off basket, forks and boat to prevent spread'. RM & KF had also been involved with its presence near Hythe earlier, having reported it in 2021 in the section of the canal immediately west of the West Hythe dam, around TR 118 340, to the Environment Agency, who have jurisdiction over this section and dealt with it. KF advises that trials of a biological control are planned for the section east of the dam. Presumably this is by release of the weevil *Listronotus elongatus*, which feeds on the *Hydrocotyle* in Argentina.

Isatis tinctoria (Woad), unrecorded in East Kent since the 19th century, was seen by OL on 22 June, escaped onto the shingle by the bend of Dungeness Road near Ocean View, *c.* TR 092 185.

***Lathraea clandestina*, 30 April 2022. Photo © David Newman**

Lathraea clandestina (Purple Toothwort) is an introduced parasitic plant with no above-ground parts other than the flowers (the rest being hidden or clandestine). There are only a couple of Kentish records, of which one is of marginal status, growing on garden boundary tree roots. On 30 April, DN found a flowering plant outside Sissinghurst Castle garden, by a track running down towards Roundshill Park Wood, TQ 80934 38314. There was no evidence of planting, but it is in cultivation some 70-100m away, within the garden. This is outside the normal range of seed dispersal, which is by explosive ejection, up to 8m, and/or carriage by watercourses (but this plant is outside the garden moat, which interrupts any waterborne linkage with cultivated plants). The path-side location suggests possible seed transmission on footwear.

***Malus floribunda*, 19 April 2022. Photos © Lliam Rooney**

***Malus floribunda* (Japanese Crab)** was recorded by LR on 19 April as a young tree, seemingly unplanted, by a footpath through Perry Wood, TR 04742 55911. It is an ornamental East Asian crab-apple, possibly of hybrid origin, widely grown, and the BSBI database is riddled with records which are likely to be of planted trees (whether acknowledged or unacknowledged), although none

for East Kent. With apparently better status for this, the current record is treated as the **first for East Kent, vc15.**

Misopates orontium [R] (Weasel's-snout) in Kent is currently found either as a rare relic of its ancient arable weed status, or in more equivocal circumstances where it may be a more recent introduction. DC on 19 June found two plants in allotments at Wye, TR 05747 46899; on the whole, these are likely to belong to the 'equivocal' category.

Moenchia erecta [R] (Upright Chickweed) is Vulnerable to the risk of extinction and has fairly exacting habitat requirements for the absence of competition on well-drained, infertile soils. It was on a lichen heath plateau near Oare Marshes that LR and DC came across several clumps, at TR 01021 64138, TR 01022 64178 and TR 01025 64161 on 13 April.

Myosotis x *suzae* (*M. laxa* x *scorpioides*, the cross between Tufted Forget-me-not and Water Forget-me-not) was reported in Kent Botany 2019 as found new to the county at Stodmarsh National Nature Reserve. Further records have emerged a couple of kilometres to the west, as it was noted by AL & KFS in the course of ditch surveys, on 22 July at TR 2008 6037, TR 2011 6041, TR 2014 6038, TR 2021 6053, TR 2024 6047; and on 28 July at TR 2081 6144, TR 2084 6151 and TR 2085 6156.

Nassella tenuissima (Argentine Needle-grass) seeds readily from gardens and amenity plantings and we have about a dozen records from the same number of years, but LR's record of 2 July by Wingate Hill, Upper Harbledown, TR 12187 58128 is interesting for its lack of obvious origin, being on an unplanted verge by an access road. Carriage by wind or traffic may be involved.

Oenanthe fistulosa [R] (Tubular Water-dropwort) is, although nationally Vulnerable to the risk of extinction, not uncommon in Kent, by marsh dikes or in seasonally flooded grassland. Curiously, it seems to have been unrecorded in the Medway valley until now, when on 19 June GK & SK recorded it as abundant in an *Equisetum fluviatile* (Water Horsetail) swamp on the south side of the Medway at Wateringbury, TQ 69576 52768, and about 17 plants nearby in tall mixed fen vegetation at TQ 69549 52782.

Ophrys fuciflora [R] (Late Spider-orchid) colonies received a count by AG from 26 May to 17 June, yielding a total of 347 flowering plants. This is the entire British population, and details (with grid references redacted) are set out in the accompanying table. The count included potential candidates for the hybrid with *Ophrys apifera* (Bee Orchid), namely *Ophrys* x *albertiana*, at Postling north (1), Bulltown (1), Shuttlesfield (1) and Aldglose Down (several). AG assessed the result as mixed: excellent numbers at the two largest Wye colonies, fairly good at Arpinge, but average at Folkestone and Postling. Concerns were raised in May that some 30 plants appeared to have been dug up and stolen from one of the colonies, although AG considered it likely that the holes in question had been dug by rabbits.

