

## Kent Biodiversity Strategy Plants: Reports 2020-23



***Orchis purpurea***  
Lady Orchid or Fair Maid of Kent



***Carex vulpina***  
True Fox-sedge



***Polygala amarella***  
Dwarf or Kentish Milkwort

### Contents

Introduction	page	1
Orchis purpurea 2020		3
Orchis purpurea 2021		5
Orchis purpurea 2022		9
Orchis purpurea 2023		13
Carex vulpina 2021		18
Carex vulpine 2022		20
Polygala amarella 2021		21
Polygala amarella 2022		25
Polygala amarella 2023		27

### Introduction

During 2020, the Kent Botanical Recording Group (KBRG) was invited to be involved in the selection of indicator species for the Kent County Council's updating of the Kent Biodiversity Strategy, which has an aim to deliver, over a 25-year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health. See Appendix 1 at <https://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf> where the following details are given for the selected species, all iconic for Kent and deserving of fuller understanding of their status and needs:

Indicator species	Champion	Status	Indicator measure	Rationale
<b>Lady Orchid</b> ( <i>Orchis purpurea</i> )	Kent Botanical Recording Group	Kent has the main national populations, which occur across the breadth of the chalk in Kent, although more in the east. Most populations are small, and it is suspected that many are gradually declining.	Number of records of this species.	The Lady orchid is a highly sensitive indicator of well-managed coppice woodland on chalk.
<b>True Fox-sedge</b> ( <i>Carex vulpina</i> )	Kent Botanical Recording Group	A rare plant whose Low Weald populations in Kent are of national significance.	Update monitoring data for this species, with a view to verifying any decline and what management action might appropriately address this (e.g. by managing the invasive growth of trees and scrub around pond and ditch margins).	A rare plant of Low Wealden ditch and waterbody margins. Ponds and ditches are a defining feature of the Low Weald and if attention is given to this species, then it is likely that other Wealden wetland species will be encouraged, to the benefit of biodiversity.
<b>Dwarf or Kentish Milkwort</b> ( <i>Polygala amarella</i> )	Kent Botanical Recording Group	The rarest Milkwort; when treated as subsp. <i>austriaca</i> , it is considered critically endangered.	Mapping and monitoring and action to move towards removal of this species from the brink of extinction by 2050.	The Species Recovery Trust has been focussing on this species in recent years and is targeting its removal from the brink of extinction by 2050. Optimum habitat requires continued appropriate management at the three current locations where the plant is known to survive. The Species Recovery Trust has been working on re-introduction, with a focus on site(s) which appear suitable but do not have records (so that introduction cannot give rise to confusion with any possible natural reappearance at old sites).

Monitoring of these species has been undertaken by KBRG members and others, and reports are collected here, after their initial publication in KBRG newsletters.

This series of reports was continued into 2023, although their context is now one under the Local Nature Recovery Strategies mandated under the Environment Act 2021 and which take over from Biodiversity Strategies. The species which we have been targeting under the Kent Biodiversity Strategy are likely to be of continued relevance. Kent Nature Partnership's website says: "At a time of ecological crisis, the Kent Biodiversity Strategy aims to help steer the collaborative work of conservationists, government, business and individuals to work in partnership so that the county's natural landscape can be restored and threatened species can be saved. It may be that the Kent Biodiversity Strategy objectives will be migrated into the forthcoming Local Nature Recovery Strategy, where they may have most impact." So we are assuming some continuity by continuing these species reports, at least to 2023.

## ***Orchis purpurea* (Lady Orchid) monitoring report 2020**

Fortunately, the strict lockdown measures eased in May just in time to allow for some Lady Orchid sites to be visited by those of us who live reasonably near. The main purpose of the survey is to collect data on the population size of at least 20 of the larger colonies in Kent over a 5-year period. We agreed to take this on under KCC's Kent Biodiversity Strategy. We also regard it as an opportunity to try to learn more about this most iconic of Kent plants which is suspected of being in gradual decline.

With that in mind the recording form has additional space to record type of habitat, associated species, degree of shading, number of non-flowering (blind) plants, evidence of rabbit or slug grazing, current state and management etc. We hope to gain some useful information about the species and its requirements so that we might consider it sufficiently worthwhile to continue over a 10-year period with at least the larger sites visited every year or two.

Ladies on the street: Palmstead



With this spring's hot and dry weather, the first site to get a visit was a steep slope in woodland on Burham Down where Daphne Mills counted 307 plants on May 5<sup>th</sup> in four scattered sites. 168 were flowering and the remainder were blind with evidence that trampling in the area may be affecting the colony. A previous population count on this site was similar.

My first visit was to Bonsai Bank on May 18<sup>th</sup> where, armed with the kind of gadget that airline stewards have for counting people onto planes, I came up with a count of 1,550 flowering spikes and probably at least twice that many blind rosettes. I won't forget the pleasure of being with all those lovely ladies in the sunshine and not a thought of social distancing! In 2013 Alfie Gay counted 3,481.

At Yockletts Bank *Orchis purpurea* thrives in its full variety of habitat types. On the northern part of the reserve plants were flowering out in the open and around the margins of a sunny sloping glade (although not so many this year as I can remember there in the past). They were accompanied by typical chalk grassland species. Many orchids had been bitten off by rabbits. In the southern part of the reserve, by way of contrast, very tall robust Ladies were flowering in poor light under mature beech trees with little more than dead leaves for company. I found the largest number of flowering spikes amidst a great sea of Dog's Mercury and Ivy under lighter shade from Ash and Sycamore. I counted a total of 320 flowering spikes from the range of habitats.



