

Kent Rare Plant Register

Draft species accounts

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Compiled by Geoffrey Kitchener and the Kent Botanical Recording Group
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Kent rare plant register

This section of the register covers:

<i>Adonis annua</i>	<i>Allium oleraceum</i>	<i>Anthemis cotula</i>
<i>Agrostemma githago</i>	<i>Alopecurus aequalis</i>	<i>Arabis hirsuta</i>
<i>Agrostis vinealis</i>	<i>Alopecurus bulbosus</i>	<i>Artemisia maritima</i>
<i>Ajuga chamaepitys</i>	<i>Anacamptis morio</i>	<i>Arum italicum</i> subsp.
<i>Alchemilla filicaulis</i> subsp.	<i>Althaea officinalis</i>	<i>neglectum</i>
<i>vestita</i>	<i>Anthemis arvensis</i>	<i>Asplenium septentrionale</i>

It is issued in draft, pending further development. Records, photographs and information regarding the Kentish occurrences of these plants will be welcome.

The register accounts give priority to data from 2010 onwards, but some historic data are also included (however, generally not specific sites with no post-1970 records) so as to indicate trends and where the plant may yet be discovered or rediscovered. Distribution maps for records from 2010 onwards show vice counties 15 and 16 in white (the boundary between is a black line) and local authority boundaries by red lines.

See the Kent webpage of the BSBI website at <http://www.bsbi.org.uk/kent.html> for:

- the full Kent rare plant register list
- the introduction to the register
- a list of 'probably extinct' Kent plants.

Abbreviations used in the text:

Recorders' initials:

AG Alfred Gay	JA Jan Armishaw	MW Martin Wicks
AH A.Henderson	JB John Badmin	NW Nick Woods
AR Alison Ruyter	JC Juliet Cairns	PH Peter Heathcote
AW Tony Witts	JE John Edgington	PR Paul Restorick
BB Brian Banks	JN Josie Newman	PS Pamela Smith
BW Brian Woodhams	JP Joyce Pitt	RF Lady Rosemary FitzGerald
CO Colin Osborne	JPu John Puckett	RM Richard Moyse
CS Cath Shellswell	JRP John Palmer	RMB Rodney Burton
DG Doug Grant	JS Judith Shorter	RR Rosemary Roberts
DJ David Johnson	JT John Tebbit	SB Sue Buckingham
DM David May	JW Jo Weightman	SC Steve Coates
DS Don Summerley	KBRG Kent Botanical Recording Group	SK Sarah Kitchener
EGP Eric Philp	KFC Kent Field Club	SL Stephen Lemon
EI & EH E. Ivens & E. Hurr	L&DH Lorna & Derek Holland	SP Sue Poyser
FB Fred Booth	LBB L. Breda Burt	SW & PPM Steve Weeks & Phillippa Morrison-Price
FR Francis Rose	LM Lesley Mason	TS Terry Swainbank
GK Geoffrey Kitchener	LR Lliam Rooney	WFS Wild Flower Society
GT Gill Tysoe	MA Martin Allison	WR W. Ridley
J&BH J & B Hodge	MB Mervyn Brown	

Other abbreviations:

BM = Natural History Museum herbarium; comm. = communicated by; KCC = Kent County Council; KWT = Kent Wildlife Trust; MNE = Maidstone Museum Herbarium; pers. comm. = personal communication; RNR = roadside nature reserve

Adonis annua L. (Pheasant's-eye)

Draft account

vc 15 and 16

Rarity / scarcity status

Adonis annua is regarded as **Endangered** in England and in Great Britain as a whole, and is treated as a UK Biodiversity Action Plan priority species. In Kent, it is **rare**.



Kingston. Photos by Liam Rooney, 8 July 2014

Account

Adonis annua is a plant of well-drained dry chalky arable or disturbed ground, formerly well-established in cornfields, although local. It was first listed for Kent by Christopher Merret (1666) at Roe Hill (presumably Rowhill near Wilmington), and older records treat it as particularly plentiful around Dartford and Greenhithe, although also present in other localities across the county.



Philip Miller's *Gardeners Dictionary*, which went through numerous editions from 1731, mentions this species as in Kent; and some additional content incorporated between 1752 and 1771 in the Abridgement is particularly informative:

The first part grows naturally in Kent, particularly by the sides of the river Medway, between Rochester and Maidstone, where it is found in great plenty in the fields which are sown with Wheat; but in the intermediate fields which are sown with spring corn, there is rarely a plant of it to be found, which shews the necessity of sowing the seeds in autumn; for those fields of spring corn, if suffered to remain undisturbed after the harvest, will abound with this plant the following year. For some years past great quantities of the flowers of this plant have been brought to London, and sold in the streets by the name of Red Morocco.

Presumably the local name of Red Morocco was based on colour resemblance to red morocco leather used, e.g., in book-binding. Notwithstanding its abundance as a crop weed in the 18th century, even in the 1890s (Hanbury and Marshall, 1899), *Adonis annua* was regarded as decreasing through improved cultivation. This trend has continued towards near-disappearance.

Seed production is low, and the relatively heavy seeds limit the species' ability to spread, although seed longevity provides scope for the plant to re-appear when ground is disturbed (e.g. as with the 1985 and August 1995 records below).



Arable field margins in the vicinity of Longfield / Fawkham remain a possible location, albeit that the species has not been seen here for some years, arable usage has partly been discontinued and much of the remainder

suffers from intensive herbicide applications. In East Kent there have been a couple of reports, including a single occurrence near Dover in 1996, and most recently (2014) a record of seven plants near Kingston in a location known to Natural England, but where flowering does not take place every year. The Kingston site is by a wide arable margin on a loamy soil over chalk. Associated plants included *Anagallis arvensis*, *Helminthotheca echioides*, *Lapsana communis*, *Myosotis arvensis*, *Papaver rhoeas*, *Petroselinum segetum*, *Sonchus asper*, *Tripleurospermum inodorum*, and *Viola arvensis*. *Vulpia myuros* had become dominant in July 2013 and may well have smothered *Adonis*, which was not seen flowering that year, but was controlled for 2014 by herbicidal treatment.

Site	Grid reference	Site status	Last record date	Recorder	Comments
North of Eynsford	TQ5466		27 October 1974	RMB	TQ 5405 6657, two plants in barley stubble in a chalky field, mentioned in Lousley, Botanical Records for 1974, <i>London Nat.</i> 54 : 63-65 (1975).
Near Fawkham	TQ56Z (this tetrad includes the grid references below)		(1) After 1990, before 2006 (2) August 1995	(1) EGP (Philp, 2010) (2) JP	(1) Given in BSBI database as Mile End Green. (2) Arable edge west of Churchdown Wood, 20+ plants with <i>Scandix</i> , <i>Legousia</i> , etc., probably from seed bank exposed when chalk bank cut into - see KFC <i>Bulletin</i> (1996) 41 : 56.
Dean Bottom	TQ5868		20 Sept 1995	JP	Three plants at TQ 589 685.
Dean Bottom	TQ5968		1998	JP	TQ 594 685, near Longfield Field.
East of Churchdown Wood, Fawkham	TQ5968		21 Sep 1985	GK	TQ 596 681; several dozen plants in chalky field, recently ploughed and re-seeded to grass.
Near Churchdown Wood, Fawkham	TQ596[9]		15 July 1998	JP	Field boundary near Churchdown Wood.
Torry Hill estate	TQ9158		3 June 1992	MN	
St.Margaret's, near Dover	TR3745		25 July 1996	SB	One plant on edge of arable field near cliff top. It was also recorded by Scott at radar station, St Margaret's Bay, 1939.
Kingston	TR1850*		1 July 2014	SB	Seven plants within approx 5 metres of a wide arable margin on a loamy soil over chalk. Associated plants: <i>Anagallis arvensis</i> , <i>Helminthotheca echioides</i> , <i>Lapsana communis</i> , <i>Myosotis arvensis</i> , <i>Papaver rhoeas</i> , <i>Petroselinum segetum</i> , <i>Tripleurospermum inodorum</i> , <i>Viola arvensis</i> . The farmer was operating a High Level Stewardship scheme with Natural England to encourage arable plants.

Agrostemma githago L. (Corncockle)

Draft account

vc 15 and 16

Rarity / scarcity status

Nationally, *Agrostemma githago* was believed to be extinct so far as concerned its archaeophytic status as an arable field weed; but there have been widespread recent occurrences deriving from 'wild flower' seed mixes of non-UK origin. This gives rise to difficulty in distinguishing plants which may still arise from the buried seed bank. Without genetic markers being found to separate UK material, the extent of that material and the threats faced by it are problematic to determine. Accordingly, no threat category has been assigned for England and Great Britain as a whole, and the species has been placed on the 'Waiting List'.



In Kent, it fulfils the criteria to be treated as locally **scarce**.

Ranscombe Farm. Photo by Lliam Rooney, 8 July 2010

Account

Agrostemma githago was originally a widespread plant of fields and waste ground, with a long-standing arable association. Charred plant material found with a corn drier of the late second / third century in a Romano-British site at Swanscombe included weed seeds, of which 16% consisted of *Agrostemma githago*¹. Seeds were also found in late Roman and mediaeval contexts, in the course of excavations for the HS1 rail route around Northumberland Bottom, Southfleet. The first conventional botanical record for the county, however, was by Thomas Johnson in July 1629, en route between Gravesend and Rochester³. In the nineteenth century it could be found in cornfields everywhere, although by the end of that century its wide distribution was tempered by recognition that it was not plentiful (Hanbury and Marshall, 1899). Its decline was probably prompted by improved seed cleaning, but also tracks the general demise of many arable weeds; and by the time of Philp (1982), it was regarded as having been extinct in the county from 1946.

The use of the species as a "wild flower" seed mix constituent (and as a garden plant in its own right) has resulted in its appearance in amenity areas or waste ground, and sightings can be dismissed which are accompanied by species such as *Anthemis austriaca* (Austrian Chamomile) or which are obviously garden escapes. These are excluded from the following table. The origin of other records cannot be readily assigned, and evidence is required that anything other than a recent introduction is involved.

The most convincing occurrences of derivation from the buried seed bank are those at West Malling and Ranscombe Farm (see below). It appears that Corncockle is more responsive to ploughing in autumn than in spring, given that in 2012 it fared better in Longhoses Field at Ranscombe than in Kitchen Field, which respectively received spring and autumn cultivation⁴. Also, it declined there in 2013 when spring cultivation

¹ J. Giorgi. *The environmental archaeology*. In A. MacKinder, Museum of London Archaeology (2010). *A Romano-British site at Swanscombe, Kent*.

² Davis, A. (2006). *The charred plant remains from Northumberland Bottom, Southfleet, Kent (ARC WNB 98)*. CTRL Specialist Report.

³ *Iter Plantarum*, 1629.

⁴ R. Moyses. Letter from Ranscombe Farm, *The Newsletter of the Kent Field Club* (August 2012) 76:29.

was resumed, due to poor weather in the preceding autumn. In order to maintain a population at Ranscombe which is not susceptible to catastrophic collapse in a poor year, seed is maintained and used for scattering back in its area of origin.

There is another species of *Agrostemma* from the East Mediterranean, *A. gracilis*, which has been found in Kent, albeit that its status was as 'a large relict colony'. This was found by John Palmer near Swanley; he noted it as having the petals shorter than the calyx, whose teeth were the same length as the tube, and with the limb of each petal having lines of black spots.⁵

Site	Grid reference	Site status	Last record date	Recorder	Comments
Sevenoaks	TQ55H		16 May 2002	DG & EGP	
Ranscombe Farm	TQ6967 and TQ7167	Owned by Plantlife and Medway Council, and managed with regard to arable weed flora	(1) 5 July 2015 (2) 2013 (3) 23 June 2012 (4) 9 June 2012 (5) 9 June 2010	(1) DS (2) RM (3) CO (4) SL (5) GK & WFS meeting	(1) TQ 71625 67350, over 40 flowering plants along edge of Longhoses field. (2) Still present in Longhoses Field (TQ7167) and Kitchen Field (TQ6967), but not responding as well to spring cultivation as autumn. (3) Less than five plants at edge of Kitchen Field. (5) In flower in Longhoses Field close to edge and to the road, at c.TQ 715 673. (4) Scattered on west side of field, TQ716673. Kitchen Field and its past records also fall within TQ6968. JP accounts for the species as having arrived in the north-facing field after deep ploughing in the autumn of 2001, being abundant in strips down the field in 2002, and recorded thereafter by JP until 2010, with numbers varying from year to year). There are, however, records from 2000 at TQ 69758 67971 (JP) and at both TQ6979 and TQ6968 (BW).
Ranscombe Farm	TQ66Y & Z	As above	After 1990, before 2006	EGP (Philp, 2010)	Attributed to deliberately deeper ploughing.
West Malling airfield (now Kingshill).	TQ6854	Developed site	August 1999	FB & EGP	On bank of top-soil, TQ 687 550, and likely to be a product of the first soil disturbance here at least since the 1930s, with cultivation not having taken place for over 100 years. <i>Centaurea cyanus</i> and <i>Hyoscyamus niger</i> also present.
South west of Kingston	TR1850		25 June 2016	SC	TR 1807 5010, one plant, in a generally weedy area by field, a cultivated margin with no other classic cornfield annuals.
Grove Ferry	TR26G		1 August 2003	PH & EGP	
St Nicholas at Court	TR2566		25 June 2017	CO	Two plants in same place on chalk mound edging north side of farm road at TR 2575 6695, just west of St Nicholas at Court Farm, as <i>Glebionis segetum</i> plants were in 2016, although these seemed to be gone. Main accompanying flora consists of opportunists of rough ground.

⁵ Palmer, John R. (1990). A second Corn Cockle in Britain. *BSBI News*: 55: 33.

Records suspected to have been from sown seed or known to have been closely associated with gardens are not included here.

Ranscombe Farm. Photo by Stephen Lemon, 9 June 2012



Agrostis vinealis Schreb. (Brown Bent)

Draft account

vc 15 and 16

Rarity / scarcity status

The prospect of any threat to *Agrostis vinealis* in England and in Great Britain as a whole is considered to be of 'Least Concern'. In Kent, the relatively few recorded occurrences of this species have led it to be treated as locally **scarce**.

Account

This grass favours dry acidic grassland or heath, on well-drained sandy or peaty ground, and occupies much the same habitat as *Agrostis capillaris* (Common Bent). It closely resembles *Agrostis canina* (Velvet Bent) and, indeed, was long treated as falling within that species, whether as a variety or subspecies.

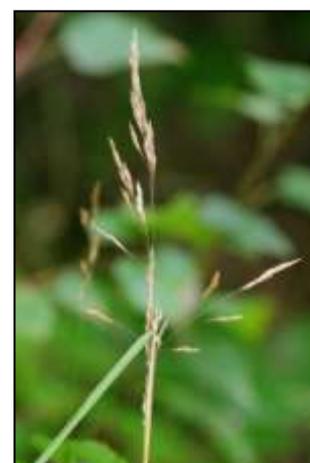


The standard work on grasses in the British Isles (Hubbard, 3rd edition) lumped the two taxa together as subspecies and was not replaced until 2009, when *Grasses of the British Isles* (Cope & Gray) was published, treating the taxa as separate species. Specific treatment had been adopted by standard floras earlier, but not in time for Philp (1982) to provide separate maps for the two taxa, which were treated together as *A. canina*⁶. It is therefore difficult to establish the historic position regarding occurrence of *A. vinealis* within the county and also, because it is not easy to identify this grass, the current position.