Site	Flower spikes
Wye – Devil's Kneading Trough	1
Wye – Fishponds Down	17
Wye – AldgloseDown	104
Wye – New Barn Coombe (Bulltown)	58
Postling (north)	43
Postling (south)	6
Shuttlesfield	9
Arpinge	21
Folkestone – Cheriton Hill	59
Folkestone – Cherry Garden	21
Folkestone – Holywell	8

***Orobanche caryophyllacea* habitat, 1 June 2022.**
Photo © Sue Buckingham

Orobanche caryophyllacea [R] (Bedstraw Broomrape) is found nowhere in the British Isles other than Kent, and records have been restricted to coastal areas near Sandwich and from Dover to Folkestone. A remarkable extension of range has now been identified as a result of a find by SPe in May at Old Park, Canterbury. This discovery was followed up on 1 June by CO & SB, who confirmed a total of 60 flowering spikes on *Galium verum* (Lady's Bedstraw) in grassland and scrub between the Taylor Wimpey development and the Canterbury golf driving range and centred around TR 1707 5808. All plants were

within a few metres of a couple of small grassy paths and detailed grid references were taken for concentrations of scattered plants in this area. The site is outside the Chequer's Wood and Old Park SSSI, but is contiguous with it and, as well as providing a buffer for the SSSI, ought to be recognised as having an important flora in its own right. It looks as though the population would fall within the top five, perhaps three, nationally, exceeded by Sandwich (with numbers over 1,000) and West Hougham (between Dover and Folkestone, with a count of 948 in 2022); other Folkestone-Dover populations are scattered occurrences any one of which does not seem to have held more than 20 plants in recent times.

***Orobanche caryophyllacea,* with *Galium verum,* 29 May 2022. Photo © Sian Pettman**

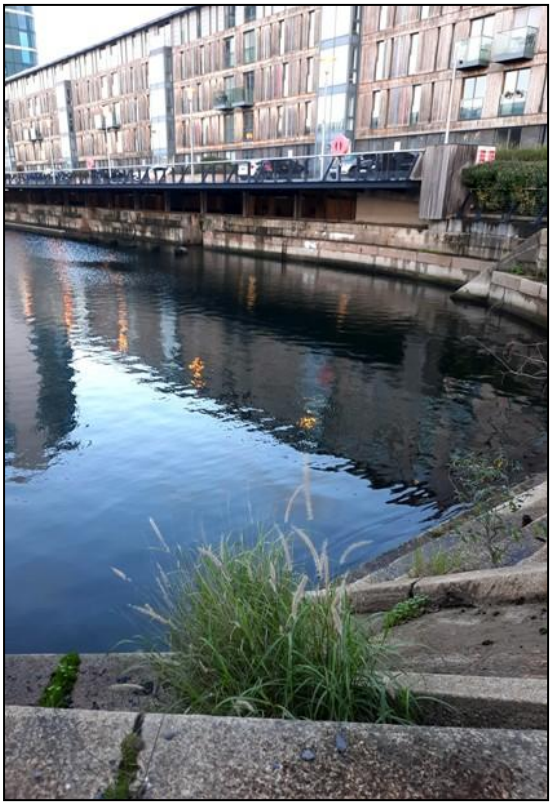
Orobanche minor subsp. *maritima* (Carrot Broomrape) is a nationally scarce plant mostly restricted to the coasts of southern England; Kent populations are an outlier from the main distribution. It is a good candidate for addition to the county rare plant register in 2023. Our records are from Folkestone to St. Margaret's Bay and are mostly historic, recent sightings being infrequent and of the odd plant or two. AG, however, found nine spikes on 10 June just above the sea wall at the undercliff at the eastern end of Folkestone Warren, TR 26543 38444, all close to *Daucus carota* (Carrot). A further visit on 19 June yielded more plants spreading eastwards over 250m to TR 26809 38483. Some were particularly fine specimens. Photos were sent to FJR who said he would probably have to agree with the identification as this subspecies, but added that in the corolla shape they looked rather like *Orobanche hederae* (Ivy Broomrape) and also had a hint of *Orobanche picridis* (Oxtongue Broomrape) characteristics in the sepals and porrect upper lips. There was some similarity to an artificially synthesised hybrid with *O. picridis*. So there are atypical aspects to at least some of the plants now found, but the absence of molecular data means that it is not at this stage possible to ascertain whether introgression has taken place.

Osteospermum jucundum (Cape Daisy), generally so named although other cultivated South African species and/or their hybrids may be involved, was noted by SB on 13 January above Botany Bay, Thanet, TR 3914 7107, where a patch a couple of metres across on the cliff-top was presumably derived from garden waste; and on 9 November at Broadstairs, TR 3991 6842, where spreading at the foot of the cliffs. These are second and third records for East Kent, vc15.

***Pennisetum macrourum* Trin. (African Feather-grass)**, otherwise known as *Cenchrus caudatus* (Schrad.) Kuntze, is grown as an ornamental, whose native range extends from South Africa to the Arabian peninsula. On 26 October, five clumps were discovered by SB & DM growing in fairly inaccessible places above the water line and below the walkways at the Quays, Chatham marina, around TQ 7645 6999. Remarkably, their find anticipated the google earth street view camera which captured an image of the grass here in November; it cannot be seen in a December 2020 view and so reached the size of a large clump quite rapidly. DM re-visited, collected material (determined by GK) and took photographs on 23 November, including of another clump, around TQ 7640 6999; it is likely that plants were also present in the next monad, TQ7670, the boundary being so close. There are only ten records in the BSBI database, of which four seem to be more or less the same station in Cornwall; two more are in that vicinity; and two others are likely to be in Greater London residential gardens. Although its Cornish occurrence has been written up (Berry, 2018) so there should be some general botanical awareness, its spread in Britain, on the basis of reports so far, therefore seems extremely limited. This seems surprising, as it is widely grown, the Royal Horticultural Society lists 22 suppliers and the author finds that it self-seeds readily onto gravel beds over clay loam in his garden, quickly establishing tenacious roots. Its native habitat appears to be seasonally dry river banks at altitude, and it may be that Chatham stonework cracks in the

vicinity of water share some habitat characteristics. This is a **first record for East Kent, vc15**, and for the county as a whole.