Ladies in the shade: Yockletts Bank

Despite a very busy work schedule Alfie Gay was able to visit three sites on the Wye Downs NNR and come up with a total of 34 flowering plants. He also surveyed a colony at Covet Wood where Lady Orchids grow in a mature beech plantation with Fly Orchid, Bird's-nest Orchid and White Helleborines. This colony has fluctuated dramatically over the past 30 years: in the 1990s up to 3,000 flowering plants were recorded in some years by Francis Rose, but numbers crashed for a period from 2007 to 2012 when very few Lady Orchids were known to flower. There has been a partial recovery in recent years, with Alfie's count this year of 361 flowering Lady Orchids comparing to an estimate of 200 flowering plants in 2019, and a count of 426 flowering plants in 2018.



Ladies in the sun: Bonsai Bank

The chart shows all of the sites visited this year and the number of flowering spikes counted. Bearing in mind that we have just over 100 locations where *O purpurea* has been recorded in the county, I welcome any assistance from KBRG members with this project, especially with the larger colonies. You'll notice that well known sites such as at Ranscombe, Bredhurst Woods, Stockbury Hill, etc. were not visited with recording forms this year and there are very many locations where just a few plants have been found or where there are no recent records at all . In putting a list of sites together it was apparent that data on the size of the Kent colonies is very patchy and post-2010 confirmation of some is required. **If you think you can help by visiting a site or sites next year please let me know and I will e-mail the full list with grid references and data going back to 1970 for each and a simple recording form.** Then you can look forward to next May and enjoying being in the company of some lovely Ladies.

#### Sites visited in 2020

Tetrad	Site	No. of plants counted	Recorded counts since 1970
TQ46Q	Rushmore Hill and Lattice Coppice	0	Last records from 2 separate sites dated 1991 & 1987-99
TQ76G	Burham Downs	168 flowering + 139 blind	285 plants in 2013, half flowering
TR04U	Warren Wood east	18 flowering + 2 blind	40-50 recorded in 2010
TR04U	Warren Wood west	4 flowering + 10 blind	Small colony remaining
TR04X	Wye Downs	34 flowering	Scattered colonies
TR14H	Spong Wood	7 flowering	Small colony remaining
TR14I	Yockletts Banks	320 flowering + >100 blind	505 flowering plants in 2013.
TR14U	Palmstead/Lynsore Bottom	54 flowering + 9 blind	Roadside and wooded bank colony
TR14U	Covet Wood	361 flowering	Approx. 200 flowering plants in 2019, 426 flowering in 2018, up to 3000 flowering in the 1990s.
TR15	Bonsai Bank	1550 flowering + >2,000 blind	3481 counted (A. Gay) in 2013
TR15	Denge Wood (Woodland Trust)	34 flowering + >20 blind	A population just north of Bonsai Bank & might be included with it.
TR15	Whitehill Wood	4 flowering	Small colony remaining
TR24	Cannon Wood	33 flowering + 17 blind	400 flowering plants in 2003

Sue Buckingham

### *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.

#### 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)
		<b>TOTAL flowering: 2,636</b>	<b>TOTAL flowering - 2,302</b>	
		<b>TOTAL non-flowering: 2,351</b>	<b>TOTAL non-flowering - 3,478</b>	

Sue Buckingham



## Orchis purpurea Lady Orchid in Kent, 2022

2022 was the third year of Lady Orchid monitoring and next year will be the last of the four-year period in which we initially agreed to carry this out for the Kent Biodiversity Strategy Partnership. Where sites had been visited in 2020 or 2021 (and especially in East Kent), 2022 was clearly a good year for Lady Orchid and almost every site had more flowering plants than in the two previous years. Jack Lowe who monitors Pitt, Woodlands and Well Woods near Adisham, said that 2022 produced the highest number of plants he had ever recorded and an unprecedented number of flowering ones. This may relate to the very mild winter of 2021/22. I didn't notice that the dry spring of 2022 had any noticeable effect on the height of flowering spikes, except maybe for those in very open dry situations; seed production seemed to be just as in previous years; and some recorders commented that there was less slug damage.

A pale Lady at Yockletts, 2022. Photo by Sue Buckingham



Moving from west to east across the county, Geoffrey Kitchener reported that the single Lady Orchid last recorded in 2012 at One Tree Hill was no longer present, considering that being a single plant and unable to reproduce, it would have reached its life-span. At Greenhill Wood, Otford he found 15 plants at the same location where back in 1949, Francis Rose listed 12 stems and 5 inflorescences. Rose had similar counts there in the 1950s, showing considerable continuity at this site with the colony remaining more or less the same size over the course of 73 years! In Red Wood where Lady Orchid is known, Geoffrey came across a new location much further north than those previously known, whilst at a listed site to the east no plants were found and the location possibly had changed in suitability as a result of nearby coppicing.



Richard Moyse and Kathy Friend revisited the Ranscombe Farm sites both north and south of the railway line. The figures are similar to those reported in 2021. Later on in the summer they revisited the colonies and made a study of seed-set. On the south of the railway, mean percentage of flowers setting seed (based on sample of 8 plants and with a total of 591 flowers) was just 5.4%. North of the railway line in a shaded spot under trees a single plant had 93 flowers and 21 swollen pods, calculated at 22% seed-set. This particular plant was admired later on in early July by those of us who attended the joint KBRG/BSBI field meeting and we wondered at how a solitary plant under tree cover and a good distance away from any other flowering Lady Orchid could have reached such a good level of seed-set, for a Lady Orchid, that is.

LyOak Wood, 2022; good seed-set. Photo by Sue Buckingham

At the Great Wood colony, Richard and Kathy found seed-set based on seven plants with a total of 235 flowers, ranging from 7.1% to 63.9%; and at Clay Pond, seed-set based on five plants with a total of 274 flowers was 16.1% to 58.9%. Lady Orchid is said to have poor seed-set which would seem to be a disadvantage and so it is useful to look at how this varies between plants and colonies.