Mereworth Woods. Photos by Liam Rooney, 4 September 2014

The habitat preferences of *A. vinealis* and *A. canina* are distinct, the latter preferring wetter terrain. Given the coincidence of the habitat

preferences of *A. vinealis* and the widespread *A. capillaris*, there ought to be opportunities for Brown Bent to flourish, but this is not apparent from the few Kentish records.



In identifying *A. vinealis*, one can separate it from *A. capillaris* by virtue of the latter having a large palea, at least half the length of the lemma (not visible, or up to one fifth the length of the lemma in *A. vinealis*) and a blunt ligule of the uppermost leaf on a flowering stem (acute in *A. vinealis*). The principal factors in separating *A. vinealis* from *A. canina* are habitat and the latter's surface-creeping runners with their tufts of fine shoots at the nodes, often forming loose mats (*A. vinealis* is tufted, without stolons). The spikelets clump together, whereas those of *A. capillaris* are more open and delicate in appearance.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Spring Park, West Wickham	TQ3764	City of London open space	9 November 2019	GK	Glade near edge of acid woodland on Lambeth Group,

⁶ Noted, however (as *Agrostis canina* var. *montana*), on a dry bank under old hornbeam coppice in the course of a KFC meeting in 1973 (*Kent Field Club Bulletin* (1974) 19:21).

(metropolitan vc16)					by Woodland Way.
North of Crockham Hill	TQ4451		7 July 2012	KBRG meeting	TQ44275 51872, Crockhamhill Common, on high acid ground near footpath. Site appears normally to be birch / oak / rhododendron woodland, but had been cleared recently.
Sundridge	TQ45X		After 1990, before 2006	EGP (Philp, 2010)	
Skeet Hill	TQ46X		20 September 1987	RMB	Recorded under BSBI monitoring scheme.
Elmstead Lane, north of Bickley (metropolitan vc16)	TQ4270		20 September 1965	FR	On sand, shaded road banks.
Bostall Heath, Abbey Woods (metropolitan vc16)	TQ47T		1990	JRP	
Dartford Heath	TQ5272	Managed by Dartford Borough Council	16 May 2010	MB & KFC meeting	Sandy heathland.
Dartford Heath	TQ57B & 57G (i.e. including above site)	As above	After 1990, before 2006	EGP (Philp, 2010)	
Knole Park, Sevenoaks	TQ5353	SSSI	22 October 2019		Side of dry grassy valley on sandy/cherty Hythe Formation.
Mereworth Woods	TQ6353 & TQ6354		4 September 2014	KBRG meeting	Present along a wide ride in Mereworth Woods at TQ 63890 54448 with <i>Agrostis capillaris</i> , <i>Potentilla erecta</i> and <i>Calluna vulgaris</i> . Also, a patch at TQ 63701 53695 with <i>A. capillaris</i> , <i>Calluna vulgaris</i> , <i>Potentilla erecta</i> and <i>Teucrium scorodonia</i> at a pathside on sandy soil in chestnut coppice. There were some abnormally tall plants with inflorescences at TQ 63758 54715, with <i>A. capillaris</i> , <i>Calluna vulgaris</i> and <i>Erica cinerea</i> close by. All det. MB.
Mereworth Woods	TQ6355	Military training area	12 March 2017	GK	TQ 6333 5569 and elsewhere, open acid ground with much <i>Calluna vulgaris</i> , apparently maintained tree-free.
Wrotham Heath	TQ6357		29 August 2019	GK	TQ 631 573, sandy ground, edge of golf course
Stubbs Wood, Bayham	TQ6537		6 September 1990	FR	
Golden Stable Wood, Tonbridge	TQ65A		3 June 2004	DG & EGP	
Crane Brook, Cranbrook	TQ7735	reserve	15 June 2011	JP	
Orlestone Forest	TQ93X		After 1990, before 2006	EGP (Philp, 2010)	
Dungeness (Long Pits)	TR0818		29 June 2013	TI	
Gibbin's Brook	TR1138	SSSI	17 July 2011	JP & KFC meeting	Dry sandy ground, part of common area.
Rhodes Minnis	TR1343		4 July 2016	SB	A small amount on a dry sandy bank with <i>Calluna vulgaris</i> and <i>Carex pilulifera</i> , TR 1386 4324.
Dover	TR3242		29 August 2018	TGCR	Presumably relict from lawns - <i>A. capillaris</i> would have been more to be expected.
Betteshanger (formerly Fowlmead) Country Park	TR3553	Owned by Hadlow Group and managed as a country park	21 July 2011	JP	<i>A. canina</i> also recorded in this 1km square.

Ajuga chamaepitys (L.) Schreb. (Ground-pine)

Draft account

vc 15 and 16

Rarity / scarcity status

Ajuga chamaepitys is regarded as **Endangered** in England and in Great Britain as a whole, and is treated as a UK Biodiversity Action Plan priority species (for which appropriate agri-environment options attractive to farmers are planned to be made available to meet its needs). It is confined to south east England, and the Kent populations are a significant proportion of the national total.

Whilst not common in Kent, it falls short of qualifying as locally scarce.



Account

Ajuga chamaepitys has generally (but not correctly) been regarded as first recorded in Kent by Gerard in 1597⁷, where he described it as growing “verie plentifully...especially about Graves end, Cobham, Southfleet, Horton, Dartford and Sutton”. Culpeper (1652) also described it similarly, remarking that it grows more plentifully in Kent than in any other county in this land (as indeed it still does). The chalk in north west Kent has remained its core county territory, although with a scattering of historic records (and a more recent one) in the far east. It was locally common at the end of the 19th century and remains very local, albeit far from common, without significant change between the surveys in Philp (1982) and Philp (2010) – 13 and 11 tetrad occurrences respectively. Nor has there been material change since, with plants recorded in 13 tetrads (16 monads) in the period 2010-19.

Top of Kitchen Field, Ranscombe Farm, habitat. Photo by Liam Rooney, 24 July 2012

This (usually) annual species favours disturbed or eroding chalky ground, particularly broken ground on steep sunny slopes and banks or arable field margins, and where scuffed by rabbits. Disturbance provides open ground for spring germination and establishment from the seed bank, although some germination appears to take place as early as August / September, at risk from winter frosts. The Kent records involve populations which often vary considerably from year to year, which may reflect the effects of disturbance, or the lack of it as well as the mildness, or otherwise, of winter. Its occurrence on bare, dry, open, south-facing ground points to being a member of England’s ‘desert flora’⁸, a plant whose core distribution is more southerly, in central and southern Europe. Marren assigns its present-day rarity to several reasons: intensification of arable

⁷ However, there are two earlier mentions of this species in Kent. The first is by William Turner in *The thirde parte of Vuilliam Turner’s Herball* (1568), ‘in good plenty in Kent’, noted in David Pearman’s *The Discovery of the Native Flora of Britain and Ireland* (2017). The second is a note entered in a copy of Lyte’s *Herbal* (1578) belonging to the Radcliffe Trustees in Oxford. This refers to ‘Ground pyne’ – ‘luxuriat in Cantio’ (cited in Gunther, R.T. (1922), *British Botanists and their gardens*).

⁸ Marren, P. (n.d.) The status of Ground Pine *Ajuga chamaepitys* (L.) Shreb. [sic] in England. *Plant Life ‘Back from the Brink’ project report* [re work 1993-94].

farming, including the use of herbicides and nitrate fertilisers and ploughing of headlands and fallow; the decline of rabbits from 1954; the abandonment of fallow field farming on the North Downs and the development of scrub and woodland instead; and the destruction of chalk downland habitat.



Ajuga chamaepitys (Ground-pine)
2010-19

Although the register data is provided principally by means of the table below, a distribution map is also provided here, showing how the species currently relates to the Lower Medway valley, and the chalk on either side.

Site	Grid reference	Site status	Last record date	Recorder	Comments
Oxenden Wood Road, Chelsfield (metropolitan vc16)	TQ4763	Private garden	1988	EI & EH	TQ470636, one-off occurrence of single plant on root-plate of beech uprooted by 1987 storm.
Eynsford	TQ5462		1 July 1972	RMB	TQ 546 627, Upper Austin Lodge, on a steep chalk slope recently disturbed by laying a gas main.
Farningham – West Kingsdown	TQ5665		24 June 1972	RMB	TQ 566 655, bank of Scratchers Lane, then recently realigned as part of M25 construction. Searched for unsuccessfully since.
Darenth Wood	TQ5773		1977	JRP	Field to the west of the wood. A number of different locations (relating also to TQ5772 and TQ5672) appear to have been involved in earlier records.
Fawkham, Church Wood	TQ5968	Private house amenity land.	21 July 2010	JS	Many records from 1985 to 2002 for TQ 596 683, by RMB, JRP and others.
Trottscliffe escarpment	TQ6259		2002	Anon.	40-50 plants at TQ 624 599. There are some previous records, as far back as 1875 but especially in the 1990s, when a chalk scar and new fence line were involved. Population generally between 40 and 200 plants.
Trosley Country Park	TQ6361, TQ6461	SSSI managed by Kent C.C.	(1) 29 June 2018 (2) 29 September 2011 (3) 13 Aug 2010 (4) 28 July 2010	(1) KBRG meeting (2) RR (3) SB (4) L&DH	(1) (a) Trosley Country Park, five plants on the usual steep slope from TQ 6478 6127 to TQ 6473 6123. (b) Trosley Country Park, One plant seen in Little Pell at TQ 63779 61087. Currently goat grazed (2) 29 plants at TQ 638 611. (3) On steep chalk slope, one plant at TQ 63776 61093 and five at TQ 63779 61088. (4) Three plants at TQ 63741 61147. c. 40 plants at TQ 64791 61263 and c.20 at TQ 64791 61270.

Halling - Trottscliffe escarpment	TQ6762	SSSI, at least in part.	(1) 24 July 2013 (2) 19 June 2012 (3) 18 June 1988	(1) CS (2) LM (3) NCC England Field Unit	(1) 56 plants found during course of arable plant survey, along north margin of field below downs, TQ 673 622. (2) A detailed survey with 10 figure grid references, partly assessed in terms of patches, partly as clumps or individual plants: in summary, the species was widespread in a field designated no. 2 of Ladd's Farm, generally in open areas but also under scrub and extending into woodland edge, the estimated total being over 1,000 plants. The field extended into TQ 674 624, TQ 674 625, TQ 675 624, TQ 675 625, TQ 676 624, TQ 676 625, and TQ 677 625. (3) TQ 675 626.
Halling - Trottscliffe escarpment - Upper Halling	TQ6764		29 June 2005	JP	TQ 676 643, large spread along cleared bank above a track, as well as in the track. Well over 600 plants.
Halling - Trottscliffe escarpment - Lad's (or Ladd's) Farm	TQ6763, TQ6863 and TQ6866	Part SSSI	(1) 26 July 2013 (2) 11 July and 27 June 2012 (3) 19 June 2012 (4) 28 July 2010	(1) CS (2) & (3) LM (4) JS	There are many records by various recorders from 1979 onwards, particularly for a field edge in the Mount Ephraim area. References given are TQ 678 634, TQ 680 636, TQ 684 638, TQ 688 632. Plant numbers vary from 120 (2002) to over 400 (1997). 2010 record is for TQ 684 636. 11 July and 27 June 2012 records are for 280 plants at TQ 683 637, TQ 682 387 and TQ 682 638 (fuller references given). 19 June 2012 record is for 20 plants at TQ 680 663 (fuller references given). 2013 record is for TQ 682 636, 43 plants between track on first row of wheat along top margin of field. This area may correspond to E.S. Marshall's find in fallow on the chalk near Halling on 25 May 1893 (specimen in BM).
Cuxton Warren	TQ6965	SSSI	2002	Anon.	TQ 698 655: there have been records from 1991 (JP and others) onwards, ranging (where mentioned) up to 66 plants (1998). This may be Halling Warren, where found by FR in 1947.
Ranscombe Farm	TQ6967, TQ6968 & TQ7067	Owned by Plantlife and Medway Council, and managed with regard to arable weed flora	(1) 5 August 2014 (2) January 2014 (3) 2013 (4) 3 July 2010	(1) & (2) RM (3) Plantlife (4) DM	(1) TQ 693 677, Brockles Field. (2) In Kitchen Field at TQ 698 680, disturbed grassland edge east of path, 19 and 12 plants; 8 more west of path, at TQ 697 681. (3) The Plantlife count for 2013 (per RM) is 51 plants in Kitchen Field between c. TQ 6977 6811 and TQ 6990 6799. This is an increase from 13 in August 2012 and 3 in 2010. (4) In Kitchen Field at c. TQ 697 681 (where there have been many records by various recorders from 1985 onwards); and at field edge from TQ 697 679 to corner at TQ 698 680, then to TQ 697 681. It has been known here at least since 1827 (specimen in Liverpool Museum).
Wouldham	TQ7263		(1) 4 June 2007	(1) J&BH and	(1) Six plants on bare ground, chalk

Common			(2) Many records from 1992 to 2002	others (2) SW & PPM	grassland at woodland edge, TQ 72337 63465; 20 plants on trackway between two areas of chalk grassland, TQ 72637 63235. (2) Records at TQ 727632 have ranged from four plants (Anon, 2002) to over 1000 (1992). The earlier high numbers may be attributable to use as an access point for timber extraction after the 1987 storm with consequent disturbance opening up the seedbank.
Burham Down	TQ7362	KWT managed reserve	(1) 24 May 2010 (2) Many records from 1995 to 2002	(1) SP & DG (2) DS	(1) c.35 plants, all growing along top of chalky field, TQ 7385 6221. (2) TQ 735 623: records have ranged from one plant (1995) to 11 (1999), or described as a thriving clump 0.5m wide, 1.5m down a bank, plus a second colony. Not seen in 1994, although known before then.
Detling-Wouldham scarp	TQ7462	SSSI	29 June 1988	NCC England Field Unit	TQ 740 621.
Boxley Warren	TQ7659		26 June 2010, 9 July 2011	LM	Recorded at Boxley as far back as 1848. The 2010 record was with a Kent Field Club meeting; plants appeared to have increased in 2011, present in quite large amounts over the disturbed steep slopes, TQ 767 598.
Detling, The Larches	TQ7858, TQ7958	SSSI managed by KWT	(1) 7 August 2010 (2) 4 July 2009 (3) 26 July 2005	(1) JS (2) RM (3) BW	(1) c. TQ 781 595. (2) TQ 788 589. (3) TQ7958. There are also records from 1986 to 1999, with the most specific location being TQ 788 589, reported numbers varying from 88 to 163 plants.
Bredhurst Hurst Woods	TQ8061		8 May 2011	KFC meeting, comm. SP & DG	Five plants in scrub cleared area, TQ 80454 61744.
Queendown Warrren	TQ8263	KWT managed reserve	8 June 2004	JS	TQ 829 630.
Various	TQ56Z, 66F, 66K, 66R, 66S, 66X, 66Z, 76G, 75U, 75Z, TR25W.		After 1990, before 2006	EGP (Philp, 2010).	Some of these locations are likely to be represented by the sites described above.



Ladd's Farm. Photo by Judith Shorter, August 2003



Ladd's Farm. Photo by Lliam Rooney, 29 June 2013

***Alchemilla filicaulis* ssp. *vestita* Buser (M.E. Bradshaw) (Hairy Lady's-mantle)**

Draft account

vc 16; gone from vc 15

Rarity / scarcity status

In the British Isles, *Alchemilla filicaulis* ssp. *vestita* is the commonest and most widespread Lady's-mantle, and any threat for England and for Great Britain as a whole is regarded as of 'Least Concern'. In Kent (and to a degree, East Anglia), however, the position is very different.