***Pennisetum macrourum*, 23 November 2022.**
Photos © Daphne Mills



***Persea americana* Mill. (Avocado)** is an unlikely candidate for the Kentish flora – there is only a handful of entries in the BSBI database, all in the favourable microclimate of inner London and including garden records. However, a seedling which had reached c.20cm before being knocked back by winter was found by AW on 6 November 2021 growing at the base of a beech tree in Denge Wood, TR 0944 5231. It would appear that someone regularly visits the spot and eats Avocado (and peanut *Arachis hypogaea*, although no seedlings of this were found), jettisoning the seed and resulting in a **first record for East Kent, vc15**, and for the county as a whole.

***Persea americana*, 6 November 2021.**
Photo © Tony Witts

Plantago major subsp. *intermedia* (Greater Plantain) is a subspecies which we have normally recorded on coastal grazing marshes. Sell & Murrell (2009) split the subspecies into several varieties. Our grazing marsh records may be var. *salina.* Occasionally we have recorded subspecies *intermedia* in arable contexts (and have probably under-recorded it in such habitats, where vars. *sinuata* and *scopulorum* may be the varieties applicable). A somewhat unique habitat was encountered by LR on 20 July when he recorded subsp. *intermedia* (confirmed by counting the number of seeds per capsule) in the turf of the green roof of the Saga building, Enbrook Park, Sandgate, TR 20699 35414.

Ranunculus* x *novae-forestae [R] (New Forest Crowfoot) is the hybrid between *Ranunculus omiophyllus* (Round-leaved Crowfoot) and *Ranunculus tripartitus* [R] (Three-lobed Crowfoot). The former species is not regarded as

surviving in Kent. The latter species, which is nationally Endangered, has been recorded in Philp (1982) and (2010) and is on the Kent rare plant register. It has, however, become questionable how far any of our Kent sightings have been of *R. tripartitus* and how far they were or are the hybrid. This issue arose following AL's post on Facebook of a photograph taken by him on 16 April at Hothfield, TQ 9671 4588, of what had previously been supposed to be *R. tripartitus*. The photograph attracted the attention of RVL (BSBI aquatic plants referee), who commented that the petals were too broad for the species, and that it was better regarded as the hybrid. Whether all our Hothfield plants are the hybrid is an open question, but it seems likely. Then on 1 May SL visited the pond at Sir Edward Street's Wood, Orlestone Forest, north-west of Hamstreet, TQ 9784 3505 which was the original site at which Eric Philp recorded *R. tripartitus*, as given in Philp (2010) for TQ93S. It had been recently cleared and lay on the open edge of heathy grassland, along the southern margin of woodland. Scattered plants of putative *R. tripartitus* were flowering there among G*alium palustre* (Marsh-bedstraw) and *Callitriche platycarpa* (Various-leaved Water-starwort). Fresh material sent by him to RVL resulted in a determination of *R.* x *novae-forestae*, with comment as regards the petals being very broad and some floating leaves less divided than would be expected from western *R. tripartitus*; also, capillary leaves were more robust than the typical species. The Hothfield and Orlestone Forest records are **the first confirmed records for East Kent, vc15**, although it may well be that other Kent *R. tripartitus* occurrences are of the hybrid as well. A 1943 herbarium specimen from Lamberhurst in the South London Botanical Institute herbarium also appears to be the hybrid, but there is some doubt as to whether it is from vc16 or 14. The rare plant register has been amended to treat the *R. tripartitus* entry as including *R.* x *novae-forestae.*

***Ranunculus x novae-forestae,* Orlestone Forest, 1 May 2022. Photo © Stephen Lemon**

***Ranunculus* x *novae-forestae,* Hothfield, 16 April 2022. Photo © Alex Lockton**

Rumex* x *mixtus, the cross between Fiddle and Wood Docks, was seen by GK & SK on 20 July, three plants amidst *Rumex pulcher* in plateau grassland of Doddington Place park, TQ 9411 5755 (the other parent, *Rumex sanguineus*, was not seen but is the common dock of the locality). **This is a first record for East Kent, vc15.** The accompanying illustrations demonstrate (left) tepals with the lingulate shape of *R. sanguineus* and marginal teeth plus reticulate veining from *R. pulcher* but reduced through the influence of *R. sanguineus* which lacks these; (right) overall jizz with wide branching from *R. pulcher*, most tepals having dropped through hybrid sterility.

***Rumex x mixtus*, 20 July 2022. Photos © Geoffrey Kitchener**

Rumex x *schreberi*, the hybrid between Water Dock and Curled Dock, was recorded by AL & DC on 14 May, a clump at Seasalter Levels on the main drain by the bridge at TR 0742 6478, the fourth record for East Kent, vc15.

