
Recorders' reports

Recording of higher plants 2017-2019 *Ian Denholm and Alla Mashanova*

The most recent report of flora recording in Herts was published by Trevor James in the 2017 issue of *The Hertfordshire Naturalist* (James, 2017). This covered the years 2015 and 2016 and so an update is overdue. Here we summarise botanical activities and notable developments between 2017 and 2019, a period during which Trevor sadly encountered serious health problems and was unable to participate to the extent he would have liked. For brevity below, the three people with formal recorder roles in Herts are referred to by initials – ID (Ian Denholm), AM (Alla Mashanova) and TJ (Trevor James). All other names are given in full.

The tradition of one-day field meetings convened by the Herts Flora Group was maintained, with six events held at monthly intervals in all three years. The primary objective in all cases was to collect data for the forthcoming new national plant atlas (see below), and so the emphasis was on obtaining good geographical coverage, encompassing sites of known or potential botanical interest, and on updating information on locally uncommon or under-recorded taxa. Attendance at these meetings ranged from 4-15, and in addition to yielding comprehensive datasets they offered, as

always, opportunities for sharing knowledge and improving identification skills. AM also participated in meetings of the local branch of the British Naturalists Association that had a broader taxonomic remit but contributed valuable flora records nonetheless. Volunteers led by Carol Lodge of the Herts and Middlesex Wildlife Trust (HMWT) continued to survey the flora of Local Wildlife Sites and Sites of Special Scientific Interest (SSSIs). ID joined some of these surveys.

In 2018 and 2019, we also hosted two national field meetings of the Botanical Society of Britain and Ireland (BSBI), enabling visitors from outside Herts to sample some botanical delights of the county! In September 2019 the destination was Croxley Common Moor (entered from TQ082951) and adjacent banks of the Grand Union Canal. One outstanding feature of the dry heathland here is an abundance of both *Genista anglica* (Petty Whin) and *G. tinctoria* (Dyer's Greenweed). It is by far the best site in Herts where the two coexist. The hot spring and summer in 2018 meant that the group had unhampered access to normally very water-logged areas containing locally uncommon species such as *Galium uliginosum* (Fen Bedstraw),



BSBI/HFG meeting at Croxley Common Moor (photo Ian Denholm).

Senecio aquaticus (Marsh Ragwort) and *Carex disticha* (Brown Sedge).

A hugely over-subscribed meeting at Rothamsted Research in Harpenden in June 2019 started in the grounds of Rothamsted Manor (TL124132) and headed first to Park Grass, a hay meadow hosting the oldest ecological experiment in existence. Treatment of plots since 1856 with different combinations of inorganic and organic nutrients, alongside different liming regimes, has resulted in a visually stunning mosaic of botanical communities that range from c. 40 species in untreated plots to monocultures of *Anthoxanthum odoratum* (Sweet Vernal-grass) or *Holcus lanatus* (Yorkshire Fog) in the most acidified plots. The group then moved to the Broadbalk experiment, started in 1843 and with a claim to be the most famous field in the world. Although best known as an experiment on wheat production, most botanical interest is centred on a section of the field never treated with synthetic herbicides. It consequently has arable ‘weeds’ of national significance including *Ranunculus arvensis* (Corn Buttercup), *Scandix pecten-veneris* (Shepherd’s-needle) and *Minuartia hybrida* (Fine-leaved Sandwort). The star attraction was unquestionably

Galium tricornutum (Corn Cleavers) at its only remaining ‘natural’ site in the UK. We are grateful to Graham Everett and Stephen Moss for assistance with leading the events at Croxley and Rothamsted, respectively.

2019 was the last year of recording for a forthcoming new atlas of the British and Irish flora scheduled for publication by BSBI in late 2021. This will be based on an estimated 18 million records collated since 2000 (the start of the current date range), and will allow quantitative comparisons of occurrence with earlier datasets including those in the predecessor atlas (Preston *et al.*, 2002). For national plant atlases, taxa are routinely mapped on a hectad (10km × 10km) scale, there being c. 3700 hectads within the geography encompassed by BSBI (25 of which encompass at least parts of vice-county 20: Herts). Since the end of the 2019 recording season, there has also been a major focus on digitising records for transfer to BSBI’s centralised Distribution Database (DDb; <https://database.bsbi.org>), from which the maps in the new atlas will be compiled. This task is becoming increasingly challenging because of the numerous routes by which data are uploaded and reach the DDb.

iRecord is a popular tool and is accessible to all, but all records require careful scrutiny and verification. It also has a huge bias in favour of records of very common taxa that are relevant but comparatively uninformative.