It has only been reported in recent years as barely hanging on in the county and so the plant is locally **rare**.



Broad Oak Wood. Photo by Lliam Rooney, 15 July 2011

Account

John Parkinson wrote in *Theatrum Botanicum* (1640) of *Alchymilla major vulgaris* as growing in many pastures and woodsides, such as in Kingwood near Faversham (= King's Wood, Challock?); and there are subsequent historic records in both vc 15 and 16. Many Lady's-mantle species and subspecies have historically been lumped together as *Alchemilla vulgaris*, and it is under this name that Hanbury and Marshall (1899) summarised the then known Kentish records, when it was regarded as rare.

Philp (1982) refers to *Alchemilla filicaulis* subsp. *vestita* as at Oaken Wood, Barming (TQ75C) and Great Wood, Cobham (TQ76E).

The former site had records going at least back into the 1880s for the Lady's-mantle at the roadside near North Pole Farm, which could not be found in the course of the survey published as Philp (2010).

At the Cobham site, it was recorded as just hanging on in the middle of a woodland ride (Philp, 2010 and Eric Philp, pers.comm.), and on 15 July 2011 was re-found by Lliam Rooney at TQ 70619 68853 in Broad Oak Wood. Twenty plants were discovered in a damp area of what used to be a woodland ride – an old coppice track dating back at least a century and shown on the Ordnance Survey, but not readily accessible from the main path. The main patch comprised 16 plants in an area of about 4 x 2 metres; together with a secondary patch about 4 metres away in an area of about 2.5 x 3 metres. Associates were *Ajuga reptans*, *Centaureum erythraea*, *Fragaria vesca*, *Hypericum perforatum*, *Lysimachia nemorum*, *Primula vulgaris*, *Prunella vulgaris*, *Ranunculus repens*, *Rubus fruticosus* agg. and *Sagina procumbens*. The population does not appear susceptible to being scrubbed over, but could without conservation measures be affected by bramble spread. Later in 2011 the plants were counted at 24 by Richard Moyses, in spite of what appeared to have been a recent loss of some plants. They are within an area managed by Plantlife, together with Ranscombe Farm. A KFC meeting on 16 June 2012 located at least four plants present along the wet areas of the ride, recorded as between TQ 70626 68789 and TQ 70651 68666. The Ranscombe Farm count in early August 2013 noted 69 individuals, so there appears then to have been an increase since 2011, but not necessarily evenly across each year. On the other hand, the total for 2014 was 20 plants, on 21 August, ten in May 2016. Richard Moyses has noted that

peak counts tend to be spring and late summer, presumably as a result of germination at these times, with a substantial drop in the number of vegetative individuals in July. Although *Alchemilla* is a genus of perennials, it appears that the species in Kent shows quite a high turnover of individual plants.

Favouring basic or neutral soils, this grassland plant has become restricted in the county to a woodland marginal habitat; it has gone from Kent unimproved pasture locations.



Broad Oak Wood. Photo by Liam Rooney, 15 July 2011



Habitat, Broad Oak Wood. Photo by Stephen Lemon, 16 June 2012

Allium oleraceum L. (Field Garlic)

Draft account

vc 15 and 16



Rarity / scarcity status

Allium oleraceum is regarded as **Vulnerable** to the risk of extinction in Great Britain, although no special risk exists for England. In Kent, however, it is **rare** and its presence here is as an outlier of the national distribution, which is primarily from the south west, into the Midlands, and north to Yorkshire and Cumberland.

Account

The first Kentish record appears in the second edition of William Hudson's *Flora Anglica* (1778), in which he refers to *Allium carinatum* (to which name some plants of *A. oleraceum* were then referred, although this is properly a separate, introduced species) as near Ramsgate and between Sandwich and Deal. Hanbury and Marshall (1899) recognised it as chiefly from coastal habitats, such as banks, but rather rare.

It has continued to be rather rare in Kent; and although nationally it is treated as a native of dry, often calcareous, grasslands or (contrastingly) of river or floodplain banks, in our county it generally occupies marginal habitats – by footpaths or on roadside verges.

Our Borstal record is of interest in view of the reference in Turner and Dillwyn's *The Botanist's Guide to England and Wales* (1805) to its presence in lanes near Rochester. It was also known to Francis Rose in a hedge-bank south of Borstal in 1946, but was thought to have been destroyed by motorway works in 1963; the present site is a little further south.

Allium oleraceum can spread by seed (pollination may often be by wasps), but in Britain spread is primarily via bulbils and by subterranean bulbs⁹. It may be distinguished from *Allium vineale* (Wild Onion) through its spathe having two persistent valves (*A. vineale* has one, which may drop early). In Britain, there are two varieties: var. *oleraceum* (leaves 2-3mm wide, semi-rounded, and usually hollow at least below); and var. *complanatum* (leaves 3-4mm wide, flat). Recording to varietal level does not appear to have been undertaken in Kent.



Borstal. Photos by Liam Rooney, 29 June 2011

Site	Grid reference	Site status	Last record date	Recorder	Comments
Offham	TQ65N		After 1990, before 2006	EGP (Philp, 2010)	On the north side of Comp Lane, around TQ 654 571. [Recorded further east along Comp Lane, as TQ

⁹ Stroh, P.A. (2014). *Allium oleraceum* L.. Field Garlic. Species Account. Botanical Society of Britain and Ireland.

					642 570(5), by FR in 1963.]
Maidstone	TQ75T		After 1990, before 2006	EGP (Philp, 2010)	TQ 764 579, in rough grassland at edge of Sandling Lane near Penenden Heath, where present at least since 1958. It may have been affected by development since.
Borstal, Burham Road	TQ7266		(1) 29 June 2011 (2) 30 June 2010	(1) LR (2) SP & DG	TQ72574 66100. (1) See photographs. (2) A patch c. 3m x 1m (by white marking on road).
South of Coxheath	TQ7350		26 October 2017	BW	Road verge.
Chatham, Daisy and Coney Banks	TQ7666		12 June 2005	JP	A large colony in cut scrub.
Boxley	TQ7758		21 July 2017	BW	Edge of overflow churchyard.

Alopecurus aequalis Sobol. (Orange Foxtail)

Draft account

vc 15 and 16

Rarity / scarcity status

Nationally *Alopecurus aequalis* is fairly well distributed across the Midlands and South East; and other than, perhaps, in the longer term it is not regarded as being particularly threatened (the threat status being of 'Least Concern'). Losses from old habitats may have some counterbalance from its readiness to colonize new ones. In Kent, however, it is **scarce**.

Beacon Hill Country Park, Bean. Photo by
Geoffrey Kitchener, 9 August 2011

Account

This grass may be passed over for *Alopecurus geniculatus* (Marsh Foxtail) and was not recognised in Kent until published in *The Phytologist* (1856)¹⁰ by H.A. Stowell as from near Faversham at some time between 1839 and then. Hanbury and Marshall (1899) treated it as rare. Its county status has not changed a great deal, although its locations have changed; and records have increased between the publication of Eric Philp's two Atlases (Philp, 1982 and Philp, 2010).



Populations fluctuate considerably as the grass is an annual normally occurring on the margins or floor of shallow freshwater ponds and ditches as the water level recedes, and so its frequency is dependent on the timing and extent of the exposure of drying mud. Sometimes the habitat is a field edge, rather than a pond, and it may be that the water regime there replicates the pond margin habitat.

The species occupies similar habitats to those of *Alopecurus geniculatus*, but may be distinguished by having very short-awned lemmas, scarcely emerging from the glumes (those of *A. geniculatus* extend for 2-3mm beyond the glumes); and by having bright orange anthers (yellow or purplish in *A. geniculatus*).

Blackheath. Photo by
Juliet Cairns, 2 July 2012

Site	Grid reference	Site status	Last record date	Recorder	Comments
Blackheath (metropolitan vc16)	TQ3976		2 July 2012	JC	East of Folly Pond.
Bean, Beacon	TQ5871to	KCC managed	9 August 2011	GK	TQ 5896 7161 to TQ 5900 7158.

¹⁰ Some Observations on the Flora of Faversham and its Neighbourhood. *The Phytologist* (1856) N.S. i, at p255. Hanbury and Marshall's reference to a first record in 1858 appears pre-empted by this.

Wood country park	TQ5971	country park			Scattered on dried mud of pond on clay, in places abundant. Also recorded here by GK in July 2005.
Shorne country park	TQ6870 and TQ6770	KCC managed country park	(1) 5 August 2006 (2) 26 July 1999 (3) 7 July 1991	(1) RM (2) RM (3) EGP	Abundant in dried up pond. TQ683702 and TQ678703.
Goudhurst	TQ73I		After 1990, before 2006	EGP (Philp, 2010)	Field margin
Little Nineveh	TQ73W		28 August 1988	EGP	Cornfield edge. Specimen in MNE.
Riverside country park	TQ86E	Medway Council managed country park	After 1990, before 2006	EGP (Philp, 2010)	
Gibbin's Brook	TR1138	SSSI	17 July 2011	BW at KFC meeting	Few plants on edge of small pond near gate, TR 11638 38627.
Rother Levels	TQ92N		June 1978	LBB	Knock Farm, Stoke-cum-Ebony; specimen in MNE.



Beacon Hill Country Park, Bean.
Photo by
Geoffrey Kitchener, 9 August 2011

Alopecurus bulbosus Gouan (Bulbous Foxtail)

Draft account

vc 15 and 16

Rarity / scarcity status

Although in England and in Great Britain as a whole *Alopecurus bulbosus* is not considered to be particularly threatened (being of 'Least Concern'), it is both nationally and locally **scarce**, and the Kent populations are somewhat detached from the concentrations of distribution along the south coast of England, south Wales and along the Severn estuary.



Seasalter. Photo by Liam Rooney, 2011

Account:

In his *Specimen Botanicum* (1746), John Blackstone provides the first Kentish reference to what he called the Knotty rooted Mousetail Grass, a find attributed to Dr. Wilmer as being "In the first Field next the Road before you go into Northfleet". Hanbury and Marshall (1899) surprisingly refer to this as Southfleet, which is not apt, as the few historic Kentish occurrences have always been along the Thames estuary, in brackish coastal grazing marshes.

In Hanbury and Marshall's time, this grass was regarded as being rare in the county and, except for Sheppey, confined to West Kent. It has, however, since been found in East Kent, in grazing marsh fields at Seasalter; also at Upchurch and Conyer. There is always a question as regards how far its apparent rarity results from being overlooked (easily done, as Marshall commented in the *Victoria History of the County of Kent*, 1908).

In 1987, Kent sites were surveyed, the results being published in FitzGerald (1989)¹¹. The

species was then found in three sites at Higham Marshes (possibly previously recorded in 1890); inland at Higham (recorded in 1938); at Cooling Marshes (recorded in 1892); at Isle of Harty in Sheppey (recorded before 1840); and at Seasalter (known from 1965 to 1978). It could not be found south east of Frindsbury, where seen from 1944 to 1960. So there is some evidence of continuity, and a somewhat fuller picture than that which was afforded by the county 1971-80 survey published in Philp (1982), when only one tetrad record was made, at Seasalter. This last location contains widespread populations, and diligent recording by Eric Philp

¹¹ R. FitzGerald (1989). 'Lost and Found' – *Alopecurus bulbosus* Gouan in S.E. England. *Watsonia* 17: 425-428.

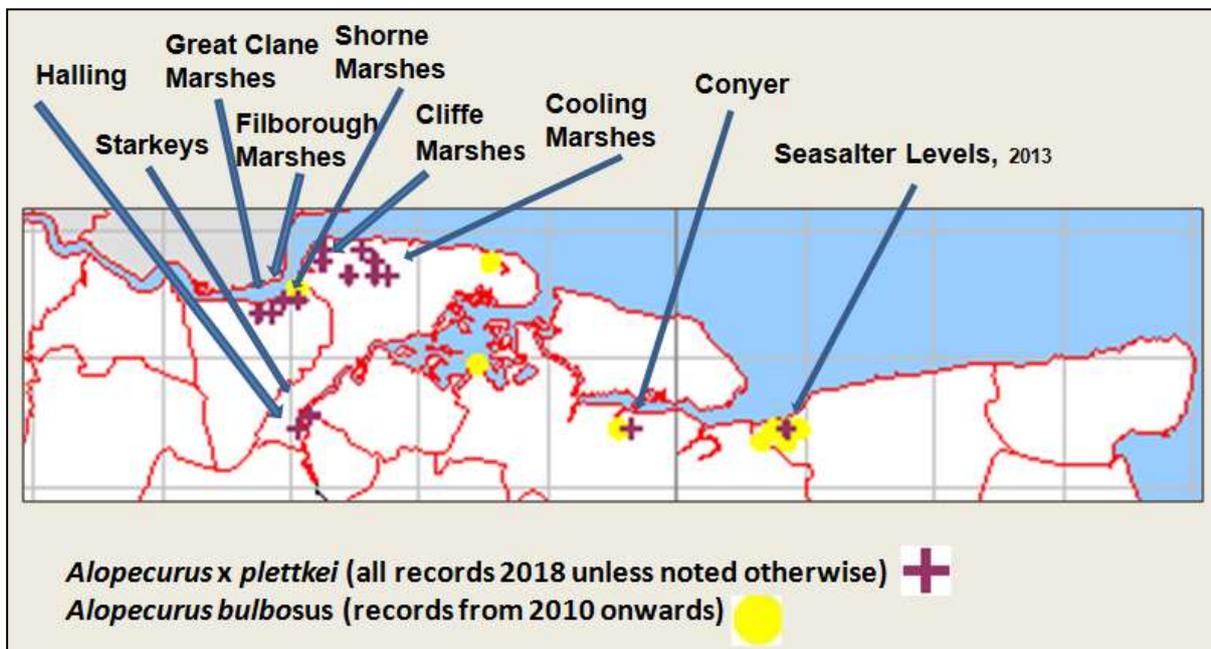
(published in Philp, 2010) with repeated visits resulted in subsequent recognition of this plant in five tetrads of grazing marshes there.

Seasalter. Photo by Liam Rooney, 2011

The position regarding distribution is complicated by the existence of a hybrid with *A. geniculatus* (Marsh Foxtail, *Alopecurus x plettkei*, which may be present in an area in which *A. bulbosus* is also known to be growing, as with 1987 gatherings at Higham and 2013 discoveries at Seasalter; or it may suggest the overlooked presence of *A. bulbosus*; or it may be that the hybrid persists in locations from which *A. bulbosus* has now gone. This last possibility (unless and until *A. bulbosus* is found at the same location) appears to apply to a number of Kent records.



The first such record is a hybrid collection in June 1994 from a grazing field west of the Medway, TQ76C (not 76B, as given in Philp, 2010), near the pylons on Halling Fresh Marsh, (EGP; specimen in **MNE**). It was also seen in this vicinity (TQ 7074 6431) in July 2018 on slightly higher ground above seasonally wet depressions containing *A. geniculatus*. In August to September 2018, however, a search was made for the hybrid across the north Kent grazing marshes, with the result that it was found to be widespread, even in areas where *A. bulbosus* was unrecorded. The distribution is shown below. All sites were near tidal rivers and creeks, where the winding patterns of old drainage runnels are preserved in the landscape, and there may be a degree of brackish influence when seasonally flooded.¹² In 2019 it was also found on Eastchurch Marshes at Sheppey.