Serapias vomeracea (Long-lipped Tongue-orchid), reported in Kent Botany 2020 as new to Britain in the wild, has encountered problems. Three spikes emerged and grew well until mid-June, after which they rapidly withered away, described as though something had been poured over them. If that was the case, then possibilities are the attentions of a fox, or deliberate human vandalism (perhaps attracted by a warning notice which had been installed).

Sparganium emersum (Unbranched Bur-reed) might not normally warrant comment, but AL's sighting of it at Seasalter Levels, TR 0836 6424, on 21 May, one of many interesting records made by him there in 2022, is notable as a re-find of a historic record (Jacob, 1777) of 'Bur-reed not branched...*In the Ditches of*...Graveney Marshes'.

Taraxacum (Dandelion) microspecies are understandably only sporadically recorded by us, due to their short season and identification difficulties. RM, however, recorded the following:

Taraxacum alatum. **Photos © Richard Moyse**

- *Taraxacum alatum* (Green Dandelion) at Sladden Farm, Alkham, TR2542, 8 May, confirmed by AJR. This dandelion is characterised by the grey curved bracts and the long wings to the petioles. The last published Kent record was in 1977, but RMB also noted it in April at his own West Kent garden at Eynsford, TQ5465.

Taraxacum duplidentifrons. **Photos © Richard Moyse**

- *Taraxacum duplidentifrons* (Double-toothed Dandelion) at Doddington churchyard, TQ 940 575, 8 April, confirmed by AJR. This dandelion has dark stigmas with pollen, spreading bracts and red lower midrib to the leaf. Last Kent record, 1984.

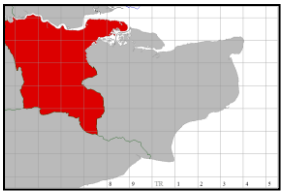
- *Taraxacum oxoniense* (Oxford Dandelion) at Sladden Farm, Alkham, TR2542, 8 May, and at Ospringe Reserve, TQ 980 602, both conf. AJR. This small, dissected-leaved dandelion is proving to be quite widespread in Kent on well-drained soils and we now have eight 2020-22 records, although with some way to catch up with Philp (1982), which gave 24 tetrads for 1971-80.

Umbilicus rupestris [R] (Navelwort) is a marginal rare plant register species, in the sense that it verges on local scarcity, once records from introduced sources are discounted. It is clear that the fine, wind-borne seeds enable colonisation of some surprising habitats. Surprising was its discovery by OL and JTM on 7 June growing between the planks of the shingle boardwalk by the New Lighthouse on Dungeness Point, TR 093 168 (new to Dungeness and not known nearer than Rye, East Sussex). It raises the question as to whether introduction here was by seed on footwear.

Vulpia unilateralis [R] (Mat-grass Fescue) is a small, inconspicuous grass of bare chalk whose only recent report was from Upper Culand Pit near Bluebell Hill (2016, 2017). Some former sites have been lost to development or are no longer accessible, but on 26 May, GK found it to be widespread at Peter's Pit SSSI, near Burham, TQ7162 (it is probably also in TQ7163, but this was not surveyed, and non-SSSI former chalk pit habitat in the vicinity is being developed as part of Peter's Village). Sample records were made: TQ 7182 6279, eleven plants on the slope of a south-facing bluff of bare chalk; TQ 7175 6278, in and around vehicle ruts on the chalk pit floor; TQ 71628 62754, slightly undulating quarry floor, ground fairly open but with very low cut scrub; TQ 7160 6274, near bare chalk floor; TQ 71551 62754, near bare chalk rabbitted floor; TQ 7172 6273, scattered plants on open undulating near-bare chalk floor. Associated flora was sparse, but *Catapodium rigidum* (Fern-grass) and *Poterium sanguisorba* (Salad Burnet) were universal constants, followed by *Linum catharticum* (Fairy Flax) and *Origanum vulgare* (Wild Marjoram) as the next most frequent.

***Vulpia unilateralis*, 26 May 2022. Photo © Geoffrey Kitchener**

Plant records for West Kent (vice county 16)



Adonis annua [R] (Pheasant's-eye) has not been recorded in Kent as a whole for eight years. The last West Kent record was in 1995 near Fawkham, TQ5868, but tantalising evidence has emerged of its reappearance near this locality in summer 2021, flowering in an arable margin (recorder unknown, but photos relate plant(s) to recognisable landmarks). A late season visit in 2022 to confirm was unsuccessful.

Alopecurus aequalis [R] (Orange Foxtail) is an annual grass of the margins or floors of ponds and ditches which dry out seasonally. It has not been recorded in Kent for ten years and was found by GK on 13 July at Botany Marshes, TQ 60774 75250, which is part of the Swanscombe peninsula SSSI. It was abundant in a 15m x 10m area of a dried-out but seasonally flooded depression on clay in the grazing marshes, cattle-tramped and probably mildly brackish, accompanied by *Plantago major* subsp. *intermedia* (Greater Plantain), which is a characteristic plant of such habitats.

***Alopecurus aequalis*, 13 July 2022. Photo © Geoffrey Kitchener**

Bidens ferulifolia (Fern-leaved Beggarticks) is a Mexican flower cultivated especially in hanging baskets and it was probably some such origin which gave rise to GK's record on 28 November in paving at London Road, Sevenoaks, TQ 5296 5474.