Lady Orchid flowers are said to have no nectar with which to reward visiting insects and thus are regarded as 'deceptive' species because their flower shape and colouring tricks pollinators into believing that food is available. It is noted that such deceptive species have lower fruit set than nectar-rewarding ones. There is a mountain of online information on the mysteries of Lady Orchids and I came across a paper in the Journal of Ecology '**Higher seed number compensates for lower fruit set in deceptive orchids**' (by Sonkoly, J. *et al.*, and first published 9 November 2015 at <https://doi.org/10.1111/1365-2745.12511>). The study concludes that although seed

production in deceptive species may be low, that doesn't necessarily equal low reproductive success because there are more seeds per fruit. This suggests that Lady Orchids may not be at a disadvantage after all and certainly in the right conditions they are capable of producing many seedling plants as our studies indicate.

By a footpath in Great Crabbles Wood, Higham, David Johnson located the spot where he and Eric Philp had found a non-flowering Lady Orchid rosette in 1997. Unfortunately, David didn't find any plants this year, but the 1997 discovery was a re-find of one of Francis Rose's old records and from the same area where Lady Orchid was first recorded in Kent by Christopher Merrett in 1666 as "*Orchis militaris polyanthus*, On *Gads-hill*".

Daphne and I searched out one of David's 2012 Lady Orchid records in Stock Wood near Frinsted and found one flowering plant where ten years earlier, David had recorded two. There are more small populations like this one that require up-to-date confirmation of presence and I welcome any offers of help for next year and I've plenty of information to assist.

Sladden, 2022; Alfie Gay pollinating the only flowering plant present.  
Photo by Sue Buckingham



Numbers were well up at Ospringe, mostly in a glade in woodland where interestingly the reason for not opening up the glade is to prevent possible hybridisation with *Orchis simia* Monkey Orchid which is nearby. Lady Orchid numbers remained stable on the Wye Downs sites but Alfie Gay noted a lot of bramble growth in one spot where they usually are. Under the beech plantation in Covet Wood, flowering was well up this year with the larger clusters of Lady Orchids on bare leaf litter and scattered plants in among brambles. Most had only two or three capsules swelling. The one flowering plant in Sladden Wood had Alfie as pollinator at a KFC meeting. Alfie monitors the Lady Orchids in Lyoak and Canon Woods and manages the site during the winter months with the help of volunteers from the Whitecliffs Partnership. Creating glades there benefits the orchids but it also encourages a lot of bramble growth. One particular plant had a very healthy number of swollen capsules.

The colony on a bank below Warren Wood had twice the number of flowering spikes since my last visit in 2020 and a new site was found inside the wood thanks to a lot of glade widening and general but sensitive opening up of the wood. Flowering was earlier this year at Yockletts Bank with 68% more flowering plants than in 2021. This was particularly noticeable amid the large *Mercurialis perennis* carpet on the North Bank and might relate to increased light levels from dead ash in the canopy. On the south bank were some remarkably tall and robust specimens more than 65 cms high. At Bonsai Bank I counted more than 2,000 flowering spikes and there were very many small plants that were too young to flower and too numerous to count. They were clearly clustered around flowering plants and often on the bareish areas of old bonfire sites.

Gorsley, 2022. Photo by Sue Buckingham



On private land near Gorsley Wood a population of at least 300 flowering spikes can be viewed from a distance. They don't appear to have been planted and aren't gardened but the site is kept open and clear of trees and shrubs for the benefit of the orchids. In Woodlands Wood, Jack noted slug damage to 16 plants nearest the bridleway and added that those larger plants deeper in the wood were unaffected. Altogether there were fewer reports of slug damage this year.

My thanks to all who reported on Lady Orchids in 2022. There's just one year to go although I think I will want to carry on and at least make it a 5-year survey. Please let me know if you would like to help and I will send details of sites to visit.

Thanks also to all who look after our Lady Orchids.

Sue Buckingham

<i>Orchis purpurea</i> counts					
Tetrad	Site	No. of plants 2020	No. of plants 2021	No. of plants 2022	recorded highest counts since 1970
TQ46Q	Rushmore Hill	0			Last records 1991 & 1987-99
TQ55R	Bitchet Common-One Tree Hill			0	single plant 2012
TQ56F	Oxford-Greenhill Wood			12 flowering + 3 blind	10 plants in 2016
TQ66T	Henley Street-Cobhambury Wood			0	2 plants 2015
TQ66Y	Red Wood west			6 flowering + 1 blind	new site
TQ66Y	Red Wood east			0	1 plant 2010 - habitat changed
TQ76D	Ranscombe west	38 flowering + 21 blind	58 flowering + 67 blind	60 flowering + 49 blind	71 flowering in 2013
TQ76E	Great Wood	11 flowering	8 flowering + 7 blind	11 + 3 blind	17 in 2016
TQ76E	Clay Pond Wood		7 flowering + 10 blind	9 + 1 blind	13 flowering (2013)
TQ76G	Burham Downs	168 flowering + 139 blind	late visit: 5 swollen capsules		285 (2013)
TQ77A	Great Crabbles Wood			0	first record Merrett (1666), last 1997
TQ85Y	Frinted, Stock Wood			1 flowering + 3 blind	2 plants in 2004
TQ86A	Bredhurst Woods		1 flowering, at 2 locations		50 spikes recorded in 2011
TQ86F	Stockbury Hill		105 flowering + 16 blind		299 in 2019
TQ86G	Queendown Warren		2 flowering + 1 blind		few records
TQ96V	Ospringe		10 flowering + 24 blind	19 flowering + 32 blind	35 flowering (2013)
TR04	Wye Downs		34 flowering	32 flowering	34 flowering
TR04U	Warren Wood east	18 flowering + 10 blind		36 flowering + 20 blind	Small colony
TR04U	Warren Wood west	4 flowering + 10 blind		9 flowering + 6 blind	Scattered colonies
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 in 2010
TR05V	Eggringe Wood		7 flowering		3 flowering, 2 blind (2014)
TR05V	Thrusted		6 flowering		15 flowering (2011)
TR14H	Spong Wood	7 flowering			