The cross is in some respects a difficult taxon, since it tends to resemble one or other parent, rather than being simply intermediate. Those plants resembling *A. geniculatus* are perhaps more easily recognized in the field, especially if there are more than 6 nodes per culm and if there are branched stems which are leafier than *A. geniculatus*. The 2018 finds had 7-16 nodes per culm. It is, however, possible to spot hybrid plants without recourse to close analysis. They, or at least some of them, tend to stand out as being so glaucous as to have almost metallic blue stems and foliage, with straggly stems and small, neat panicles – and they do this from

¹² Further details are given in *Kent Botany 2018*.

July onwards. This is not a time when botanists are normally looking for *A. bulbosus*, at the end of May and beginning of June; the species will have died back in July. The hybrid, as Trist & Wilkinson (1989)¹³ point out, dies back by July, to be replaced by fresh growth continuing into September.

Although *A. bulbosus* and the hybrid would normally be searched for at different times of year, this does not necessarily explain why they are being found so seldom together. The issue was brought to a focus by a search on 3 June 2019 at Cooling Marshes (RSPB Northward Hill reserve) where the hybrid was seen on 18 September 2018: no *A. bulbosus* was found. The reserve was under arable cultivation before being acquired by the RSPB, so that the grazing marsh grassland is not of long standing. One can infer that hybridisation is no longer taking place in situ, but that the hybrid spreads/maintains itself on its own account. This may largely be by rooting at the nodes, although there is also potential for fragments to be broken off, e.g. by cattle, and to be spread by winter flooding. Winter flooding may be responsible for the presence of the hybrid in view of the site history. It may be that the hybrid survived the period of arable farming in corners or at ditch margins and then spread out when conditions became more favourable with the RSPB takeover; the actual hybridization event(s) could long have preceded this. The impression one has from earlier studies/records of British *A. bulbosus* is that, although the species is nationally scarce, its hybrid is very much scarcer, albeit existing in large populations in some places. In Kent, however, it looks as though the hybrid is more frequent than its *A. bulbosus* parent and is likely to have a level of adaptability which enables it to survive through events (e.g. cessation of grazing or conversion to arable) which *A. bulbosus* does not.

Bulbous Foxtail favours depressions where water may lie in winter, and cattle-trampled areas, often growing with *A. geniculatus* in unimproved grazing marshes. The species does not grow in saltmarsh conditions, and excessive salinity may stunt its growth. It is said to spread by seed and occasionally, but not habitually, by dispersal of the 'bulbs'¹⁴. However, cultivation of Kent material has shown that it is capable of spreading through the production of 'bulbs' along the nodes of the stolons which develop after flowering.



Production of 'bulbs' along the stolons.

Photo by Geoffrey Kitchener, 20 January 2017

The species is best distinguished from Marsh Foxtail when in full flower, in the last two weeks in May and the first week in June, before the growth of other grasses reduces its visibility. It may, however, also be noticeable later in June, when going over before *A. geniculatus*. The small, neat, dark spikelets with their

pointed glumes and the delicate upright habit of *A. bulbosus* (less geniculate than *A. geniculatus*) help separate the two species, and the 'bulb's themselves provide confirmation. FitzGerald (1989) provides some interesting observations on habitat and associated flora: *A. bulbosus* commonly grows at the interface of *Juncus gerardii* swards and the more open *Festuca rubra* – *Carex distans* turf, fringing the damper area where *A. geniculatus* grows or perched on tussocks in wet places trampled by cattle. At the Isle of Harty and Seasalter, the annual clovers *Trifolium micranthum* and *T. ornithopodioides* are indicator species for areas of turf which may contain Bulbous Foxtail.

¹³ Trist, P.J.O. & Wilkinson, M.J. (1989). *Alopecurus x plettkei* Mattfield in Britain. *Watsonia* 17: 301-308.

¹⁴ Cope, A & Gray A. (2009). *Grasses of the British Isles*. Botanical Society of the British Isles, London.

Higham Marshes – habitat. Photo by
Geoffrey Kitchener, 22 May 2012



Site	Grid reference	Site status	Last record date	Recorder	Comments
Higham Marshes	TQ7075		(1) 22 May 2012 (2) 28 May 1987	(1) GK (2) RF	(1) Habitat as described in 1987 record below. Two plants at TQ 70380 75127 (with <i>Puccinellia fasciculata</i>) and one at TQ 70351 75129. May have been more, but only just coming into flower following cold wet May. (2) TQ 703 751, grazing marsh near sea wall, in winter-wet runnels in grazing between the track and a main ditch. Associated species included <i>A. geniculatus</i> , <i>Agrostis stolonifera</i> , <i>Carex divisa</i> , <i>Poa pratensis</i> , <i>Bolboschoenus maritimus</i> .(
Higham, Church Street	TQ7174		1987	RF	(1) TQ 713 742, an atypical site, by a track inland of the railway, in a damp grassy waste area. <i>A. geniculatus</i> and <i>A. x plettkei</i> present. (2) TQ 712 743, coastal side of railway.
Oakleigh, Higham	TQ7274	Private land, Oakleigh	1987	RF	TQ 727 746, apparently widespread in field by railway north of Oakleigh, although heavily grazed. Associated species included <i>Lolium perenne</i> , <i>Plantago major</i> , <i>Poa pratensis</i> , <i>Potentilla anserine</i> , <i>Ranunculus repens</i> , <i>R. sardous</i> , <i>Trifolium repens</i> . Recorded by J. Braybrooke Marshall in 1938.
Cliffe Marshes	TQ771		24 June 1991	EGP (Philp, 2010)	Edge of dyke, specimen in MNE.
Cooling Marshes	TQ7577		28 May 1987	RF	Abundant on rich cattle-grazed marsh dominated by <i>Cynosurus cristatus</i> (also with <i>A. pratensis</i> and <i>Lolium perenne</i>) at TQ 754 773, in drier than usual conditions. Could be much more widely extensive. Associated species <i>A. geniculatus</i> , <i>Bellis perennis</i> , <i>Poa pratensis</i> , <i>Ranunculus bulbosus</i> , <i>Trifolium dubium</i> , <i>T. fragiferum</i> . Previously recorded by E.S. Marshall, 1892.
Bayford, Upchurch	TQ8469	Local Wildlife site. Private land, part of Bayford farm	12 June 2010	JW, conf. JP	Abundant and widespread on two areas of grazing marsh divided by a track, TQ 841 695.

Allhallows Marshes	TQ8577		28 June 2016	GK & SK	A tussock in grazing marshes depression at TQ 85154 77178, on raised clod in uneven ground. Probably at least another tussock present, but extent of population not determined. Noticeable as going over from flowering, whereas <i>A. geniculatus</i> was not. Associated species: <i>Agrostis stolonifera</i> , <i>Alopecurus geniculatus</i> , <i>Bromus hordeaceus</i> , <i>Cynosurus cristatus</i> , <i>Hordeum marinum</i> , <i>Lolium perenne</i> , <i>Plantago lanceolata</i> , <i>Poa trivialis</i> , <i>Polypogon monspeliensis</i> , <i>Trifolium repens</i> .
Cooling Marshes	TQ9564	RSPB Northward Hill reserve	4 October 2018	KBRG meeting	Non-flowering material with pronounced bulbs at TQ 95962 64938 on grazing marsh.
Harty Isle, Sheppey	TR0367		29 May 1987	RF	TR 0324 6716, fairly abundant on west side of grazing marshes, in zone between recently dried runnels bearing <i>A. geniculatus</i> , and drier swards. Associated species: <i>A. geniculatus</i> , <i>Carex divisa</i> , <i>Festuca rubra</i> , <i>Juncus gerardii</i> , <i>Poa pratensis</i> , <i>Trifolium fragiferum</i> , <i>T. micranthum</i> , <i>T. ornithopodioides</i> .
Seasalter	TR06L, M, R, W, X		After 1990, before 2006	EGP (Philp, 2010)	TR06M and TR06X are tetrads within which the following TR0564, TR0664, TR0764, TR0863,d TR0864 and TR0964 records lie.
Seasalter – Graveney Marshes	TR0564		26 May 1987	RF	TR 059 646. Field border along old drove south west of Sportsman (fields are semi-improved grazing). Associated species include <i>Bellis perennis</i> , <i>Poa pratensis</i> , <i>Ranunculus repens</i> , <i>R. sardous</i> , <i>Trifolium ornithopodioides</i> .
Graveney Marshes	TR0663		24 May 2014	RG	Growing along c 15 metres of a damp rill in coastal grazing marshes, TR 0603 6321.
Seasalter – Graveney Marshes	TR0664		26 May 1987	RF	TR 062 645. Edge of field by road south east of Sportsman.
Seasalter	TR0764		(1) 13 June 2013 (2) 26 May 1987	(1) RG, LR & GK (2) RF	(1) Occasional near damp field depressions on grazing marshes, KWT reserve. (2) TR 079 649. Riding stable fields. Seen by JB in 1978, 80-100 yds west of riding school barn in main jumping field. (2) TR 077 649, sheep grazed embankment behind bungalows.
Seasalter	TR0863		13 June 2013	RG, LR & GK	Grazing marshes field near boundary with TR0864.
Seasalter	TR0864		(1) 20 June 2013 (2) 13 June 2013 (3) 26 May 1987	(1) JA, LR & OL (2) RG, LR & GK (3) RF	(1) TR 08049 64863 in a wet meadow by a caravan park by Faversham Road. (2) Remarkably abundant in locations too numerous and widespread within the KWT reserve grazing marshes in this monad to cite. Generally in sward surrounding (and slightly higher than) depressions subject to winter flooding in which <i>A. geniculatus</i> was growing. (3) TR 081 649, TR 080 648. Riding stable fields, heavily grazed; with winter puddles and dryer 'banks'. Associated species include <i>A. geniculatus</i> , <i>Festuca rubra</i> , <i>Poa annua</i> , <i>Ranunculus sardous</i> ,

					<i>Trifolium fragiferum</i> , <i>T. micranthum</i> .
Seasalter	TR0964		13 June 2013	RG, LR & GK	Sample location is on KWT reserve grazing marshes at TR 09049 64290, where species was plentiful, but grass was more widespread than this.



Seasalter, with *Alopecurus geniculatus* in the foreground and the neat dark panicles of *Alopecurus bulbosus* behind.
Photo by Geoffrey Kitchener, 13 June 2013

Althaea officinalis L. (Marsh-mallow)

Draft account

vc 15 and 16

Rarity / scarcity status

In Great Britain as a whole, *Althaea officinalis* is not considered to be particularly at risk (its threat category being of 'Least Concern'), but in England its rate of decline places it as **Near Threatened**. Additionally, its localization in southern coastal areas of England and Wales has resulted in it being regarded as nationally **scarce**. It is by no means scarce in Kent.



Oare Marshes. Photo by Liam Rooney, 6 July 2010

Account

Althaea officinalis was first recorded in Kent by Gerard in 1597, who found that it "growth very plentifully in the marshes...alongst the river of Thames, about Woolwich, Erith, Greenehyth, Gravesend". West Kent Thameside locations were vanishing or had vanished by the time of Hanbury and Marshall (1899), who found it decreasing through drainage. Its main Kentish areas are now Romney Marsh and the tidal Medway; but the 70 tetrads recorded in Philp (1982) had fallen to 49 in Philp (2010), a factor cited being that the Romney Marsh populations have apparently been in decline due to modern ditch management and through grazing marshes being converted to arable. However, the conversion to arable seems less threatening to Marsh-mallow than an increase in sheep grazing pressure. One result of grazing pressure in Romney Marsh appears to be that the species has become more confined to habitats which sheep cannot reach, such as ditch margins by roads or farm tracks outside stock fences, or along steep-sided ditches which have not been cut back (Owen Leyshon, pers. comm.).

A cluster of records in the Sandwich area in Philp (1982) could not be re-found in Eric Philp's later survey, but the species has subsequently been recognised as still present.

There are oddities of inland distribution due to an introduction or escape at Eynsford and the existence of a colony at Bethersden which would have been nearer the coastal marshes in historic times, although on higher ground (around the 35m contour line) and not proximate, so this is probably also an introduction or escape as well.

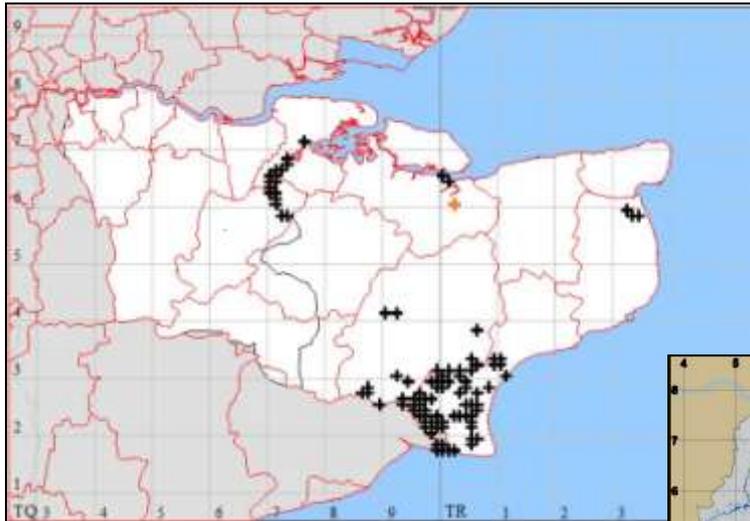
Oare Marshes. Photo by Sue Buckingham, 8 August 2010

Althaea officinalis grows on the ungrazed banks of brackish water ditches and in the transition between upper saltmarsh and freshwater habitats, including by tidal rivers. Its stem and roots provide food for the Marsh Mallow Moth (*Hydraecia osseola*), whose UK distribution is restricted to Kent and the East Sussex border.



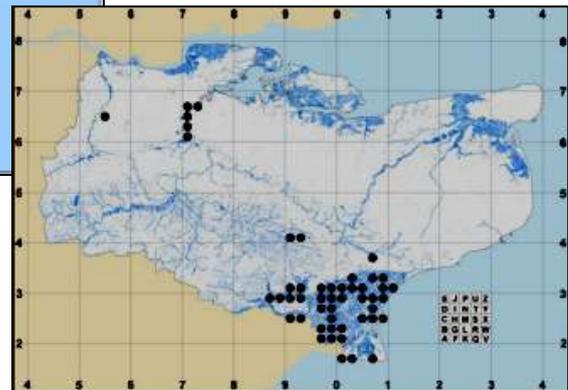
As Marsh-mallow is not uncommon in Kent, the distributional data maintained in this register will be at 1km square (monad) level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from

which the following 1991-2005 map is taken (with kind permission of the late Eric Philp and the Kent Field Club).



Althaea officinalis (Marsh-mallow)
2010-19

Althaea officinalis (Marsh-mallow)
1991-2005



In the map on the left (showing 2010-19 monad records) populations near Sandwich have been added to what was found in 1991-2005, and Oare appears new. Also, the current Medway records are a little more extensive. The orange record is of planted origin. Overall, the 2010-19 records amount to 60 tetrads (equivalent to 97 monads), so the ostensible decline since Philp (1982) is not as great as had seemed.



Habitat, Snargate roadside. Photo by David Steere,
15 August 2015



Habitat, Oare Marshes. Photo by Sue Buckingham, 8 August 2010

Anacamptis morio (L.) R.M. Bateman, Pridgeon & M.W. Chase (*Orchis morio* L.) (Green-winged Orchid)

Draft account

vc 15 and 16

Rarity / scarcity status

Anacamptis morio is regarded as **Near Threatened** in Great Britain as a whole. Whilst not scarce, either in England or in Kent, its English threat categorization is that it is **Vulnerable** to the risk of extinction. As it is considered to be an indicator of old unimproved nutrient-poor grasslands, any threat is likely to be as regards the retention and management of this type of habitat.