Cardamine impatiens [R] (Narrow-leaved Bitter-cress) enjoyed a good year on the basis of SL finding several hundred plants (possibly thousands) hidden among growing vegetation in a known site, a small shaw in a bend of the River Eden, Vexour Bridge, TQ 5122 4559. Along the Medway, AH found several plants: on 16 May a large specimen in bud by a wooded footpath at TQ 5646 4607 which at the KBRG meeting which he led on 8 June was in flower, with others in the vicinity; on 6 June another flowering plant by a riverside footpath near Barden Park, at TQ 5792 4668. The combination of damp, light from one side and protection from the other seems to provide a favoured habitat.

Cotoneaster dammeri (Bearberry Cotoneaster), a Chinese shrub much used for ground cover because of its low growth, was recorded by GK on 6 January at Hollybush, Sevenoaks, TQ 53475 55525, where there were many young plants at the edge of a car park, below a low wall, seeded from neighbouring cultivated plant(s).

Crataegus species have presented problems in identification due to hybridisation and the widespread planting of shrubs of non-native origin. *Crataegus heterophylla* (Various-leaved Hawthorn) has been suspected of being introduced into Kent and very much follows its English name in the variability of its leaves, although this in consequence makes it harder to be confident about identification. Stace (2019) gives the leaf character as 'varying from unlobed to deeply lobed on 1 tree, some narrowly oblong to oblanceolate, unlobed and entire in basal ½'. This identity was considered at first appropriate for shrubs and small trees found on 6 July by GK on a grassy bank at the Swanscombe peninsula SSSI, TQ 60880 75857, apparently self-sown from larger ones assumed originally to have been planted. These self-sown plants were very sparsely spiny and had the requisite (and distinctive) narrow leaves, with a degree of variation, although more towards the deeply lobed end of the spectrum than unlobed. *Crataegus monogyna* (Hawthorn) was also present and did not appear to have hybridised with the presumed planted trees, so far as the self-sown plants were concerned. There is, however, a question as to whether the original planted trees were pure *Crataegus heterophylla* or already possessed some

intermediacy with *C. monogyna*, because of the general deepness of the lobes and the relative infrequency of leaves in which lobing is not, or scarcely, present. A good account of the issues involved is at: https://botanyhuntsyorks.blogspot.com/2021/01/various-leaved-hawthorn-crataegus.html, in the context of Huntingdonshire and Yorkshire. Such more deeply lobed plants are there considered to be a hybrid between *C. heterophylla* and *C. monogyna*, viz. *C.* x *subheterophylla*. This name, however, does not appear to be valid, although Peter Sell named the intermediate at species level, *C. subheterophylla*, a taxon said to be frequently planted, at least in Cambridgeshire. It looks as though what is naturalised at Swanscombe has a better claim to be *C. subheterophylla* than *C. heterophylla*. Fruit are used by Sell & Murrell (2014) in keying these out (subrotund or broadly ellipsoid for *C. subheterophylla*, cylindrical for *C. heterophylla*), but Swanscombe material did not appear quite cylindrical enough for *C. heterophylla.* So, for the present we are leaving the issue open, but drawing attention in order to encourage further investigation of Kentish plants. It has also been necessary to withhold confirmation of *C. heterophylla* in relation to East Kent *Crataegus* seen at a KBRG meeting at Folkestone Downs, through similar uncertainties.

***Crataegus*, 6 July 2022. Photos © Geoffrey Kitchener**

Cydonia oblonga (Quince) was seen by GK & SK on 10 April, a single multi-trunked tree by a footpath in a damp wood near South Darenth, TQ 5614 7048, not obviously planted.

Cyperus longus (Galingale) was found by JP & SC on 24 August to be well established in a ditch across the boundary of monads TQ5445 and TQ5444 north east of Penshurst Place. It is no longer a Kent native, but the source of any introduction is not obvious, Penshurst Place appearing possible, but there does not appear to be a direct drainage linkage with it.

***Dactylorhiza fuchsii* var. *rhodochila*, 12 June 2022.**
Photos © Geoffrey Kitchener

Dactylorhiza fuchsii (Common Spotted-orchid) var. *rhodochila* Turner Ettl. is a variety in which the flowers exhibit excessive pigmentation so as to be wholly or partly intense

red-purple. Johnson (2019) refers to it as widespread in Kent, but rarely encountered. GK located a specimen on 12 June at Swanscombe peninsula SSSI, TQ 6008 7573, growing in shade on a chalk embankment with normal orchids and an intriguing flora generally, including *Hieracium argillaceum* (Southern Hawkweed) and much *Pyrola rotundifolia* [R] (Round-leaved Wintergreen), both seen in the accompanying photo. The leaves were also unusually anthocyanin-rich.

Digitaria ciliaris (Tropical Finger-grass) was known as a casual on Kent tips in the 1970s, presumably deriving from household waste including bird-seed, and not becoming naturalised as does *Digitaria sanguinalis* (Hairy Finger-grass) increasingly frequently. A plant was recorded by RMB on 22 August on the edge of the road surface near 20 Pollyhaugh, Eynsford, TQ5465.

Dipsacus laciniatus (Cut-leaved Teasel) is sometimes grown as a cut flower, including for drying, although it appears to have little advantage over *Dipsacus fullonum* (Wild Teasel), which differs in flower colour and entire leaves. Several plants were seen by GK on 7 June by Downs Bridge Road, Shortlands, TQ 38718 69769, outside and originating from an adjoining garden. This is the second West Kent, vc16, record.