Another important output that includes recent botanical records is Hertfordshire's 'State of Nature' report launched by HMWT in early 2020 (<https://www.hertswildlifetrust.org.uk/stateofnature>).

Taxon-specific accounts below are somewhat selective and cover new discoveries, updates, taxonomic controversies, and apparent losses. 'HFG' refers to Herts Flora Group, James (2017) refers to Trevor's most recent update in *Herts Naturalist*, and James (2009) to his 'Flora of Hertfordshire'. The 4th edition of Clive Stace's *New Flora of the British Isles* (Stace, 2019) contains numerous changes in plant nomenclature, but since these have yet to embed themselves in local and national databases we have continued to follow the order of taxonomy and names in the 3rd edition (Stace, 2010). Increasing records of transient garden escapes are of interest and do reach the databases but are mostly omitted here since they are generally of little biological relevance. Localities are followed either by a monad reference or an abbreviated tetrad reference using the 'DINTY' scheme (James, 2009, page 3).

Ophioglossaceae (Adder's-tongue family)

Ophioglossum vulgatum (Adder's-tongue). An important indicator of old grassland with several extant sites, but which has also been lost at many through improvement or mismanagement. Found by David Hunt in 2016 in part of Harpenden Common (TL1313) that was rapidly transitioning to hawthorn scrub. Clearance regimes initiated by Harpenden Town Council have led to the discovery of more sites in the same area and a big increase in the total number of individuals (ID) – an excellent example of the efforts of conservation volunteers achieving the intended outcome. This species has also been discovered at Rough Hills, Bayfordbury (TL3110) (AM).

Pteridaceae (Ribbon Fern family)

Adiantum capillus-veneris (Maidenhair Fern). Two well-established and large clumps on the wall of the Grand Union Canal opposite 'The Boat' pub in Berkhamsted in 2018 (SP9907) (HFG). Examination of sorus morphology is needed to exclude the possibility of *Adiantum raddianum*, which is increasingly turning up in protected urban environments but is more frost-sensitive (James, 2009).

Papaveraceae (Poppy family)

Fumaria muralis ssp. *boraei* (Common Ramping-fumitory). This appeared inexplicably in 2019 climbing



Fumaria muralis subsp. *boraei*, Harpenden (photo Ian Denholm).

up a fence adjacent to the Cooperative supermarket in Southdown, Harpenden (TL1413) (ID). It is very common in the west of Britain but is a major rarity locally. James (2009) gives a single previous casual occurrence in a churchyard in Ware.

Fumaria densiflora (Dense-flowered fumitory) and *F. parviflora* (Fine-leaved Fumitory). These two nationally scarce species of chalky arable soils were found in quantity by Peter Stroh in 2018 in a fallowed field between Bygrave and Ashwell (TL2637). They formed part of a species-rich assemblage that also included *Papaver hybridum* (Rough Poppy) and *Kickxia spuria* (Round-leaved Fluellen). In 2019 the field was planted to a crop and none of these plants could be located.

Saxifragaceae (Saxifrage family)

Saxifraga granulata (Meadow Saxifrage). Inclusion of the species provides an opportunity to thank HFG member Margaret Carrier for updating its status at several sites in the vicinity of Hertford and Ware – one of its 'hotspots' in the county. Pleasingly, it was re-found in varying numbers at the majority of its previously-known sites.

Saxifraga tridactylites (Rue-leaved Saxifrage). This has persisted for at least four years on walls and pavements around Station Road, Harpenden (ID), habitats typical of its few other localities in the county (James, 2009). It may be overlooked elsewhere due its often diminutive size and early flowering period.

Fabaceae (Pea family)

Trifolium fragiferum (Strawberry Clover). A few plants were found alongside a path during a HFG visit in August 2018 to King's Meads reserve, Ware (TL3413),

somewhat distant from the main concentration of sites in Herts (James, 2009). The visit led by Simon Knott re-recorded other known rarities including *Allium oleraceum* (Field Garlic) and *Chenopodium glaucum* (Oak-leaved Goosefoot).