TR14H	Little Profit (private)		90 flowering (estimate)		estimate 90 flowering
TR14I	Yockletts Bank	320 flowering + >100 blind	376 flowering	548 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 flowering	
TR14T	Elhampark Wood		1 flowering		
TR14U	Covet Wood	361 flowering	124 flowering + approx 70 blind	213 flowering + 60 blind	Up to 3,000 in 1990s
TR14U	Quilters Wood		2 flowering, probably more		
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	2,066 flowering	3,481 (2013)
TR15B	Denge Wood (Woodland Trust)	34 flowering + >20 blind			
TR15H	Larkey Valley		32 flowering + 3 blind		29 flowering (2013)
TR15Q	Gorsley Wood west			3 flowering + 3 blind	2 in 2018
TR15Q	Gorsley Wood garden population.			at least 300 flowering	known as game-keepers' cottage
TR15Q	Bursted Wood			5 flowering	remains of plants seen 2011
TR15R	Whitehill Wood	4 flowering + 10 blind			8 flowering (2011)
TR15V	Knowle Wood		13 flowering + 20 blind		12 (2011)
TR24L	Sladden Wood		1 flowering and 2 blind	1 flowering + 1 blind	
TR24M	Cannon (& Lyoak) Woods	33 flowering + 17 blind	53 flowering	68 flowering + 66 blind	400 flowering (2003)
TR24R	Gorsehill Wood			0	2 in 2013
TR25A	Ileden Wood		3 blind	2 flowering + 1 blind	1 in 2013
TR25B	Woodlands, Pitt and Well Woods	33 flowering + 15 blind	36 flowering + 160 blind	124 flowering + 81 blind	133 flowering (2012)
		TOTAL flowering: 2,636	TOTAL flowering - 2,243	TOTAL flowering 3,529	
		TOTAL non-flowering: 2,351	TOTAL non-flowering - 3,473		

### Orchis purpurea Lady Orchid in Kent, 2023

The number of flowering Lady Orchids was down this year at most sites and at some was as little as a half or less than half of last year's totals. Alfie Gay suggests this could be down to the cold spring and very dry February which is when Lady Orchid rosettes start to appear above ground. April, however, was very wet and May very cold with a persistent northeasterly wind. The 2022 summer drought may have had an effect and limited the amount of stored food available from fast-withering leaves but how can we know? Certainly proportionately more non-flowering plants and seedlings were noticed this year, so maybe after a bit of a rest the Lady Orchids will produce more flower spikes in 2024.

In the far west of the county Geoffrey Kitchener continued with checking out known locations that hadn't had a visit during the present survey. He found a single plant at a North Halling site but none under the pylons at Luddesdown or at a location by Heron Lane, Harvel. At the latter site he noted a potentially damaging development in progress which involved ripping out trees and altering ground levels. A total of 75 plants were seen at a site above Upper Halling with 15 flowering and the remainder either blind or seedlings. The high proportion of non-flowering rosettes was to become a feature at several sites this year.

Frances Rose thought that there were two geographic types of Lady Orchid, divided by the Stour Valley (not the Medway) into a west Kent and an east Kent type. Those to the west were supposed to be less tall with a stouter and denser inflorescence,



and denser inflorescence, a shorter ovary ( $\leq 1.9\text{cm}$ ), the red labellum spots more prominent and anthocyanin pigments rose to purple (rather than salmon to brownish-red).

Upper Halling, dense-flowered and pale slender Ladies. Photos by Sue Buckingham

With this in mind, one plant at the Upper Halling location seemed to agree with the west Kent description, being fairly short, as well as having an

exceptionally dense inflorescence and exhibiting a great deal of purple anthocyanin pigment. Its ovary measured 1.6cm. Other plants in the colony showed the usual variations in height, shape and colour. The possibility that genetic traces of *Orchis militaris* (Military Orchid), which was formerly present in Kent, and *O. simia* (Monkey Orchid) may be involved in the supposed east/west variations has been suggested, but for that you would need to look out for a much 'slimmer lady' than the rather stocky one in my photo (see RPR accounts *O. purpurea*).

At Ranscombe the total number of plants overall at 148 was a little up on the 2022 total whilst the total flowering was a little down. Once again Richard and Kathy returned later to assess seed-set. At the Mill Hill colony south of the railway line using a sample of 10 plants with a total of 560 flowers the mean percentage of flowers setting seed was calculated at a mere 2.3%. The Clay Pond colony fared a little better with 8.6% setting seed. Most interestingly the single tall plant north of the railway line showed virtually every flower apparently ripening fruit, but as the season progressed it became apparent that none of the fruits was ripening normally. Richard suggests this could be because it had self-pollinated, leading to poor-quality seed.

Ospringe Down had a similar number of plants to last year but only five of them flowered compared with nine in 2022, whilst at Cutlers Wood, which in 2016 had an estimated 300 flowering, just one single inflorescence was spotted this year, laying on the ground where it had been bitten off, probably by deer! Around it were at least 100 blind rosettes or seedling plants. Less than half the 2022 total of flowers was counted on Yocketts Bank reserve

and few rosettes were spotted there in the places where many have been seen previously. Light levels under the beech plantation at Covet Wood are not good, but nonetheless last year 213 flowering Lady Orchids were counted there whilst this year it was a mere 64 with a similar number of non-flowering plants.

Upper Halling, non-flowering plants.

Photo by Sue Buckingham

At Wye Downs Alfie Gay recorded a total of 30 flowering plants and 28 blind rosettes. Eight of the flowering plants were at Pickersdane, nine at the Kneading Trough and 13 at Giddy Horn. None of the 19 Lady Orchid plants managed to flower this year at Jumping Down. At Cannon and Lyoak Woods, which Alfie and a team of White Cliffs Country Park volunteers manage for Affinity Water, 38 plants flowered and 110 were blind. So a few more plants this year but instead of half of them flowering as happened in 2022, just a quarter flowered this year.