Dryopteris cycadina (Shaggy Wood-fern), an Asian cultivated fern, was recorded by GK on 13 April at the edge of Marsheyharbour and Forest Woods, Pembury, TQ 6197 4100, probably derived from garden waste, with *Cyrtomium fortunei* (Fortune's Holly-fern) present as well. This is the second record for Kent as a whole (vcc 15 & 16).

Epilobium brachycarpum (Panicled Willowherb), a North American species spreading in Europe for some years, arrived in Kent in 2014 and is gradually expanding. More records were made on 10 October by GK at Greatness, Sevenoaks; the remains of a plant on the pavement outside 81 Greatness Road, TQ 5339 5699, and five more nearby at the edge of the street outside 6 Farm Road, TQ 5341 5702. Even with very little of the substance of the plant remaining, the small (2-3cm), somewhat banana-shaped seed capsules enable recognition. Having regard to another stray plant reported in Kent Botany 2020 some 1.6km away, it looks as though there may be an undiscovered source colony in the neighbourhood, perhaps Sevenoaks Quarry, TQ5357/TQ5457.

Euphrasia nemorosa x *pseudokerneri,* the hybrid between Common and Chalk Eyebrights, was recorded by GK on 1 June on a chalk grassland slope at Magpie Bottom, Shoreham, TQ 544 612, TQ 543 612. Corollas measured up to 11mm, within the range of *E. pseudokerneri* but well beyond *E. nemorosa*, although before the former's flowering time. This is the second site out of three for *Polygala amarella* (Kentish Milkwort) which has been shown to hold the hybrid Eyebright as well.

Galanthus woronowii (Green Snowdrop) – which under a different transliteration system from Cyrillic could easily have commemorated Voronov instead – was seen by GK & SK on 8 March, as one plant, together with more plentiful *Galanthus nivalis* (Snowdrop), on the bank of the River Bourne (or Busty) east of Ightham, TQ 60179 57006. It gave the appearance of having been brought down by floodwaters and, indeed, was found to be present 680m south west, upstream, in a planted area of Busty Lane overhanging the river.

Galium uliginosum [R] (Fen Bedstraw) has in recent years been reported in only one West Kent location, so that it is gratifying that on 1 July JP found it growing in an overgrown pond area at Lullingstone Castle, TQ5364. In the 1940s and '50s, it was known to Francis Rose (according to his manuscript *Flora of Kent*) in several places in the Darent valley, one of which was a meadow south of Lullingstone (1956). It may be that this was the meadow lost to an extension of Lullingstone lake by gravel extraction which was in progress in 1960, in which case it would have been only 300m or so from the present discovery.

***Geranium purpureum,* 21 July 2022. Photo © Chris Cook. Note the diagnostic yellow anthers.**

Geranium purpureum [R] (Little-Robin) was discovered by GK on 12 June at the Swanscombe peninsula SSSI, TQ 60390 75359: three plants growing by a hard-surfaced footpath, backed by coarse vegetation. More extensive finds were made by CC on 21 July at Longfield: one plant by a fence in a parking area, TQ 60964 68292; four on a very flinty bank in a wood, TQ 6109 6837; and one good-sized plant by the entrance to Wisteria House, TQ 61130 68406. This last record was only 40m from Bromley-Rochester railway line; the Swanscombe record was 250m from the High Speed 1 rail tunnel portal. In view of the close association of many of our records with railways, one wonders how far the location of the present finds may be coincidence.

Juncus x *surrejanus*, the cross between Sharp-flowered Rush and Jointed Rush, was noted by GK on 4 November near a small pond in a woodland glade at Tunbridge Wells Common, TQ 5749 3866. Signs of hybridity were pale, empty fruits not fully formed and the presence of four septa per 5cm of leaf (normal for *Juncus acutiflorus* is 1(2) per 5cm and for *Juncus articulatus*, 5+).

Linum perenne (Perennial Flax) has been on the county 'probably extinct' list, with some doubt as to whether old records were this taxon, but it was reported by JP as seen with SC on 16 August near Darenth, TQ5571, and comparable with a 2018 find by her on an arable field margin at Crockenhill which proved impersistent, although the species is perennial. The usual crop species is of course *Linum usitatissimum* (Flax), which these plants were apparently not, so some other source of introduction needs to be assumed.

Lysimachia (Anagallis) arvensis var. *caerulea*, the blue version of Scarlet Pimpernel, has few recent Kent records, but LC added to them on 7 June with a sighting north east of Marden, TQ 7704 4576, in an arable field where the crop had effectively failed. It is distinguishable from *L. foemina* (Blue Pimpernel) by having much more numerous glandular hairs on the margins of the corolla-lobes. This taxon might be better treated as a form, rather than a variety, but now that the Pimpernels have transferred from *Anagallis* to *Lysimachia*, there does not seem to be a validated name at *forma* level.

***Lysimachia arvensis* var. *caerulea*, 7 June 2022. Photos © Lou Carpenter**

Malva setigera [R] (Rough Marsh-mallow), at Haysden last seen 18 years ago by SB, was re-found by a KBRG meeting on 9 June, a single flowering plant at TQ 56329 45656 on a sandy bank disturbed by repair work to the Leigh flood defence barrier. It is said that seed viability may reach 180 years (see rare plant register).