Rosaceae (Rose family)

Crataegus submollis (Hairy Cockspurthorn). A stately, almost certainly self-sown bush was found in 2017



Crataegus submollis, Harpenden (photo Ian Denholm).



Rubus laciniatus, Bricketwood Common (photo Ian Denholm).

in a little-visited area of damp woodland at Batford Springs Nature Reserve, Harpenden (TL1415) (ID). It is a native of north-eastern America and is grown in UK gardens for decorative purposes. Its leaves bear a passing resemblance to *Sorbus intermedia* (Swedish Whitebeam).

Rubus laciniatus (Cut-leaved Bramble). This attractive bramble has long been known as a sporadic garden escape in the county (James, 2009). In 2019 it was present in huge quantity and seeding freely at Bricketwood Common (TL1200) and Patmore Heath (TL4425) (ID). These are previously-known sites but with a changing climate there is a clear threat of the plant becoming highly invasive in acid heathland – a habitat in very short supply in Herts – and management will be required.

Potentilla argentea (Hoary Cinquefoil). James (2009) highlighted the occurrence of this increasingly rare plant at Panshanger Park and in 2019 it was found at a new site that had been newly cleared of brambles close to the Panshanger Great Oak (TL2813) (ID). It was also present in large quantity in an arable field margin nearby (TL2812) (ID) and seen in quantity during a BNA visit in 2019 to Waterford Heath (TL3115), as referenced by James (2017).

Potentilla recta (Sulphur Cinquefoil). This is one of a number of long-standing alien plants recorded over the years from the Bayfordbury campus of the University of Hertfordshire (TL3110) that persist to the present day. Others of note are *Aristolochia clematitis* (Birthwort) and *Lathraea clandestina* (Purple Toothwort) (ID/AM).

Agrimonia procera (Fragrant Agrimony). A plant of usually acid habitats that is much rarer than the fairly ubiquitous Common Agrimony (*A. eupatoria*), but could potentially be overlooked as the two species resemble each other closely. *A. procera* was found in 2017 in small quantity beside paths in the 'Brickle Dells' area of Harpenden Common (TL1313) (ID), a part of the Common that is under severe threat from the activity of mountain-bikers.

Betulaceae (Birch family)

Alnus incana (Grey Alder) and *A. cordata* (Italian Alder). Our two introduced alders exemplify well how a changing climate can influence reproductive potential and the threat of invasiveness. In the 3rd edition of his Flora, Clive Stace described *A. cordata* as 'rarely self-sown' (Stace, 2010), but the 4th edition as 'frequently self-sown' (Stace, 2019). In 2019 there were several self-sown saplings on Waterford Heath (TL3115) (ID), and such saplings have become common pavement weeds in parts of Hemel Hempstead (TLOO/M and TLOO/S) (HFG). *A. incana* frequently spreads by suckering but bushes invading reed-beds at Amwell

Nature Reserve (TL3713) (ID) are certainly self-sown. Both species can form hybrids with native Alder (*A. glutinosa*) and these should be looked for.

Euphorbiaceae (Spurge family)

Euphorbia oblongata (Balkan Spurge). A popular garden plant that since 2017 has self-seeded in a pavement in Southdown, Harpenden and in 2019 was found to be seemingly established in derelict areas of a nearby allotment (TL1413) (ID).

Violaceae (Violet family)

Viola canina (Heath Dog-violet). A declining species of heathy grassland that was discovered in quantity in 2018 by Scott Chalmers at a site adjacent to Holme Covert, Ellenbrook, Hatfield (TL1908 and TL2008). It



Viola canina, Ellenbrook Fields (photo Ian Denholm).

was in fruit when originally found but an HFG visit to Ellenbrook in 2019 saw it in flower alongside abundant *Myosotis discolor* (Changing Forget-me-not) and *Veronica officinalis* (Heath Speedwell). It is important that this location is protected from gravel extraction work being planned for the area.