Lawn at St. Joseph's catholic church, Chestfield.

Photos by Liam Rooney, 29 April 2011

Account

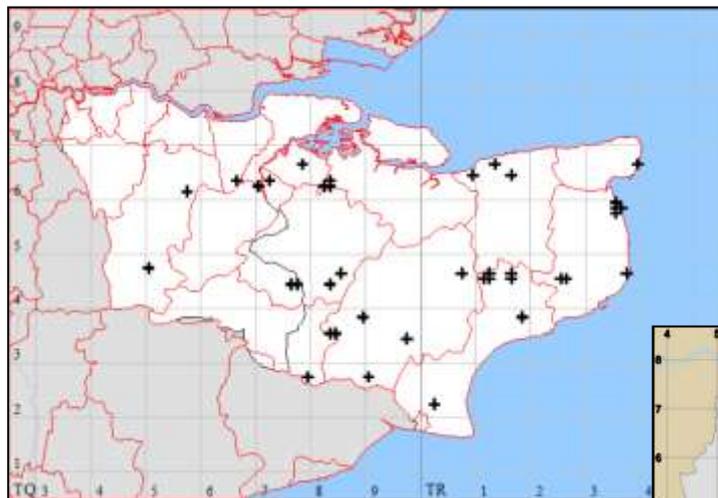
The first Kentish record of *Anacamptis morio* is by Edward Jacob, who in his *Plantae Favershamienses* (1777) refers to it as "In Meadows – very common", also mentioning the vernacular name, Female Fool Stones. The assessment of "common" was continued by Hanbury and Marshall (1899), particularly in the occurrence of the orchid on chalk and Wealden clay. It is, however, in Kent not limited to these substrates and is still widely distributed across the county in short grassland on various soil types. It is found in churchyards, by roads, in damp meadows and on chalk. Colour variants are common.

By the 1940s-60s, Francis Rose considered that its "common" status, as abundant in many old permanent pastures throughout Kent, was in the past and that it was then far rarer, due to the conversion of such pastures to leys or arable, and becoming more confined to the chalk, where was less vigorous in growth, though still widespread. It was, however, still present on London Clay, even locally abundant on that substrate in Sheppey, where we now have no recent records.

Eric Philp found that it had gone from some former sites through land drainage and ploughing, reflected in a decline from 24 tetrads (Philp, 1982) to 17 (Philp, 2010) across the administrative county.

In view of the number of records, the data presented here consist of a reproduction of the 1991-2005 distribution map from Philp (2010), with the kind permission of the late Eric Philp and the Kent Field Club, together with a map and table setting out data received from 2010 onwards (excluding Scotney from the 2010-18 map).

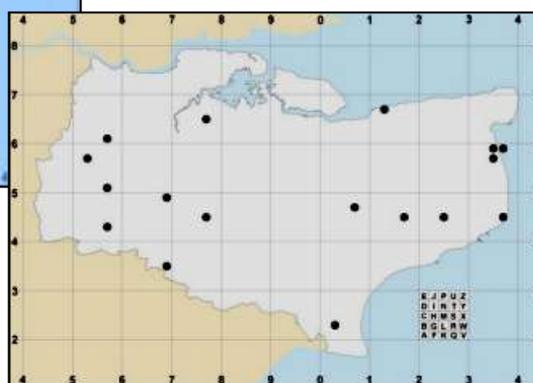
The 2010-19 records have picked up the substantial elements of 1991-2005 recording and have added several further localities, although some more work is required for West Kent. However, the apparent decline in records indicated by a comparison of Philp (2010) with Philp (1982) — 17 tetrad records for 1991-2005, as against 24 for 1971-80 — is not borne out by the data recently collected, which has already (2019) reached 33



tetrads (represented by 37 monad records).

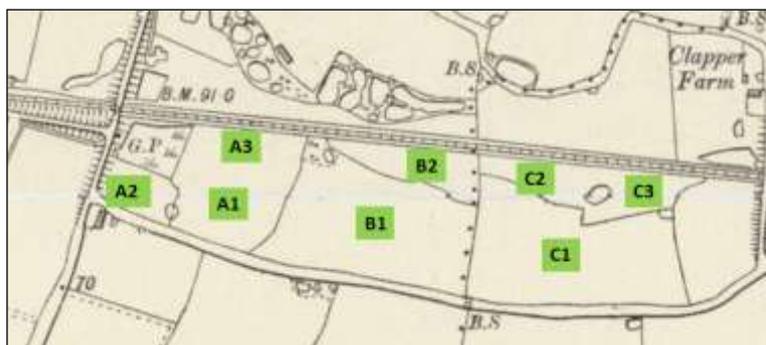
Anacamptis morio (Green-winged Orchid)
2010-19

Anacamptis morio (Green-winged Orchid)
1991-2005



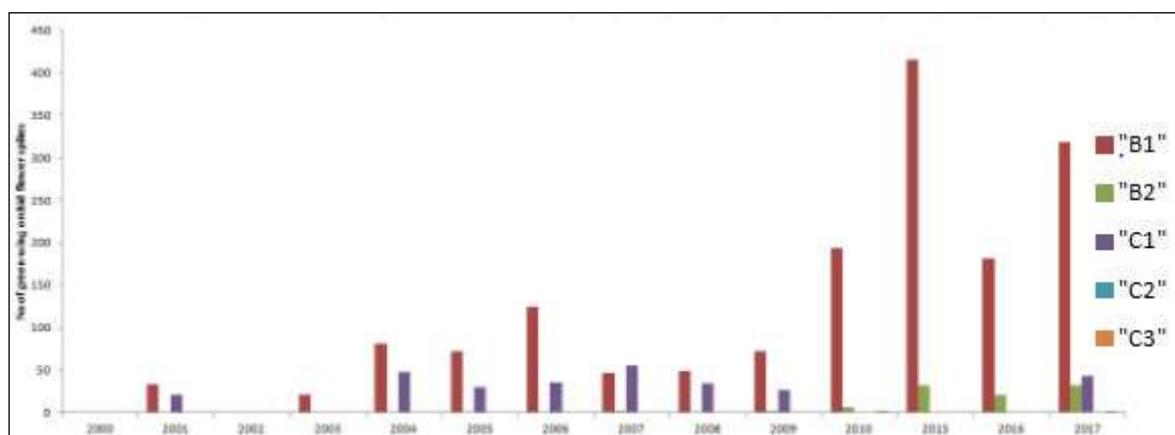
The Kent position may therefore be one of relative stability or, more likely, increase since the 1970s. This contrasts with the wider position: a comparison of the species' area of occupancy in England over the periods 1930-1969 and 1987-1999 produced a calculated decline of 32% in the likelihood of its being recorded. Also, the BSBI threatened plants surveys carried out 2008-2013¹⁵ re-found presence in only 57% of old recorded sites selected, with disproportionate losses in lowland England and Wales; whereas the three sites selected for Kent (one of which was actually in vc14, East Sussex) were still extant.

Threats to the species may arise from habitat damage or destruction, but are more likely to relate to lack of grassland management. Many of our Kent sites are managed by regular hay-cutting or, for golf courses, gardens and churchyards, by mowing. The premier county site,



at Marden Meadow, is managed by the Kent Wildlife Trust and has been designated as Kent's Coronation Meadow. The principal part of the Meadow, neutral grassland of long standing, is marked as compartments A1-3 on the accompanying map (showing field boundaries as at 1909). The meadow was extended in 1999, given as compartments B1-2 and C1-3 on the map. The expansion of *Anacamptis morio* onto the extension compartments is monitored by the Trust, with a view to guiding future management. Counts of orchid flowering spikes on the extension compartments are given below, from which it will be seen that numbers have built up considerably in compartment B1, and have begun in B2; numbers in C1 have not shown material increase since 2004; and those in C2 and C3 are insufficient to show on the graph.

¹⁵ Walker, K.J., Stroth, P.A. & Ellis, R.W. (2017) *Threatened Plants in Britain and Ireland*. Botanical Society of Britain and Ireland, Bristol.



The status of the species as an indicator of old unimproved grassland is being modified by the ability to establish it elsewhere from seed, as has been done through the off-site spreading of hay from the Marden Meadow reserve. This has been achieved at a field near Queendown Warren and (KWT e-news May 2015) at Tucker's Farm, Warehorne (TQ9734), where plants appeared 'a couple of years' after hay spreading. This artificial distribution is reflected in the records given in the present distribution mapping. Hay spreading is also being undertaken at Payne's Fields and Highwood Meadows, also in the Marden area, the latter of which carried over 700 plants in 2016¹⁶. Green hay has also carried the species from the Chestfield church lawn site. The species may be even more versatile in establishment than even these appearances may suggest: in 2017 it was seen on the sedum-covered roof of a carport at Headcorn (not without precedent outside Kent: a single plant was seen on an Islington Council roof in 2016).

Site	Grid reference	Site status	Last record date	Recorder	Comments
Polebrook	TQ5047	Private land, SSSI	(1) 17 May 2012 (2) 15 May 2011	(1) GK (2) SL	(1) Two sites in adjoining meadows. Northern site TQ 506 477, c. 100 x 65m, 162 spikes widely scattered, variable density. Southern site TQ 5061 4768, c.20m more or less linear, 6 scattered spikes. Neutral meadow on Weald Clay with many ancient grassland indicator spp. (2) 42 flower spikes spread out in one field at TQ 506 477 and TQ 507 477.
West Kingsdown, School Lane	TQ5761	Private garden	5 June 2010	(reported to) DJ	Over 200 plants on lawn.
Great Buckland	TQ6663	Private garden	14 April 2013	JP	Rosettes on chalk grassland slope in garden.
[Scotney Castle]	[TQ6835]	[National Trust]	[(1) 8 May 2012 (2) 19 May 2010]	[(1) GK, SK (2) L&DH]	[(1) 3944 spikes (including some salmon-pink colour variants) counted in three habitats surrounding the house at TQ 687 353 (-4): (a) terraced lawn slopes (b) flat areas of terraced lawn and (c) the adjoining conservation meadow. Terraced lawn is mown grassland, somewhat acid; slopes are grassier than flat areas, which have much tightly mown <i>Calluna vulgaris</i> and are mossier. Lawn management entails mowing from mid-July, with cuttings left in situ for several days to spread seed. Conservation meadow has taller

¹⁶ Ecology and Evidence, KWT, Winter Newsletter 2017-18.

					sward and includes <i>Carex caryophylla</i> and <i>Silaum silaus</i> . (2) At least a thousand spikes. N.B. this site is in vc 14 (East Sussex), not vc 16 (West Kent). It was included in Philp (2010) because the administrative county of Kent extends to this point. National Trust count in 2013 was 2800 spikes (head gardener comm. to DJ).]
Holborough	TQ7062	KWT managed reserve	20 May 2017	DJ	TQ706627, about 20 small plants in two separate groups in newly acquired KWT fields above the marshes, perhaps introduced with cattle feed from Marden Meadow.
Wouldham	TQ7263	KWT managed reserve	20 May 2010	SW	One plant flowered on Wouldham Common Reserve TQ 7240 6345, presumably from hay brought here from Marden Meadow, comm. D. Johnson 2013.
Marden Meadow	TQ7644	KWT managed reserve	(1) (2) 2011	(1) DS (2) Various observers	(1) Thousands in the usual meadows to the west of KWT reserve. Of note is that the meadows to the east up to and including the railway line are now showing a few <i>A. morio</i> plants as well. (2) Present in thousands, TQ 763 445. See chart in main text for counts 2001-17.
NE Staplehurst	TQ7744		18 May 2019	KBRG/KFC meeting	2 flowering spikes at TQ 77236 44820 and a further single spike at TQ 7701 4472.
Darland Banks	TQ7866	KWT managed reserve	2013	AR	Six plants flowered in a clump in the middle of the West Bank TQ 7810 6624, comm. DJ. Apparently, KWT has spread hay from Marden Meadow at this reserve.
Sandhurst Cross, St Nicholas churchyard	TQ7927	Church property	(1) 12 May 2014 (2) 5 June 2010	(1) JP (2) SB	(1) St. Nicholas church. (2) TQ 79045 27319, one plant (a second had been damaged). Additional to Philp (2010) listing.
Benenden	TQ8335	Private grounds	16 May 2013	SB	Eight plants, possibly more, with seven flowering spikes, around a lawn in private grounds of hospital.
Headcorn	TQ8344	Private residential property	28 April 2017	JT	TQ 830 446, on sedum-covered roof of carport in Mill Close, Headcorn.
Queendown Warren	TQ8362 and TQ8363	KWT managed reserve	(1) 8 May 2019 (2) 16 May 2015 (3) 17 May 2014 (4) 1 May 2014 (5) 18 May 2013 (6) 19 May 2012 (7) 14 May 2011	(1)TS (2) & (3) DJ (4) SB (5). (6) & (7) DJ	(1) Below Queendown Warren, TQ 83000 62913. (2) At TQ 838 633 and vicinity, over 200 small plants flowering in the newest field acquired by KWT where Marden Meadow hay was spread. (3) TQ 838 633, three or four plants seen in field where KWT had spread hay from Marden Meadow. According to Wild Kent magazine Winter 2014/15, there were 116 or so flowering plants beforehand, but had been dug up and stolen. (4) A single flowering plant at TQ 83287 62484, on KWT reserve but some 500 metres south east of known colony and on slope east of Cradles Road, by public footpath. (5) Two spikes flowering at TQ 8302 6280 and a singleton at TQ 8311 6288. See below for origins. (6) TQ8309 6285, Only 4 plants

					found at TQ 8309 6285 where there were many before, but in addition this year singles found at TQ 8308 6283, TQ 8303 6280, and TQ 8302 6281. (7) TQ 8309 6285: 20 flowering plants in middle of the pond field, believed to have been under cultivation until not long before. Whilst ostensibly this would suggest greater flexibility in colonizing than is often credited to the species, apparently hay from Marden Meadow has been spread on the field over several years. There is a history of occurrence before this introduction. FR knew the species here in the 1960s (but grid reference given as TQ8363, where last seen by NW in 1986).
Sandpit Wood, Clapper Hill	TQ8435		June 2012	MW	One spike in unimproved neutral pasture at TQ 843 359.
Between Headcorn and Grafty Green	TQ8546		29 April 2014	SB	One flowering plant with three spikes in a small hay meadow at TQ 85408 46826.
North of High Halden	TQ8938		7 May 2014	SB	Three flowering plants in meadow, one at TQ 89165 38218, one at TQ 89061 38246 and one at TQ 89095 38236. Associated species: <i>Luzula campestris</i> , <i>Ranunculus bulbosus</i> , <i>Stellaria graminea</i> .
Wittersham	TQ9027		(1)20 May 2018 (2) 11 May 2017	(1) PS (2) PS	(1) TQ9027 (2) Near edge of large lawn, 4 spikes, first noticed 10 years before.
[Warehorne]	[TQ9734]		[May 2015]	[PR]	[Planted. Six plants seen on field where Marden Meadow hay was spread a 'couple of years' before. Grid reference inferred.]
Wye Crown	TR0746	Wye & Crundale Downs SSSI	22 May 2013	AG	One in flower at TR 0709 4667, formerly more abundant according to some observers (20-30 spikes), although recorder has never seen more than 5 or 6. Grass long and rank, threatening survival unless there is more grazing.
South east of Seasalter	TR0964		25 May 2016	CO	4 plants flowering in field below The Oaks at TR 097 642.
Elmsted	TR1145, TR1245, TR1246	Private land	(1) 21 May 2013 (2) 7 May 2012	(1) & (2) AG	(1) 109 plants in flower at TR 1194 4594 to TR1209 4603. Also, at least five plants at TR 12008 45984, in a privately owned field. (2) 13 spikes in bud or in flower, although there have been 200 - 300 in past years in this field, which is similar to other East Kent downland sites. Other species present were <i>Polygala vulgaris</i> , <i>Dactylorhiza fuchsii</i> , <i>Listera ovata</i> , <i>Plantago media</i> , <i>Gymnadenia conopsea</i> , <i>Brachypodium pinnatum</i> agg., <i>Orchis mascula</i> , <i>Primula veris</i> . (Colony stretches from TR 1194 4594 at its most south-westerly to TR 1209 4603 at its most north-easterly, and in 2013 was seen also to also take in part of TR1245.)
Chestfield, Primrose Way / Chestfield Rd	TR1366	Church property	(1) 19 May 2019 (2) May 2018 (3)3 May 2012 (4) 29 April 2011	(1) & (2) JPu (3) KBRG meeting (4) JPu, LR	(1) 888 flower spikes counted on St Joseph's Church lawn TR135 664. (2) 1145 flowering spikes on the church lawn.