We invited Wild Flower Society to join us this spring on a meeting at Bonsai Bank particularly to show off our largest Kent population of Lady Orchids. A few weeks beforehand it was apparent that many of the rosettes were not going to flower, and they looked like being late as well, all very worrying for a meeting leader! But it's all relative of course and although the 1322 flowering was down on last year's count of over 2,000, the Lady Orchids flowered right on time and were their usual splendid selves on the day, delighting everyone.

With an invitation from the owners a visit was made to a privately owned site near Gorsley Wood in order to assess a dynamic Lady Orchid population in a 'garden' situation and to learn about its management. Some 930 flowering spikes were counted; no planting or seed scattering has taken place - just management over a 20-year period of what was initially a small colony, by removing garden conifers initially and then undertaking annual scrub clearance and mowing. The prevailing wind has caused the plants to spread by seed both up and along the valley slope which has light woodland, scrub, and open grassy areas. One particular group of 84 flowering plants and as many non-flowering ones had, according to the owners, first appeared as a single flowering plant just five years previously.

The report of 70 flowering and 17 blind plants in Knowle Wood is from Colin Osborne and is actually a different colony from that reported for the wood in 2021. The two colonies are just a few hundred yards distant but were unknown to both recorders. I began in 2020 by numbering each known Kent colony separately, but as we visit more sites it becomes difficult to assess whether some of these should be regarded separately or as one and the same. Certainly there is evidence that over time individual colonies in woodland have 'moved' within the wood as conditions change for them for worse or for better. Similarly In areas which are clearly ideal for Lady Orchids such as the deep valley slopes around Palmstead, the Crundale Downs and the Denge Wood complex, small, isolated populations of maybe one, two or more plants can be found fairly easily and are probably best regarded as part of larger populations. Such a single Lady was recorded by Dan Tuson from Towns Wood in the Crundale Downs whilst Steve Coates and Mel Lloyd came across a singleton much further east near Shepherdswell and from a tetrad which has no known previous records.

Jack Lowe's totals from Adisham Woods further confirm this year's pattern of fewer plants flowering. He reports 191 plants of which 32 were flowering and 159 were blind. Last year 124 flowered and 81 were blind. Later in the year Jack reported on seed production with only eight flower heads remaining intact and of these just three plants bore four ripe capsules between them. They were found only on plants from the main colony where a group of plants would seem to stand a better chance of attracting pollinators than isolated individuals.



Eastling Wood is the furthest east recorded Kent location for Lady Orchid but unfortunately requests to the owner for entry have been denied and the wood is heavily fenced. However this year Clive Nuttman was able to confirm its presence there from a flowering spike spotted just inside the wood from the road that runs alongside.

Eastling Wood. Photo by Sue Buckingham

Thanks to all who have counted Lady Orchids this year and to those who look after them. I would like to continue the survey for at least one more year and I could definitely use some help with

counting and reporting on plants from any of the sites.

Sue Buckingham

<i>Orchis purpurea</i> counts						
Tetrad	Site	Number of plants 2020	Number of plants 2021	Number of plants 2022	Number of plants 2023	recorded highest counts since 1970
TQ46Q	Rushmore Hill	0				Last records 1991 & 1987-99
TQ55R	Bitchet Common-One Tree Hill			0		single plant 2012
TQ56F	Otford-Greenhill Wood			12 flowering + 3 blind		10 plants in 2016
TQ66L	Culverstone Green/Harvel				0	10 plants in 2020
TQ66T	Henley Street-Cobhambury Wood			0		2 plants 2015
TQ66W	Upper Halling				15 flowering + 60 blind	15 flowering, 10 blind in 2020
TQ66X	Upper Halling				0 but site suitable	1 by footpath in 2013
TQ66X	North Halling				1 flowering, query if site suitable	1 by footpath in 2010
TQ66Y	Luddesdown				0	3 under pylons (2015)
TQ66Y	Red Wood west			6 flowering + 1 blind		new site
TQ66Y	Red Wood east			0		1 plant 2010 - habitat changed
TQ76D	Ranscombe west	38 flowering + 21 blind	58 flowering + 67 blind	60 flowering + 49 blind	56 flowering + 58 blind	71 flowering in 2013
TQ76E	Great Wood	11 flowering	8 flowering + 7 blind	11 + 3 blind	6 flowering + 16 blind	17 in 2016
TQ76E	Clay Pond Wood		7 flowering + 10 blind	9 + 1 blind	7 flowering + 5 blind	13 flowering (2013)
TQ76G	Burham Downs	168 flowering + 139 blind	late visit: 5 swollen capsules		36 plants	285 (2013)
TQ77A	Great Crabbles Wood			0		first record Merrett (1666), last 1997
TQ85Y	Frinsted, Stock Wood			1 flowering + 3 blind		2 plants in 2004
TQ86A	Bredhurst Woods		1 flowering, at 2 locations			50 spikes recorded in 2011
TQ86F	Stockbury Hill		105 flowering + 16 blind			299 in 2019