Hypericaceae (St John's-wort family)

Hypericum maculatum (Imperforate St John's-wort). This may be overlooked given its superficial resemblance to a much commoner relative (*H. perforatum*). Its ecological preferences are difficult to characterise (James, 2009). A single clump was found at the edge of woodland on Harpenden Common in 2019 and it was subsequently found to be well distributed on the edge of paths through the St John's Wood area of the Common (TL1313 and TL1413) (ID).

Geraniaceae (Geranium family)

Geranium pyreniacum (Hedge Crane's-bill). Although

non-native, this plant has become a familiar sight in grassland and beside hedgerows, often in urban or suburban surroundings. It is also common in cultivation with two cultivars predominating. 'Bill Wallis' is very striking with vivid purple-blue flowers and this is well established and seeding freely in St Mary's churchyard, Redbourn (TL0911) (ID). 'Summer Snow' is a white-flowered variant and escapes of this probably account for increasing and widespread reports of such plants often in pure stands. Some 'natural' mutations to albinism may also occur.

Onagraceae (Willowherb family)

Oenothera biennis (Common Evening-primrose) and *O. cambrica* (Small-flowered Evening-primrose). This is a nightmare genus. Plants with petals exceeding 3cm and long styles can usually be confidently assigned to *O. glazioviana* but the identification of smaller-flowered individuals is not for the faint-hearted. Non-standard meiosis results in numerous configurations of non-recombinant haplotypes that rather defy the traditional species concept. A pragmatic approach adopted by Stace (2010) is to lump two previously separate species – *O. biennis* and *O. cambrensis* – under the former name. The persistent and abundant colony at Waterford Heath (TL3115) does, as noted by James (2009), fit well the concept of *O. biennis sensu stricto*. Plants on an arable headland at Panshanger (TL3012) (ID) are genuinely problematic. They match some features of the *cambrensis* phenotype but also exhibit some features of a very rare alien species, *O. parviflora*. They await critical determination.

Brassicaceae (Cabbage family)

Arabis procurrens (Prostrate Rock-cress). This is a mat-forming perennial that has only very recently merited mention in a British Flora (Stace, 2019). It is being increasingly reported from London as a relic of planting but also as an introduction arising from locally-produced seed or fragments of stolons (Mick Crawley, personal communication). It was found in 2018 spreading over old graves and adjacent grassland in St Mary's churchyard, Redbourn (TL0911) (ID) where it looks well-established.

Erophila (Whitlow-grasses). This genus consists of three native species that often escape detailed attention because of their early flowering. The huge majority of specimens we have examined in Herts belong unequivocally to *E. verna* (Common Whitlow-grass). On very thin soils there is the possibility of *E. glabrescens* (Glabrous Whitlow-grass). This is usually a very diminutive plant, easily over-looked, that is virtually hairless apart from a fringe of hairs around the edge of the leaf. In addition to sites mapped by James (2009), it is abundant on a former road that



Erica tetralix, *Bricket Wood Common* (photo Ian Denholm).

crosses Harpenden Common and has become grassed over (TL1314) (ID). Its main associate is *Plantago coronopus* (Buck's-horn Plantain).

Ericaceae (Heather family)

Erica tetralix (Cross-leaved Heath) and *E. cinerea* (Bell Heather). The rediscovery of *E. tetralix* by Phil Attewell at Bricketwood Common (TL1200) was probably the botanical highlight of 2019. It was represented by three small patches in the dampest part of the open heathland and a short distance from a drier area where *E. cinerea* continues to flourish. This is the only site for either species in the county.

Boraginaceae (Borage family)

Brunnera macrophylla (Great Forget-me-not). This popular garden plant is well established on the College



Solanum chacoense, *Bayfordbury* (photo Ian Denholm).

Lane campus of the University of Hertfordshire (TL2107), where it is widely distributed on grassy banks and woodland edges (ID/AM).

Solanaceae (Nightshade family)

Solanum chacoense (a wild potato). Herein lies a tale. Gordon Hanson reported a wild potato persisting in derelict glasshouses at Bayfordbury in the 1980s, and the plant is listed in James (2009) as *Solanum stoloniferum*. In 2017 the same plant was found in outdoor flowerbeds at Bayfordbury (TL3110) (ID/AM). Material and photos were sent to Dr Sandy Knapp, Head of Botany at the Natural History Museum and the world authority on *Solanum*. Sandy provided the name *S. chacoense* (native to the New World), and coincidentally had co-authored a paper reporting non-native appearances of this taxon in the Old World in the vicinity of existing or former potato research institutes (Simon *et al.*, 2010), where it was exploited as source of genetic material for plant breeding. Prior to being taken over by Hatfield Polytechnic in 1967, Bayfordbury hosted the world-famous John Innes Institute (now at Norwich) which then had a strong interest in potato breeding! Possibly a changing climate (a recurring theme in this report) has enabled the plant to extend its range outdoors. It is one of the most stoloniferous species on the planet and it likely that the many shoots appearing in paving close to flowerbeds result from runners rather than seed.