					(3) 535 spikes in total. Fairly densely concentrated in north west corner of somewhat damp and very mossy front lawn of church. Outliers scattered across lawn, on narrow verges either side of surrounding paths and on lawn to rear of church (4) 450 spikes on St Joseph's catholic church lawn, the last local remnant of neutral meadow, TR 13501 66478.
Park Gate Down	TR1646	KWT managed reserve	27 May 2012	WR	TR 166 461, two plants flowering in first section of Park Gate Down from the road.
Bleangate	TR1664		(1)20 May 2019 (2) May 2018	(1) & (2) JPu	(1) 203 flower spikes counted in Braggs Lane meadow, TR168 646. (2) Recorder reports a count of 196 flowering spikes from a privately owned meadow at approx TR 168 646. These were originally introduced by the recorder from the Chestfield church population via green hay.
Arpinge	TR1838		1 May 2014	AG	TR 1841 3147, one plant in flower in chalk grassland on gentle south-facing slope, where recorder has known it to occur occasionally in the past.
Lydden Hill	TR2545	MoD land	(1) 26 May 2016 (2) 23 May 2012 (3) 30 April 2012	(1) SC (2) DJ (3) AG	(1) TR 258 450, c. 100. (2) A large number of plants, TR 2584 4509 to 2585 4510, viewed from Warren Lane roadside. Estimated at 300-400 with several hundred <i>O. mascula</i> by AG, who recorded just a handful of plants in bud in April (3), at TR 258 450, north west facing site.
Sandwich Bay estate	TR3557		(1) 5 May 2018 (2) 14 May 2010	(1) SB (2) PH	(1) counted 85 flowering spikes at footpath across St Georges . (2)(a) 147 plants flowering in damp grassland, TR 358 575. (b) 470 plants flowering in damp grassland, TR 358 578.
Sandwich Royal St George's	TR3558		(1) 4 May 2018 (2) 19 May 2016 (3) 21 May 2013	(1) SB (2) SB (2) CO	(1) Counted 826 flowering spikes on St Georges golf course from TR 3588 5852 to TR 3585 5860. (2) c. 120 flowering spikes between TR 3581 5885 and TR 3577 5896, alongside golf practice range. (3) Five plants in grassland between beach and road. Also, c.200 plants adjoining footpath across golf course at c. TR358584.
Sandwich Bay	TR3559		19 May 2016	SB	Nine flowering spikes in old well-known dune hollow with <i>Ophioglossum vulgare</i> , TR 3539 5915. 60 more flowering spikes in old dune grassland alongside golf practice range from TR 35226 59145 north to TR 35170 59232.
Sandwich Bay estate	TR3657		14 May 2010	PH	700 plants flowering in damp grassland, TR 361 579.
Sandwich Bay estate	TR3658		26 April 2011	JA, LR	Golf course population included 2 or 3 white flowered plants, TR 3608 5816.
Broadstairs	TR3966		22 April 2017	DS	Single flower in a neglected front garden, status unknown, unlikely to have been planted.



Marden Meadow.
Photo by Lorna Holland,
17 May 2011



Sandwich Bay estate,
colour variant.
Photo by Liam
Rooney, 26 April
2011



Marden Meadow,
colour variant.
Photo by Liam
Rooney, 23 May
2013

Anthemis arvensis L. (Corn Chamomile)

Draft account

vc 16; gone from vc 15

Rarity / scarcity status

In England and in Great Britain as a whole, Corn Chamomile is considered to be an **Endangered** species. Its decline parallels that of several other arable weeds, which struggle against modern farming practices, particularly herbicides. It is an archaeophyte, or ancient introduction, and had been considered extinct in Kent. Recent records are unlikely to represent continuity with older populations, but probably reflect recent introductions.

Account

The first published record for Kent is likely to have been that by William Pamplin near Westerham mentioned in Daniel Cooper's 1837 supplement to his *Flora Metropolitana*, although Hanbury and Marshall (1899) point out an earlier reference by Clusius to its occurrence at London, which might cover West Kent, albeit that this cannot be ascertained (and in any event, it may have been confused with *Tanacetum parthenium*, Feverfew¹⁷). There is, however, an 1829 specimen collected by William Wilson from Dartford, at Manchester Museum. Hanbury and Marshall (1899) regarded the species as probably common, found in fields, roadsides and waste ground, chiefly on light soils. The sites mentioned by them seem likely to have been on chalky or sandy soils. The difficulty in specifying how common Corn Chamomile was then arose because of potential confusion with other similar species. An assessment for a similar period is given in the *Woolwich Surveys* (1909), *Anthemis arvensis* being considered frequent as a colonist in the borders of cornfields in north west Kent.



Chartwell. Photo by Stephen Lemon, 6 September 2015

Corn Chamomile declined drastically in the county during the 20th century, and there are few records for the second half. It was seen in a cornfield on chalk at Little Mongeham (TR35) in 1961 (specimen in **MNE**). Philp (1982) treats it as very local and rare, with records at Eynsford (TQ56M, where it was recorded by Rodney Burton in 1974, as an introduction with grass seed); Meopham (TQ66I); Challock (TQ94Y); Stalisfield Green (TQ95L); and Yorkletts (TR06R, recorded by Eric Philp in 1976 from a roadside verge). During the 1991-2005 survey, however (Philp, 2010), *Anthemis arvensis* was not seen at all and it was considered that it might well be extinct.

It may be that this is the case as regards occurrences as an arable weed on chalk or sandy soils in the character of the species as an ancient introduction. However, there are potential sources as a modern introduction. It is sometimes listed as a component of wildflower seed, although in Kent the similar species *Cota austriaca* (Austrian Chamomile) is sometimes found in such sowings and appears likely to have been substituted. Corn Chamomile, at least in the 1960s, has also been identified as a contaminant of grass and clover seed.

¹⁷ See Pearman, D. (2017). *The Discovery of the Native Flora of Britain & Ireland*.

We have two fairly recent records which may reflect such sources of introduction. The first is from Crayford town centre (TQ513748, Bexley Lane), where recorded by Professor Mick Crawley in 2010 as originating from a wildflower mix.



The second is from near Chartwell (TQ 454 508), where recorded by Stephen Lemon in 2015. The habitat was a disturbed bank of soil next to a pond created before 1990 in a sheep-grazed pasture. An arable history for this location has not been identified, and the site is on Weald Clay near its junction with the Atherfield Clay, so it differs from the habitat of traditional arable occurrences on light soils, albeit

that the soil had a sandy element. A few low growing flowering plants were present with *Matricaria chamomilla* (Scented Mayweed). There were no other species likely to have derived from wildflower seed, so the probability is that Corn Chamomile here originated as a grass seed contaminant, although it was not apparent that the grass sowing was particularly recent. It was not found elsewhere in the field upon search, which may indicate a sowing relating to the pond creation or the management of its surrounds.



Habitat, Chartwell. Photos by Stephen Lemon, 6 September 2015

Anthemis arvensis may readily be overlooked in the presence of similar species, such as *Anthemis cotula* (Stinking Chamomile), *Matricaria chamomilla* (Scented Mayweed) or *Tripleurospermum inodorum* (Scentless Mayweed). All, however, have distinctive odours – or in the case of the last of these, an absence of odour.



Matricaria chamomilla and *Tripleurospermum inodorum* both also differ in the absence of scales among the yellow disk-florets. These are present in both *Anthemis arvensis* and *A. cotula*, but the latter has warty ribbed achenes, whereas those of *A. arvensis* lack warts on the ribs. The ribs (c.10) also help distinguish the non-compressed achenes of *A. arvensis* from the compressed achenes of *Cota austriaca*, with their 2-3 faint ridges on each face.

Achenes, from Chartwell material. Photo by Stephen Lemon, 17 August 2015

Anthemis cotula L. (Stinking Chamomile)

Draft account

vc 15 and 16

Rarity / scarcity status

In England and in Great Britain as a whole, the Stinking Chamomile is regarded as **Vulnerable**, as are several other arable weeds with substantial declines in population associated with modern farming practices, including recent herbicides. In Kent, there are many more records than would enable it to be treated as rare or scarce.

Account

Anthemis cotula has long been associated with arable activity in Kent. Seeds have been found with charred cereal grains in Roman pits at Smeeth dating from 80 to 200 A.D.¹⁸; also associated with a Romano-British corn drier in use during the late 2nd / third century A.D. at Swanscombe¹⁹ and at a second century A.D. Roman pit at Preston Farm, Shoreham²⁰. Archaeological features dating to the first century A.D. at Westhawk Farm, Ashford excavated in 1998-9 were associated with seeds of *Anthemis cotula* which has been suggested as a characteristic of more



Romanised settlements of the time, perhaps associated with the use of asymmetrical ploughs, rather than the traditional native ard²¹. Late Roman and mediaeval contexts produced many *Anthemis cotula* seeds in the course of excavations around Northumberland Bottom, Southfleet for the HS1 rail route²². The species was not found in plant material at a Romano-British site at Park Farm South East, Ashford, but seed head fragments were present in a mediaeval gully there, with cereal grains. Other Kent mediaeval finds include recovery of seed from a pit which may have held waste sievings from grain preparation at Eastchurch, probably from twelfth and thirteenth century agricultural activity²³. An analogous find was made in an excavation at Boys Hall Road, Willesborough, where mediaeval features from the late twelfth / early thirteenth century were present, and the floor deposits of mediaeval buildings yielded charred cereal grain with arable weed seeds, *Anthemis cotula* being amongst the most abundant²⁴.

Lydden NNR. Photo by Geoffrey Kitchener, 2 June 2011.

Habitat: disturbed clay-with-flints on the crest of the chalk escarpment

¹⁸ C. Stevens (2006). *The charred plant remains from Bower Road, Smeeth, Kent (ARC 440/99)*. CTRL Specialist Report (Archaeology Data Service, distributor).

¹⁹ A. MacKinder, Museum of London Archaeology (2010). *A Romano-British site at Swanscombe, Kent*.

²⁰ B.J. Philp (2014). *Discoveries and excavations across Kent, 1970-2014*.

²¹ A.B. Powell, Wessex Archaeology (2012). *Excavations south east of Park Farm, Ashford, Kent*.

²² A. Davis (2006). *The charred plant remains from Northumberland Bottom, Southfleet, Kent (ARC WNB 98)*. CTRL Specialist Report.

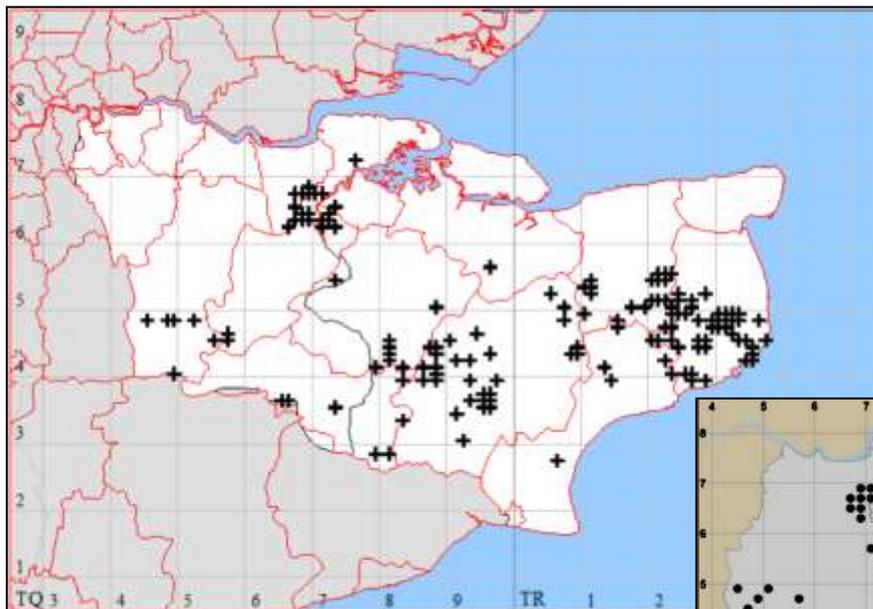
²³ - S. Stevens, Archaeology South East (2010). *An Archaeological Investigation of land at Kingsborough Farm and Kingsborough Manor, Eastchurch, Isle of Sheppey*

²⁴ A. Davis, *The Plant Remains* (specialist report) in E. Eastbury & L. Blackmore (2010) *Excavations at Boys Hill Road, Willesborough, Ashford*.

So far as concerns conventional botanical record publication, the first Kent record of Stinking Chamomile is as one of the plants listed by Thomas Johnson in his *Iter Plantarum*, as encountered by him and his fellow apothecaries on 13 July 1629 along the main road from Gravesend to Rochester. Hanbury and Marshall (1899) regarded the species as common ('*too common*' said Edward Jacob in his *Plantae Favershamienses*, 1777) and generally distributed in fields and on waste ground, but it has since declined considerably and continues to do so. Even though 89 tetrad records are listed by Philp (2010), this represents a 50% decrease over the previous county survey (Philp, 1982). This is in spite of its possessing a wider tolerance of soil conditions than many of the other - declining arable weeds, as it grows both on the light soils, including chalk, and on the heavier clays. There are many records which appear to map onto chalk in East Kent, but which may instead be on overlying clay-with-flints.

There is usually a very substantial population in the fields of Ranscombe Farm, which appears to be more responsive to the effect of minimal tillage (harrowing) than to a ploughing regime; it is not clear whether this is an effect of autumn or early spring germination surviving minimal tillage (which would be likely to move seedlings, rather than burying them, as with ploughing).²⁵

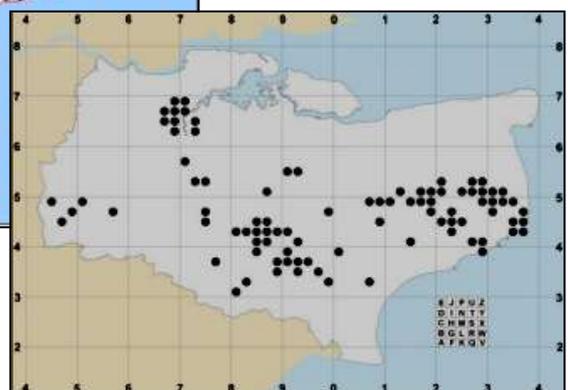
As this species is not uncommon in Kent, the distributional data maintained in this register will be at 1km square level. This will entail recording at a finer scale than the tetrads given in Philp (2010), from which the 1991-2005



distribution map is taken (with kind permission of the late Eric Philp and the Kent Field Club).