TQ86G	Queendown Warren		2 flowering + 1 blind			few records
TQ96V	Ospringe		10 flowering + 24 blind	19 flowering + 32 blind	5 flowering + 50 blind	35 flowering (2013)
TR04	Wye Downs		34 flowering	32 flowering	30 flowering + 28 blind	34 flowering
TR04U	Warren Wood east	18 flowering + 10 blind		36 flowering + 20 blind		Small colony
TR04U	Warren Wood west	4 flowering + 10 blind		9 flowering + 6 blind		Scattered colonies
TR04Y	Towns Wood				1 flowering	New record
TR05K	Cutlers Wood		20 flowering + 300-500 blind or bitten		1 flowering plant, >100 non-flowering	Estimated 300 flowering (KBRG 2016)
TR05L	Park Wood	1 flowering	1 flowering		2 flowering + 2 blind	
TR05V	Down Wood		6 flowering + 7 blind			10 flowering in 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)			estimate 90 flowering
TR14I	Yockletts Bank	320 flowering + >100 blind	376 flowering	548 flowering	243 flowering, few blind	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 flowering		
TR14T	Elhampark Wood		1 flowering			
TR14U	Covet Wood	361 flowering	124 flowering + approx 70 blind	213 flowering + 60 blind	64 flowering and ±60 blind	Up to 3,000 in 1990s
TR14U	Quilters Wood		2 flowering, probably more		10 flowering + >30 blind	
TR14Z	Jumping Down		3 flowering + 5 blind		None flowering, 19 blind	5 plants (2013)
TR14Z	Long Ruffet Wood		40 flowering + 80 blind			24 flowering (2011)
TR15A	Bonsai Bank	1,550 flowering + > 2,000 blind	1,224 flowering + >2,000 blind	2,066 flowering	1,322 flowering	3,481 (2013)
TR15A	Dunstans Wood				2 flowering + 1 blind	4 plants in 2015
TR15B	Denge Wood (Woodland Trust)	34 flowering + >20 blind				
TR15H	Larkey Valley		32 flowering + 3 blind		3 flowering + 5 blind	29 flowering (2013)
TR15Q	Gorsley Wood west			3 flowering + 3 blind		2 in 2018
TR15Q	Gorsley Wood garden population.			at least 300 flowering	930 flowering	known as game-keepers' cottage
TR15Q	Bursted Wood			5 flowering		remains of plants seen 2011
TR15R	Whitehill Wood	4 flowering + 10 blind				8 flowering (2011)
TR15V	Knowle Wood		13 flowering + 20 blind		70 flowering + 17 blind	12 (2011)
TR24F	Reinden Wood				0	A single clump with 3 spikes 2013
TR24L	Sladden Wood		1 flowering and 2 blind	2 flowering + 1 blind		



<b>TR24M</b>	Cannon (& Lyoak) Woods	33 flowering + 17 blind	53 flowering	68 flowering + 66 blind	<b>38 flowering + 110 blind</b>	400 flowering (2003)
<b>TR24R</b>	Gorsehill Wood			0		2 in 2013
<b>TR24U</b>	Golgotha				<b>1</b>	No previously records for tetrad
<b>TR25A</b>	Ileden Wood		3 blind	2 flowering + 1 blind	<b>4 plants</b>	1 in 2013
<b>TR25B</b>	Woodlands, Pitt and Well Woods	33 flowering + 15 blind	36 flowering + 160 blind	124 flowering + 81 blind	<b>32 flowering + 159 blind</b>	133 flowering (2012)
<b>TR24D</b>	Eastling Wood				<b>1 flowering (from road)</b>	
		TOTAL flowering: <b>2,636</b>	TOTAL flowering - <b>2,243</b>	TOTAL flowering <b>3,529</b>	Total flowering <b>2,879</b>	
		TOTAL non-flowering: <b>2,351</b>	TOTAL non-flowering - <b>3,473</b>		Total non-flowering – not known	

### Thoughts on the True-fox Sedge, *Carex vulpina*, in Kent, 2021

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.

*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.

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



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

### *Carex vulpina* True Fox-sedge in Kent, 2022

We have few records for True Fox-sedge in 2022. The prolonged dry spell was not conducive for recording the plant at its seasonally wet sites which dried up much sooner than usual. Where the plant was re-found at Headcorn and Moorden, growth was notably reduced. At Staplehurst, a ditch site has been dry and the plant absent when visited in the spring over the last few years. However, large plants were seen this year during the KBRG meeting on 15 June which reviewed the Marden site (Wanshurst Green, TQ 7605 4474) discovered in 2011 when three tussocks were recorded. Eight plants had been counted by Lou Carpenter over the 2021-22 winter; the meeting found a further one by *Salix cinerea* (Grey Willow) in tall grass and rushes of a damp meadow, distinctly winter-wet, which appears promising for the future of this species here.



*Carex vulpina* with KBRG members at Wanshurst Green.  
Photo by Geoffrey Kitchener

Other updates were made by Stephen Lemon:

- It is still present at Water Lane, south-west of Headcorn (TQ 8235 4327), but the finding of a single sparse patch on the bed of an open damp ditch is less than had been recorded in 2014, although there is still continuity from the original record by Ray Clarke (died 1982).
- A poplar plantation at The Grove, Moorden, in the River Eden floodplain (TQ 5174 4551) held seven grazed clumps in dry marshland where five were found in 2014 and 2020.
- The well-known area in the Medway floodplain north of the railway and east of Leigh (TQ 555 461) was found still to carry plants all around the swamp edge, but no count was attempted.

Geoffrey Kitchener & Stephen Lemon

[There is no 2023 report.]