***Malva setigera*, 9 June 2022. Photo © Alan Heyes**

Matteuccia struthiopteris (Ostrich Fern) is a cultivated fern, very responsive to damp conditions, which encourage stoloniferous spread. GK & SK noted on 27 October a few plants in Chartwell National Trust grounds, TQ 4563 5165. These were in a streamlet on the lake valley slopes, looking unplanted but deriving from planted specimens in the formal gardens over 90m upstream.

Mentha x *piperita* (Peppermint) is considered to be a probable neonative, arising as a spontaneous hybrid between native *Mentha aquatica* (Water Mint) and naturalised *Mentha spicata* (Spear Mint); but it can also be a garden escape. Two colonies were reported by a KFC meeting (communicated by SL) at the Loose Valley, north of Loose village, TQ 7565 5290, on the eastern side of Great Ivy Millpond. As they were growing with *M. aquatica*, the question arises as to whether there had

been any hybridisation on the spot with *M. spicata* (albeit that this species was not noted as well); but Sell & Murrell (2009) attribute the spontaneous hybrid to var. *hirsuta* of *M*. x *piperita* which has numerous hairs on pedicels and calyces; and the plants found had relatively few such hairs.

Phlomis fruticosa (Jerusalem Sage, although Jerusalem's sages do not include this species) is a very occasional escape; on 6 January GK recorded several plants at the surfaced edge of a car park, seeded from neighbouring cultivated plants, at Hollybush, Sevenoaks, TQ 53463 55527.

Polygonum parvulum (Moss) P.D. Sell (Small-leaved Knotgrass), named as a species in 2018, is usually treated as subsumed into *Polygonum depressum* (*arenastrum*) (Equal-leaved Knotgrass), of which it was in 1914 described as a sub-variety, with smaller, narrow leaves and achenes than the usual plant; it also has short internodes. RMB recorded it on 22 August at Eynsford, TQ5465, where he had known it for some years (unrecognised), having also seen it at Otford, TQ5259. Disconcertingly, he found on 3 September that some plants had a second set of branches spreading over the first, with slightly longer internodes and much larger leaves. This may have been weather-induced and suggests, as he points out, that the 'normal' habit of *P. parvulum* may be a habitat modification. What is due to genetics and what is due to environment is an on-going problem within *Polygonum aviculare* agg. **This is a first record for West Kent, vc16.**

***Polygonum parvulum*, 2022. Photo © Rodney Burton**

Pyrola rotundifolia [R] (Round-leaved Wintergreen) was one of the species cited by Natural England as part of the reasons for designating the Swanscombe peninsula as an SSSI. At that time, only a fairly small colony was known. Surveys by GK in 2022 demonstrated that there were several populations, one of which was enormous and which would have been destroyed by the development staved off by SSSI designation. The new records comprise:

- tens of thousands of plants present on top of a chalk embankment associated with a former industrial railway or tramway, most in the shade of willows and birches, fewer where open, the embankment varying from *c*.8m to *c*.18m across and the colony observed (so far as accessible) for some 75m length between TQ 60093 75702 and TQ 60080 75777, accompanied by much *Dactylorhiza fuchsii* (Common Spotted-orchid). The site is not as damp as others in NW Kent.
- a western outlier of the main colony (above), comprising numerous plants (hundreds) along a line of small trees, willow and birch, running north-south, near a former industrial railway or tramway formation, width 1-2m, length *c*.25m, sample grid references TQ 60101 75754, TQ 60100 75729.
- A further outlier, being a small colony, *c*.1m^2, in ivy on the east side of the chalk embankment.
- 100 flowering spikes in seasonally damp scrub, TQ 60078 75404, a patch 2.5 x 3m amongst *Hedera helix* (Common Ivy) below *Salix caprea* (Goat Willow) on a calcareous substrate.
- at Bamber pit (this is also part of the SSSI, although somewhat inland of the peninsula), TQ 60798 74589, where there were two groups of four and five plants respectively, and at TQ 60787 74608 twenty plants, in all cases near lowest part of the pit on chalk, in ivy near *Populus tremula* (Aspen), close to probable level of flooding in wet winters, but fairly dry when recorded. This was the old location for *Epipactis palustris* (Marsh Helleborine), long gone.

Rumex. A visit on 9 July to St Paul's Cray Hill Country Park resulted in an array of records by GK from a mixed population of docks where tipped material had been levelled, centred on TQ 480 684. These included:

- *Rumex* x *dimidiatus*, the cross between Curled and Greek Docks, one plant with parents at TQ 48008 66441
- *Rumex* x *dufftii*, the cross between Broad-leaved and Wood Docks, singletons with parents at TQ 48006 684472 and TQ 48004 68410, probably more present

- *Rumex* x *lousleyi*, the cross between Broad-leaved and Greek Docks, singletons with parents at TQ 48005 68416, TQ 480089 68404 and TQ 48031 68444
- *Rumex* x *pratensis*, the cross between Broad-leaved and Curled Docks, abundant throughout the site
- *Rumex* x *sagorskii*, the cross between Curled and Wood Docks, one plant with parents at TQ 48007 68441.