Anthemis cotula (Stinking Chamomile) 2010-19

Anthemis cotula (Stinking Chamomile) 1991-2005



The 2010-19 map on the left (with crosses representing monad records) demonstrates that there is no loss of coverage since 1991-2005 since with 104 tetrad records (equivalent to 142 monads) we have overtaken the 89 tetrads of Philp (2010). However, this total still falls well short of the 177 tetrads recorded for 1971-80, so there appears to have been a substantial decline in the longer term.

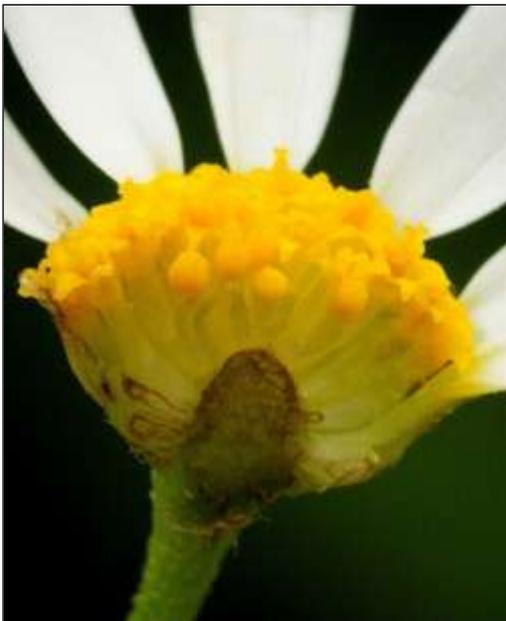
Anthemis cotula is one of several Chamomiles and Mayweeds which may be found on disturbed ground, particularly on field margins. The most frequent of these in Kent are *Tripleurospermum inodorum* (Scentless Mayweed) and *Matricaria chamomilla* (Scented Mayweed). These may all be distinguished by scent, or lack of it. *Tripleurospermum inodorum* is more or less odourless; *Matricaria chamomilla* is pleasantly aromatic; and

²⁵ Moyse, R.I. & Shellswell, C. (2016). A comparison between the impacts of ploughing and minimum tillage on arable plant assemblages at Ranscombe Farm Reserve, Kent, UK. *Conservation Evidence* 13: 33-37.

Anthemis cotula has a rather sickly-sweet unpleasant smell. The latter also has solid flower heads with scales between the disk-florets. *Matricaria chamomilla* has hollow flower heads with no scales between the disk-florets; and *Tripleurospermum inodorum* has solid flower heads with no scales.



Lydden NNR. Photos by Liam Rooney, 2 June 2011



Lydden. *Anthemis cotula* showing solid flower head. Photo by Liam Rooney, 14 July 2015.



***Arabis hirsuta*(L.) Scop. (Hairy Rock-cress)**

Draft account

vc 15; may be gone from vc 16

Rarity / scarcity status

Arabis hirsuta is widespread in many habitats across Great Britain, and so its conservation status is of 'Least Concern'. In England, however, its rate of decline and limited distribution means that it is regarded as **Near Threatened**. In Kent it may be reduced to four localities and is **very scarce**.



Account

Edward Jacob published in 1777 the first Kentish record of "Hairy Tower Mustard" as "*On old Walls at Colkins in Boughton – very uncommon*". Whilst he was concerned with plants around Faversham, the county-wide assessment of Hanbury and Marshall (1899) put its status as being "not common" – or (as Marshall wrote in the Victoria History of the County of Kent, 1908) "keeps to the chalk, and even there is comparatively rare".

Stockbury. Photo by Liam Rooney, 28 May 2012

Philp (1982) provided seven tetrad records²⁶; but the 1991-2005 county survey (Philp, 2010) recognized a decline to only two records, from Stockbury (TQ86F) and Kingsdown (TR34T). Records from these two areas are referred to in Hanbury and Marshall (1899), so there is continuity in the species' Kentish survival.

The Stockbury location constitutes two dry south east facing chalky banks in TQ8360: the first backed by trees and scrub, and constituting the edge of an arable field (adversely affected by ploughing to the boundary and by herbicide); and the second (nearby) being the northern boundary of the A249. The species favours dry, sunny exposed locations on banks, outcrops, chalk grassland and walls. In its A249 site, managed by the Kent Wildlife Trust it has increased its population, in numbers and extent, following scrub clearance, which has opened up the habitat after 2009. There it is most plentiful towards the base of the bank, on crumbling chalk, seldom growing more than 2 metres above the base. This may reflect the direction of seed dissemination, but could reflect restriction by previous scrubbing of the bank down from the woodland above.

Stockbury. Photo by Geoffrey Kitchener, 22 May 2012



²⁶ These are TQ54G and M (Westerham); TQ46Q (Halstead, although suitable habitat is not obvious there); TQ85P (Hucking – FR recorded it in 1986 at Rumsted Court, TQ8459); TR15G (there is also a 1949 record for a chalky roadside north of Swarling Farm, Chartham Downs); TR25A (Barham – there is also a 1945 record at Gravel Castle); TR34T (Otty Bottom, Kingsdown – there is also a 1954 record for the Lynch).



The Kingsdown location is similarly an open chalk bank, but with few plants. The largest Kent population is omitted from Philp (2010). Joyce Pitt²⁷ in 2000 assessed *Arabis hirsuta* as still quite common on bare chalk banks in the Dover area. This was confirmed by a KBRG meeting in 2013 which found between 1500 and 2000 plants growing near Dover on steep northeastern and northwestern slopes, particularly where management had created open areas of bare chalk. A further site was discovered in 2017 near Hucking, less than 1.5km from the Stockbury colony, on a grazed chalk grassland slope, believed to have been an old location for *Polygala amarella* (Dwarf or Kentish Milkwort).

The species is a calcicolous biennial, apparently sometimes living longer but monocarpic, so there is a need to recruit itself from seeding, where an open habitat appears to be beneficial. Growing against a white / gray chalk slope, the Hairy Rock-cress is not easy to see when not in flower; and when in flower, the top of the inflorescence may appear dissociated from the base of the plant, by virtue of the length of the stem.

Stockbury. Photo by Liam Rooney, 28 May 2012

Site	Grid reference	Site status	Last record date	Recorder	Comments
Stockbury	TQ8360		After 1990, before 2006	EGP (Philp, 2010)	South-facing chalk bank /arable margin below woodland. Species not seen in 2011 and 2012 (GK), when site found to be tight-ploughed to the boundary and affected by herbicide.
Stockbury	TQ8360	KWT managed RNR	(1) 23 May 2012 (2) 12 May 2011 (3) 25 May 2010 (4) 28 May 2009	(4) GK (3) GT (2) GT (1) KWT	(1) 44 plants, from TQ 83264 60417 to TQ 83292 60436, virtually all on lower parts of south-facing, sparsely vegetated chalk slope (highway bank). (2) 61 plants, from TQ832604 to TQ833605. (3) 52 plants, from TQ8325 6040 to TQ8329 6043 accompanied by good chalk flora (typical of open ground and wood margin). (4) One plant only.
Rumsted, north of Hucking	TQ8459	Woodland Trust Hucking estate	17 May 2017	MA	TQ845598, north of Rumsted Lane on steep east-facing grassland slope with chalk flora, a short way above the road (where it has a more southerly aspect). There is a depression close by with some exposed chalk and the plants (only a few, some in fruit) were above.
Dover Western Heights	TR3142		11 June 2013	KBRG meeting	Estimated 1,500 to 2,000 plants on steep chalk slopes on either side of and above Military Road. Populations centred around TR 31316 41029 on northeast facing slope and around TR 31349 41068 and TR 31352 41026 on northwest facing slope. Greatest density of plants where recent scrub clearance by English Heritage & White

²⁷ Pitt, J. 2000. *Vascular Plants*, in Waite, A (ed.) *The Kent red data book: a provisional guide to the rare and threatened flora and fauna of Kent*. Kent County Council.

					Cliffs Countryside Partnership had revealed areas of bare chalk. Plants becoming thinly scattered as sward growth thickened. Associated typical chalk flora, including <i>Hippocrepis comosa</i> and <i>Polygala vulgaris</i> .
Dover Western Heights	TR3140		11 June 2013	KBRG meeting	Scattered plants at TR 3135 4099 on northeast facing slope above Military Road, on areas of bare chalk. Slope managed by English Heritage.
Kingsdown	TR3746		(1) 13 June 2012 (2) 4 June 2012 (3) After 1990, before 2006	(1) CO (2) SB (3) EGP (Philp, 2010)	(1) At least 11 plants at usual site along south east side of road at Otty Bottom. (2) 15 plants (possibly a few more very tiny ones) on a sparsely vegetated chalk bank along Otty Bottom road, TR37081 46752.

Artemisia maritima L. (Sea Wormwood)

Draft account

vc 15 and 16

Rarity / scarcity status

Artemisia maritima is a not uncommon plant which grows around the coasts of the British Isles, albeit not in northernmost and north west Scotland. It is not regarded as being particularly at risk in Great Britain as a whole (the risk being designated as of 'Least Concern'); but in England there is some evidence of decline, and it is considered to be **Near Threatened**. A comparison of its area of occupancy in England over the periods 1930-1969 and 1987-1999 produced a calculated decline of 28% in the likelihood of recording the species. In Kent, it is neither rare nor scarce, but Philp (2010) shows a decline in tetrad records of 26% over those given in Philp (1982) – calculated over a different period, of course, but a material decline nonetheless.



Oare. Photo by Lliam Rooney, 9 September 2008

Account

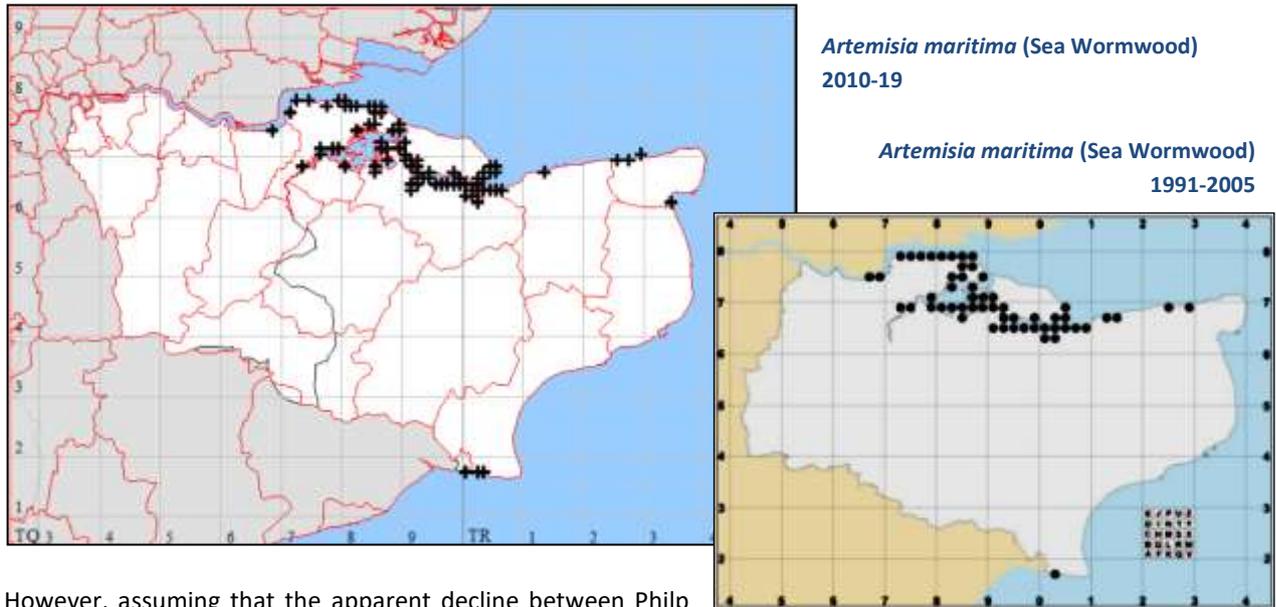
The first published record for Kent was made in Thomas Johnson's *Iter Plantarum* (1629). His sighting followed a view of the fleet at Chatham Dock on 14 July of that year, after which he botanised along the land bordering the tidal Medway below the Royal Dock, where it was present with other saltmarsh species. Johnson also noted it in 1632 further along the north Kent coast, as growing in a small inlet, commonly called Westgate Bay. Subsequent observers, whose sightings are listed by Hanbury and Marshall (1899), recorded it in many places along the Thames from Woolwich westwards, thence to the Medway and Swale estuaries, on Sheppey, and along the north coast to Margate; picking up again on the east coast between Deal and Dover, and as far south as Folkestone. Hanbury and Marshall's assessment was that it was frequent on muddy sea-shores and saltmarshes. They also referred to a variant *gallica*, with short and congested panicle branches, as being not uncommon, but this is currently considered to be part of a range of variation with numerous intermediates and without ecological significance.

Philp (1982) recorded Sea Wormwood as found on the drier parts of saltmarshes and at the edge of sea-walls, being common in suitable habitats in the north of the county, but very scarce elsewhere. Those records included a couple of tetrads around Pegwell Bay, but nothing to correspond with the old records from Deal to Dover and Folkestone. There were, however, findings at Dungeness which are not represented in Hanbury and Marshall's listings. The total number of tetrads with the species present was 75.



Habitat, Hoo. Photo by David Steere, 6 July 2016

However, in Philp (2010), which covers 1991-2005, the total has reduced to 55. The ostensible losses include presence at Swanscombe, Cliffe, parts of the Medway estuary, Sheerness, Sandwich and some of Dungeness. The maps given in this account show the Philp (2010) records (with kind permission of the late Eric Philp and the Kent Field Club), together with the rare plant register records (being maintained at finer resolution, monad level) for the period 2010-2018. These recent records recognize some of the 'lost' Dungeness presence as also at Cliffe and Pegwell Bay. They are, however, patchier around the Medway estuary, where access is limited. They also represent monad records, rather than tetrads which are the basis of the two Atlas surveys, and if converted to tetrads, the total is 54, which indicates no decline since the 1991-2005 survey.



However, assuming that the apparent decline between Philp (1982) and Philp (2010) represents a real diminution, comparable with that in England overall, then the question arises as to what might be the cause. It is possible that there is a cumulative effect of sea defence works, although the main works along the north Kent coast were undertaken in the 1950s in response to the flooding of 1953, which falls within the period considered in the English Red List assessment, but not the period of the two Kent Atlas surveys. Stretches of coastline now bounded by a stone or concrete sea wall are less hospitable for Sea Wormwood, although not wholly hostile.



Seasalter. Photo by Liam Rooney, 29 August 2008

Artemisia maritima in Kent grows where exposed to saline influence, but this tends to be in raised areas at the margin of tidal inundation subjected to spray, rather than where regularly fully covered by the tides. It is often present on sea-walls and may grow on the stone batter or revetment at the level also frequented by *Inula crithmoides* (Golden-samphire). In saltmarsh, it grows in the upper parts, sometimes where shingle has been thrown up. Its finely divided foliage contrasts with the succulent leaves which middle and lower saltmarsh species possess, in order to cope with higher levels of inundation. It is not readily confused with any other British species in its habitat.