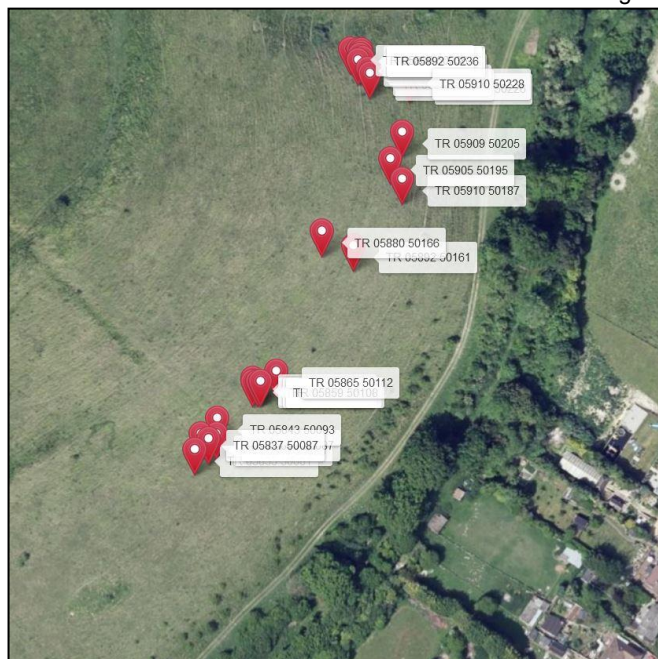
## Polygala amarella Kentish Milkwort in Kent, 2021

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



Kentish Milkwort 2019 records

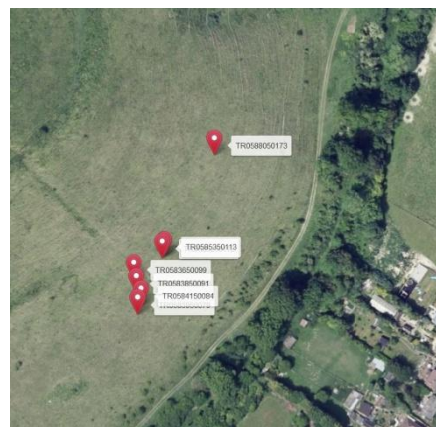
The question arises as to why there has been such a large change over the two-year period. *Polygala amarella* has been thought to be a perennial and if that is so, then it should not be at the same risk of yearly fluctuations as annual species. However, Fred Rumsey has suggested that that the Kent plant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

records broadly followed the 60m contour line of the valley slope.

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%.



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 *pseudokernerii* (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**

<b>Grid reference</b>	<b>No. of plants</b>	<b>Grid reference</b>	<b>No. of plants</b>	<b>Grid reference</b>	<b>No. of plants</b>
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	<b>Total</b>	<b>49</b>

Geoffrey Kitchener



**Polygala amarella Kentish Milkwort in Kent, 2022**

Both Godmersham and Magpie Bottom sites were surveyed in 2022; plans for a Purple Hill survey did not come to fruition.

**Godmersham**

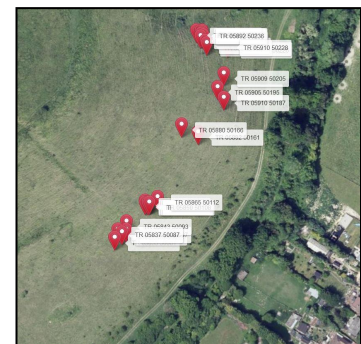
A total of 162 plants was recorded on 30 May 2022 by Alfie Gay, Sue Buckingham and Dan Tuson, in broadly the same parts of Godmersham Downs as in previous surveys. This compares with 49 in 2021 and 196 in 2019, confirming that considerable annual fluctuations may be expected year-on-year. This might indicate that many plants are behaving as annuals, which was surmised in last year's report.



Godmersham, 2022: *Polygala amarella* (Kentish Milkwort) is the small, dull flower at the bottom of this photo, below the three larger flowers of *Polygala vulgaris* (Common Milkwort). The rabbit dropping suggests the importance of grazing for keeping the turf short, so as to reduce competition. A degree of protection for *Polygala amarella* may be afforded by amarelloside, a very bitter compound present in it and reflected in its name (*amarella* being a diminutive of *amara*, =bitter). Photo by Alfie Gay.



Kentish Milkwort 2022 records



Kentish Milkwort 2021 records for comparison

some qualification. One hundred plants were recorded in a very small area, shown by a yellow triangle in the aerial view on the right.

**Concentration of Kentish Milkwort 2022 records**

This area computes at c.40 square metres and so indicates that, other than in the context of a very thorough survey (which both 2021 and 2022 surveys were considered to be), it would be possible to miss quite



substantial numbers of plants. This area appears to relate very nearly to a faint line running northwest-southeast across the downs on the aerial view, presumably a slight depression, but no field boundaries are given here on ordnance survey maps at least as far back as the first survey drawing of 1789.

Godmersham 2022 survey:  
milkwort hotspot.  
Photo by Alfie Gay.



Our survey data were split into three parts:

- Survey Part A: 100 plants within the area of the following 3 grid references, TR 05838 50095, TR 05832 50088 and TR 05830 50100.
- Survey Part B: (1) TR 05839 50089 one plant, (2) TR 05843 50080 seven plants, (3) TR 05850 50087 three plants, (4) TR 05857 50084 seven plants, (5) TR 05858 38 out of grand total of 162.
- Survey Part C. (1) TR 05882 50188 four plants, (2) TR 05903 50207 ten plants, (3) TR 05907 50234 one plant, (4) TR 05898 50237 one plant, (5) TR 05892 50237 one plant, (6) TR 05891 50240 one plant, (7) TR 05885 50242 five plants, (8) TR 05881 50243 one plant.

### Magpie Bottom

This site, in a remote chalk-sided valley on the downs dip-slope above Otford and Shoreham, was visited by Geoffrey Kitchener on 1 June and Joyce Pitt on 4 June. After 2015, which was a bumper year, few plants have been found and it is not always encountered. This time, three flowering plants were found at TQ 54403 61216 in the vicinity of the 'usual' area, at most 60cm apart, and Joyce's subsequent record of a plant buried in vegetation just above a large rabbit scrape is likely to have been in addition to these. There seemed to be more evidence of rabbit activity this year, which is probably beneficial for the milkwort; its main threat may be scrub encroachment from the northwest.