Exploration of the grazing marshes (Botany Marshes) at Swanscombe peninsula SSSI on 13 July gave GK several records providing further evidence of the value of the SSSI:

- *Rumex palustris* [R] (Marsh Dock) was found in typical marginal situations at open grazing land where cattle-trampling had taken place at seasonally dried-out depressions - one plant at TQ 60877 75672, five more on a low short turf bank at TQ 60859 75664 and eight at TQ 60779 75231.
- *Rumex* x *heteranthos*, the cross between Curled and Marsh Docks, was present with the parents, at least two plants at one of these *R. palustris* sites, TQ 60780 75237, only the third record for West Kent, vc16.
- *Rumex* x *wirtgenii,* the cross between Clustered and Marsh Docks, was present with the parents, at least four plants at the same site as above, TQ 60764 75249 and its vicinity, not seen in West Kent, vc16, since 2006.

***Rumex x heteranthos,* 13 July 2022. Photo © Geoffrey Kitchener**

Elsewhere, *Rumex* finds included:

Rumex x *ruhmeri*, the cross between Clustered and Wood Docks, noted by GK & SK on 19 August in coarse grassland of an orchard at Ightham Mote, TQ 58386 53510, with the parents present. It was a very large plant, much taller than *Rumex conglomeratus*, but with most developed tepals having three large tubercles (*Rumex sanguineus* normally has one) and more nearly resembling *R. conglomeratus*, some tepals, however, extending further below the tubercles than normal and in that respect approaching *R. sanguineus.* There was some fresh secondary basal growth as happens with hybrids. This is the fourth record for West Kent, vc16.

Stachys arvensis [R] (Field Woundwort), although a nationally Near Threatened arable weed, might not generally warrant comment here, but the context of its record by GK on 28 September is interesting, in that it proved to be abundant in the drawdown zone of the west side of Bough Beech reservoir, TQ 492 489/488/486. This did not seem necessarily attributable to the extreme lowering of water levels from the summer drought, as plants grew fairly high up the sides. There was an uppermost zone which must be generally free from inundation and which was occupied e.g. by *Mentha aquatica* (Water Mint), *Mentha arvensis* [R] (Corn Mint) and their hybrid, *Mentha* x *verticillata* (Whorled Mint). *Stachys arvensis* was somewhat lower down, where water levels presumably drop after their winter maximum, to allow *S. arvensis*, as an annual spring-germinating species, to begin growth, taking advantage of open conditions created by water fluctuations which act as proxy for annual cultivation of its normal arable habitats.

Trifolium incarnatum, presumably subsp. *incarnatum* (Crimson Clover), was reported by AH as found on 21 May, several plants in flower growing either side of the footpath through wheat field immediately opposite Haysden Country Park, TQ 5670 4615. Our records are generally attributable to wildflower seed sowing or to agricultural use, generally as a soil improver, to fix nitrogen.

X *Agropogon lutosus* (Perennial Beard-grass), the intergeneric hybrid between *Agrostis stolonifera* (Creeping Bent) and *Polypogon monspeliensis* [R] (Annual Beard-grass) is normally in Kent an uncommon plant of grazing marshes where the parents grow together. However, on 18 April GK found a plant, with the remains of a persistent panicle, in the corner of a tipped sand quarry near Borough Green, TQ 6143 5791, growing in an area of impeded drainage with *P. monspeliensis.*

References

Berry, M. (2018). Adventives and Aliens News 14. *BSBI News* **138**: 46-51

De Langhe, J.-E. (1972). Une forme de *Convolvulus arvensis* L. à corolla profondément laciniée, nouvelle pour la flore Belge. *Bulletin de la Société Royale de Botanique de Belgique / Bulletin van de Koninklijke Belgische Botanische Vereniging* **105(1)**: 109-113

Druce, G.C. (1897). *The Flora of Berkshire.* Clarendon Press, Oxford

Groom, Q. (2011). Eragrostis minor. In: *Manual of the Alien Plants of Belgium*. Botanic Garden Meise, Belgium. https://alienplantsbelgium.myspecies.info/content/eragrostis-minor (accessed 13 January 2023).

Jacob, E. (1777). *Plantae Favershamienses*. London

Johnson, D. (2019). *Wild Orchids of Kent*. Kent Field Club, Brighton

Nesvadbová, J. & Pecháčková, S. (2011). Kolonizační historie *Eragrostis minor* v západních Čechách odvozená z floristických dat (Colonization history of *Eragrostis minor* in the western Bohemia derived from floristic data). *Erica,* Plzeň, 1**8**:33-48

Philp, E.G. (1982). *Atlas of the Kent Flora*. The Kent Field Club, West Malling

Philp, E.G. (2010). A *New Atlas of the Kent Flora*. The Kent Field Club

Pratt, A. (1873). *Flowering plants, grasses, sedges and ferns of Great Britain*, vol. IV. Frederick Warne and Co., London

Sell, P. & Murrell, G. (2014). *Flora of Great Britain and Ireland*, vol.2. Cambridge University Press, Cambridge

Sell, P. & Murrell, G. (2009). *Flora of Great Britain and Ireland*, vol.3. Cambridge University Press, Cambridge

Stace, C.A. (1973). C*alystegia* - Inheritance of the schizoflorous character. *Watsonia* **9**: 370-371

Stace, C.A. (2019). *New Flora of the British Isles, 4th edition.* C & M Floristics, Suffolk