***Arum italicum* Mill. subsp. *neglectum* (F. Towns.) Prime (Italian Lords-and-Ladies)**

Draft account

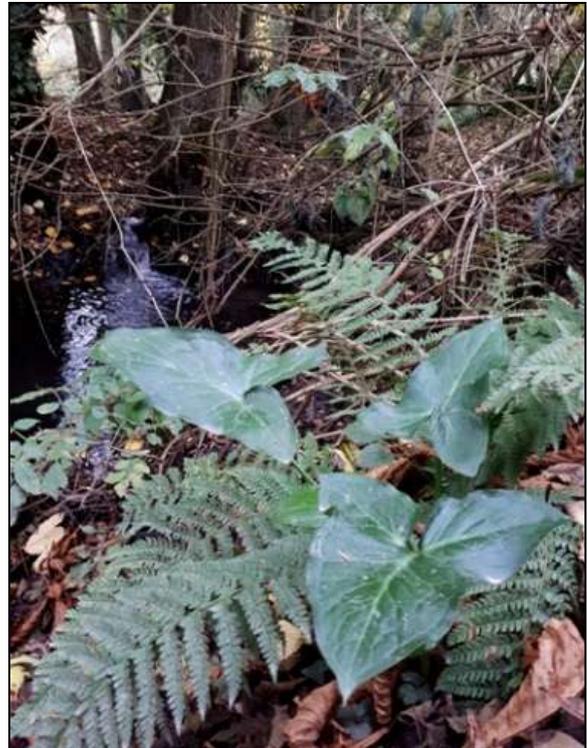
vc 15

Rarity / scarcity status

Arum italicum is known in the British Isles as two subspecies. They were formerly treated as two species, but the existence of intermediate populations in their wider distribution led to them being separated only as subspecies, of which subsp. *italicum* is a Continental taxon, especially around the Mediterranean, and subsp. *neglectum* is a British native. The latter is known from south and south west England, south Wales, the Channel Islands and the Isles of Scilly. Although regarded as Near Threatened in Great Britain as a whole, in England its conservation status is considered to be one of 'Least Concern'. In Kent it appears to have only one possibly native station and is accordingly **rare**.

Account

Arum italicum subsp. *neglectum* was first discovered in England in 1854, which encouraged botanists to seek it out, and J. Cosmo Melvill considered that he had found it in 1879 in the Folkestone area, which he published in 1883 along with purported sightings by Dr M.T. Masters²⁸. Again in 1888 he claimed having found more, at the base of Sugar Loaf and Caesar's Camp, including plants which he thought might be hybrids with *Arum maculatum* (Lords-and-Ladies).²⁹ This claim met with an observation³⁰ by the Devon botanist, T.R. Archer Briggs, that Melvill's purported sighting of *A. maculatum* and *A. italicum* in flower at the same time did not accord with the plants' behavior, as the former has normally gone over when the latter begins. However, Melvill's claim retained credence as Hanbury and Marshall (1899) included these records, treating the plant as native, but very rare, in Kent. Marshall even recorded it himself near Postling.



Saltwood. Photo by Stephen Lemon, 9 November 2018

The validity of these claims was considered by C.T. Prime in 1954³¹ and 1960³². He examined Melvill's specimens and could find none from Kent which definitely belonged to *A. italicum*; some of his specimens were clearly misnamed. Prime also searched most of the claimed localities with Francis Rose and they were unable to confirm those early records. However, in 1960, I.J. Hughes reported finding *A. italicum* at Saltwood. This was confirmed by Prime, and Francis Rose accepted the record as native. He visited in 1961, recording it in his manuscript Flora of Kent as on the steep, shaded, well-drained and calcareous rocky banks of a stream, in a copse on Sandgate

²⁸ J. Cosmo Mevill (1883). *Arum italicum* Mill. in Kent. *Journal of Botany* **21**:376.

²⁹ J. Cosmo Mevill (1888). *Arum italicum* (Mill.). *Journal of Botany* **26**: 348-349

³⁰ T.R. Archer Briggs (1888). *Arum italicum* Mill. and *A. maculatum* Linn. *Journal of Botany* **26**: 378.

³¹ C.T. Prime (1954). *Arum neglectum* (Towns.) Ridley. *Biological Flora of the British Isles, Journal of Ecology* **42**: 241-248.

³² C.T. Prime (1960). *Lords and Ladies*. Collins New Naturalist. London.

Beds, south of Brockhill School, Saltwood, TR 147 357. It was also visited by the Kent Field Club, led by D.A.C. Long, in May 1962³³, when they found the plants badly eaten by slugs; following this, the existence of the colony appears to have fallen out of sight.

The publication of the 1961 details in the county 'probably extinct' plant list in February 2018, as a result of the appearance of the relevant part of Francis Rose's manuscript Flora, afforded the key to re-establishing the status of the plant in Kent. The optimum time for identifying *A. italicum* is October/November, as its leaves are fully expanded and *A. maculatum* does not normally flush until early spring. The site was investigated by Stephen Lemon on 9 November 2018 and the *Arum* was found to be still present. It was recorded at a wooded stretch of the Brockhill Stream, opposite the south eastern corner of the lake, TR 14705 35756 to TR 14707 35767. Plants were confined within a 30 metre stretch of the eastern bank of the stream, roughly between two weirs. They occupied a shallow sheltered slope a few metres wide between the stream edge and a much steeper slope that ascends above the tree cover into the scrubby pasture above. There were many plants displaying fully developed leaves, including at least two clonal patches a few metres wide and several smaller patches and isolated plants, with some plants further up the slope into the bramble cover. A few plants were seen along the scrubby edge of



the stream immediately below the downstream weir where the stream flows over the Victorian 'cascade', but no plants were detected anywhere along the landscaped western side of the stream or for 200 metres upstream or downstream of the colony.

Saltwood, slope base habitat. Photo by Stephen Lemon, 9 November 2018

Associated species in the immediate vicinity included *Hedera helix* agg. (Ivy), *Asplenium scolopendrium* (Hart's-tongue), *Polystichum setiferum* (Soft Shield-fern), *Urtica dioica* (Common Nettle), *Clematis vitalba* (Traveller's-joy), *Sambucus nigra* (Elder),

Aesculus hippocastanum (Horse-chestnut), *Alnus glutinosa* (Alder), *Mercurialis perennis* (Dog's Mercury), *Rubus fruticosus* agg. (Bramble), *Ulmus glabra* (Wych Elm) and *Veronica montana* (Wood Speedwell). Calcicole bryophytes in the immediate area included *Rhynchostegiella tenella* (Tender Feather-moss) and *Oxyrrhynchium hians* (Swartz's Feather-moss) growing on ragstone, *Anomodon viticulosus* (Rambling Tail-moss) and *Taxiphyllum wissgrillii* (Depressed Feather-moss) growing on the weir

The absence of other Kent native occurrences and the potential for Victorian tree- or shrub-plantings on the Brockhill Estate to have brought in the *Arum* are factors which cannot be ruled out in considering the status of this colony. The nearest unequivocal native populations are some 120km away. The Flora of Sussex (2018)³⁴ considers that its East Sussex status is as an introduction, and that native Sussex populations are only to be found west of the River Adur. There it occurs typically along the lower downland scarp in moist situations on springlines in woodland and in humid coombs (in the more eastern sites being on south-facing slopes); but is also locally frequent on calcareous Upper Greensand and can grow on gravels and brickearths on the coastal plains. The Saltwood site has similarities with humid coomb habitats and the Sussex calcareous Upper Greensand locations.

³³ D.A.C. Long (1963). May 20th – Sandling and Brockhill areas (field meeting report). *Bulletin of the Kent Field Club* 8: 14-15.

³⁴ Abraham, F. et al., (2018). *Flora of Sussex*. Sussex Botanical Recording Society.

Its soil is assumed to derive from a downwash of the Hythe Formation over the Atherfield Clay, with outcropping ragstone rocks present on the slope. The Sandgate Formation, referred to by Francis Rose, is above; all three geological formations being quite close together here. The base content of ragstone will be sufficient to afford some similarities to West Sussex habitats on chalk or other calcareous soils; and deep soils with high water content are recognised by C.T. Prime³⁵ as characteristic habitat requirements in south east England. So the Saltwood site is not an unfeasible native location, notwithstanding the counter-factors.

A. italicum is distinguishable from *A. maculatum* by its earlier leaf growth, and its leaves are 15-35cm long (7-20cm with *A. maculatum*) and the spathe is 15-40cm (10-25cm with *A. maculatum*). A purple spathe appendage indicates *A. maculatum*; a yellow one could be either species. The leaf veins and midrib of *A. maculatum* are more or less the same colour as the rest of the leaf. Those of *A. italicum* subsp. *neglectum* are paler. Those of *A. italicum* subsp. *italicum* are whitish, often vividly so, as with cv. 'Marmoratum' which is a fairly frequent garden escape.

The hybrid between *A. italicum* subsp. *italicum* and *A. maculatum* may be quite similar to *A. italicum* subsp. *neglectum*; but will normally be found in a mixed population, with hybridization having occurred in situ. But where an isolated intermediate occurs, it should be borne in mind that some cultivars are reputed to be hybrids between *A. maculatum* and either subspecies of *A. italicum*³⁶, in which case it is appropriate to consider, as well as the details of morphology, whether the location is one which has characteristics of a native site.

This account has benefited greatly from the investigations of Stephen Lemon.

³⁵ C.T. Prime (1954), cited above.

³⁶ Edwards, D. (2014). Notes from Wisley (v.c. 17): a brief discussion of putative hybrids between *Arum italicum* Mill. and *A. maculatum* L. and a request for plant material. *BSBI News* **126**: 35-36.

Asplenium septentrionale (L.) Hoffm. (Forked Spleenwort)

Draft account

vc 15

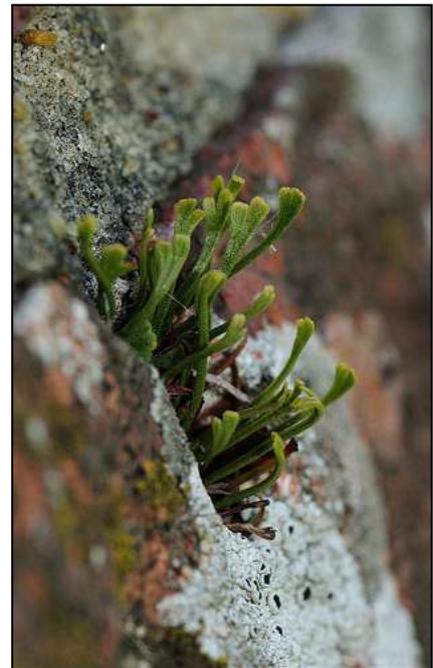
Rarity / scarcity status

The British distribution of *Asplenium septentrionale* is largely confined to North Wales, the Lake District and Scotland. The small size of many populations, together with a decrease in their number in natural sites, is reflected in the fern's Great British status of **Near Threatened** and its English threat categorization of **Vulnerable**. In Kent, restricted to one site, it is **rare**.

Brenzett. Photo by Liam Rooney, 24 May 2011

Account

The species was found in Kent by L. Breda Burt, the record being published in Philp (1982) as "a fine clump". The number of plants present – and, indeed, the presence of the plant at all – has varied over the years. Population changes are described by Edgington (2008)³⁷: Eric Philp found three plants after the initial discovery and then all disappeared in the 1980s after some hot summers. John Edgington's find in 2007 of six plants was published as a discovery of the species' reappearance. However, this was preceded by Owen Mountford having found three tufts, each of c. 4cm diameter, in August 2001. In July 2009, a visit by the British Pteridological Society (BPS) found plants looking very dead, although viewed with a hand lens some were still green at the centre; at least four plants were still present in April 2011 (Geoffrey Kitchener, Liam Rooney) although only three were seen in May (Sue Buckingham, Liam Rooney). There were still three in 2013 (Stephen Lemon), but the fern may not have shown in 2012. In November 2014, four plants showed for a BPS visit, albeit that most fronds were fairly brown at that time of year. Six were seen by Dominic Price in March 2017 and seven by Stephen Lemon in July. It appears, therefore, that the fern is subject to die-back and apparent disappearance for periods.



The location is Summerhouse Bridge at Ivychurch Road, a small roadbridge over a dyke (the New Sewer, a grave of several pteridologists' cameras) near Brenzett in Romney Marsh, at TR00858 27169³⁸. The fern is present on the unshaded south-east facing brickwork. This appears to provide a proxy for its "natural" sites on steep south-facing rocks, with exposure to direct sunlight and lack of water-logging. In its normal British range it shows a preference for acidic rock faces, mining spoil and unmortared walls. It is therefore surprising that its Kent habitat is a mortared brick face.

Brenzett, location of six plants. Photo by Dominic Price, 8 March 2017

The Kent colony is a remarkable anomaly in the distribution of *Asplenium septentrionale*, having regard to its limited presence in Great Britain, in the



³⁷ *Asplenium septentrionale* in Kent – native or alien? *BSBI News* (2008) **107**: 16-18.

³⁸ Also recorded (same site) as TR 00864 27164.

north west. There is no evidence of deliberate planting or spore sowing, although the *New Atlas of the British and Irish Flora*³⁹ treats its status here as alien, not native. Edgington (2008) points out that the nearest sites for this species are in France and Belgium, between 100km and 200km away, and that there is no reason to doubt that this is an example of natural spread through airborne spores. Since then, another anomalous sighting of this species has been made⁴⁰, in a central London basement, also on the mortar of a brick wall. This can scarcely be the source of the Brenzett colony.

Brenzett. Photo by Geoffrey Kitchener, 14 April 2011

Long distance spore dispersal is an entirely reasonable explanation for its spread. In consequence, one might also conclude that Hanbury and Marshall's rejection of Blackstone's record from Bocton (Boughton) church near Faversham (*Specimen Botanicum*, 1746) in favour of *Adiantum ruta-muraria* (Wall-rue) is not cut-and-dried, although it is an improbable record, in spite of Blackstone knowing *Adiantum ruta-muraria* well enough to record it separately.



There is, however, an alternative for Brenzett (although it would not serve to

explain the central London sighting of this species as well). In the background of the habitat photo (above) can be seen the Brenzett Aeronautical Museum. Its buildings overlook the Brenzett (or Ivychurch) Advanced Landing Ground, which was constructed by the Air Ministry in 1942-43 and used to support the D-Day landings. In 2011 Geoffrey Kitchener and Lliam Rooney were informed by a local resident that as a result of these works and the wartime increased heavy vehicle use, the bridge was then reconstructed, using bricks from Scotland (where the normal range of distribution of the fern extends, and raising the possibility that spores may have travelled with the bricks). It was also said that the bricks were used locally for other structures, and that further colonies of the fern existed but would not be disclosed by the informant. This information has not yet been verified, but Stephen Lemon in 2013 was told by a local resident that the wartime bridge reconstruction involved the use of bricks from Wales (also within the normal range of the fern). Edgington (2008) was of the view that the bridge appears to be late Victorian. However, the parapet walls appear to have been re-built (Dorothy Beck, pers. comm.) as they are a different brick type from those below road level and are laid in a different bond.



Brenzett. Photo by Lliam Rooney, 24 May 2011

³⁹ ed. Preston, C.D., Pearman D.A. & Dines, T.D., 2002.

⁴⁰ Ripley, P. (2012). Regional meetings: South-East: Central London – 9 July (Leader: John Edgington). *British Pteridological Society Bulletin for 2011*, 7(4): 334-337.