Magpie Bottom, 2022. Photo by Geoffrey Kitchener



A list of associated species was taken, showing good quality chalk grassland: *Avenula pubescens* (Downy Oat-grass), *Blackstonia perfoliata* (Yellow-wort), *Brachypodium sylvaticum* (False-brome), *Briza media* (Quaking-grass), *Bromopsis erecta* (Upright Brome), *Carex flacca* (Glaucous Sedge), *Cirsium acaule* (Dwarf Thistle), *Cornus sanguinea* (Dogwood), *Crataegus monogyna* (Hawthorn) seedling, *Euphrasia nemorosa* (Common Eyebright), *Euphrasia nemorosa x pseudokernerii* (Hybrid Eyebright), *Fagus sylvatica* (Beech) seedling, *Festuca ovina* (Sheep's-fescue), *Leucanthemum vulgare* (Oxeye Daisy), *Linum catharticum* (Fairy Flax), *Lotus corniculatus* (Common Bird's-foot-trefoil), *Pilosella officinarum* (Mouse-ear-hawkweed), *Polygala vulgaris* (Common Milkwort), *Poterium sanguisorba* (Salad Burnet), *Rosa* sp. (a rose) seedling, *Succisa pratensis* (Devil's-bit Scabious), *Thymus drucei* (Wild Thyme).

Geoffrey Kitchener

***Polygala amarella* Kentish Milkwort in Kent, 2023**

Several sites were visited in 2023, beginning with **Magpie Bottom**, where numbers remain consistently low, this time (26 May) just three plants on their usual chalk grassland valley slope, TQ 54408 61217 and TQ 54402 61211. Tree and shrub seedlings in the vicinity were removed.

Magpie Bottom. Photo by Holly Stanworth

In 2021 the Species Recovery Trust had introduced 18 plants in an arable reversion field below **Fackenden Down**, Otford/Shoreham, as reported in KBRG newsletter no. 14. Only one plant, assumed to be progeny of those introductions, was located, at TQ 53046 60357. The site which had appeared suitable in 2021, now seemed variably so,



with coarse vegetation and scrub springing up, the milkwort being found in a small area remaining semi-open.

Fackenden introduction site. Photo by Holly Stanworth

Choice of an introduction sites is not straightforward, as it involves predicting how the habitat is going to develop, with whatever management is being afforded. The **Polhill** site (last record, 1986), which is operational railway, was viewed from a distance, but continuance seems unlikely and access unfeasible.

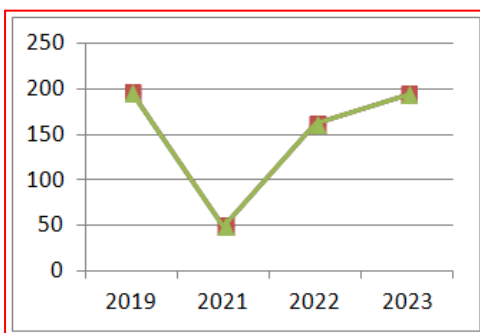
A former site at **Blackbush Shaw** (last record, 1993) was visited by Holly Stanworth in early June, but, without knowledge of the precise location: no plants were seen. On 9 June, I visited **Rumsted**, near Hucking, (last records from 1952-55) where likely terrain was seen at TQ 8449 5971, where the chalk hillside appears to have been opened out a bit from the road, so there is a bowl shape carved into the hill with terracing. The land is now owned by the Woodland Trust, but does not appear to have been grazed this year and conditions were unsuitable. **Purple Hill** was visited by Holly Stanworth and Rob Pennington on 7 June, without success. The last record was in 2020, but there still seems to be scope for presence in suitable terrain around the old chalk pit here, especially if encroaching scrub could be further cleared (work having been carried out in late 2021 and early 2022).

The principal Kentish Milkwort colony, at **Godmersham**, was surveyed on 31 May, with a total of 194 plants, the details being given below.



Godmersham survey. Photo by Holly Stanworth

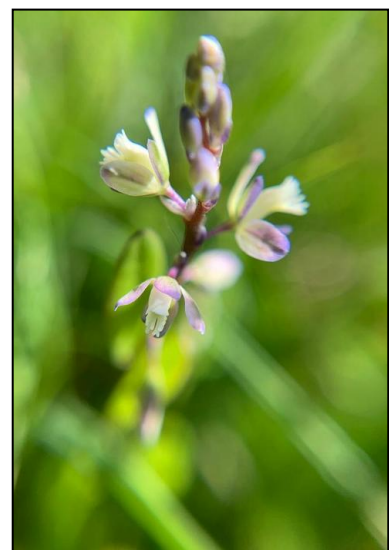
Grid reference	No. of plants	Grid reference	No. of plants
TR 05899 50247	1	TR 05873 50169	5
TR 05891 50238	31	TR 05883 50162	3
TR 05896 50230	1	TR 05888 50167	2
TR 05898 50167	10	TR 05889 50164	1
TR 05889 50172	1	TR 05852 50118	2
TR 05888 50177	1	TR 05859 50110	1
TR 05888 50183	1	TR 05861 50108	5
TR 05887 50188	1	TR 05859 50080	14
TR 05885 50187	3	Between TR 05832 50093 & TR 05848 50073	89
TR 05883 50180	4	TR 05853 50085	3
TR 05877 50179	1	Between TR 05810 50062 & TR 05815 50054	14



Recent trends at Godmersham are shown in the accompanying graph showing considerable fluctuation, but with levels restored to those in 2019. The year 2020 is omitted, in the absence of survey then.

Godmersham. Photo by Holly Stanworth

The Kentish Milkwort Steering Group visited possible further introduction sites, with the aim of undertaking introductions in at least one new site per year, over three years. Potential sites at Toms Hill, Crundale Bank and Collier Hill Bank were visited on 17 May, and a field next to Peter's Pit later on. The Species Recovery Trust has good website information on its milkwort activities, at <https://www.speciesrecoverytrust.org.uk/dwarf-milkwort>



Geoffrey Kitchener