Stachys x ambigua, *Ickleford* (photo Ian Denholm).

Lamiaceae (Dead-nettle family)

Stachys x ambigua (Hybrid Woundwort). Despite its scientific name, there is nothing ambiguous about the identity of this hybrid between *S. sylvatica* (Hedge Woundwort) and *S. palustris* (Marsh Woundwort). It is convincingly intermediate in both morphology and ecology, and was found as a vegetatively propagating patch at Ickleford (TL1833) in 2019 (HFG).

Asteraceae (Daisy family)

Cirsium eriophorum (Woolly Thistle). The appearance of three plants of this stately species in a derelict



Cirsium eriophorum, Harpenden (photo Ian Denholm).

field between Harpenden and Wheathampstead (TL1515) was one of the botanical surprises of 2019 (Darin Stanley, conf. ID). They were growing with other calcicolous species including an abundance of *Inula conyzae* (Ploughman’s Spikenard) and *Picris hieracioides* (Hawkweed Oxtongue). Their provenance is unclear; the flora and fauna of this field have been extensively monitored and it is unlikely that the thistle was present in previous years.

Valerianaceae (Valerian family)

Valerianella carinata (Keeled-fruited Corn-salad). As noted by James (2017), this formerly rare alien is increasing its range. Since 2017 it has appeared in quantity in turf on the College Lane campus of the University of Hertfordshire (TL2107) (ID/AM), where its small stature provides some resilience against mowing.

Valerianella dentata (Narrow-fruited Cornsalad). This is now a rare weed of chalky arable land. It



Torilis arvensis, near Bygrave (photo Ian Denholm).

remains frequent in the margin of a field south-west of Tingley Wood (TL1330), very close to the county border (ID).

Apiaceae (Carrot family)

Torilis arvensis (Spreading Hedge-parsley). Another rare and declining arable weed. Two plants were located by Peter Stroh in 2018 in fruit on a field margin between Bygrave and Ashwell (TL2737) in 2018. In 2019, ID found three flowering plants in the same location. They were difficult to spot amid abundant *Aethusa cynapium* (Fool’s Parsley).

Oenanthe crocata (Hemlock Water-dropwort). James (2009) noted an increasing number of sites for this plant in the Colne and Gade Valleys and it continues to spread. It was first recorded as a single plant beside a chalk stream at Batford, Harpenden (TL1415) in 2017 (ID), and by 2019 had increased to a sizeable colony.

Orchidaceae (Orchid family)

Records and observations below result in part from a survey in 2019 by Richard Bateman and ID (who act as joint BSBI taxonomic referees for wild orchids) of sites for our scarcer species. Richard did extensive research on orchids in Herts in the 1970s and 1980s (Bateman, 1981, 1982), and his knowledge of relevant localities proved invaluable.

Epipactis (Helleborines). The status of two species – *E. purpurata* (Violet Helleborine) and *E. helleborine* (Broad-leaved Helleborine) – that inhabit woodland on mostly clay soils seems relatively stable. *E. leptochila* (Narrow-lipped Helleborine) was always a rarity



Epipactis phyllanthes, Harmergreen Wood (photo Ian Denholm).



Epipactis palustris, Bury Mead (photo Ian Denholm).

on chalk in the Chilterns. Our searches of two sites where Richard previously found it near Tring at Park Wood (SP9310) and Stubbings Wood (SP9110) were unsuccessful. The caveat is that a single individual of *Epipactis* at Stubbings that had been bitten off to leave only basal leaves was a possible candidate for *E. leptochila* (though it could have been *E. helleborine*). It is clearly at risk of extirpation from Herts if it hasn't already gone. More unexpectedly, *E. phyllanthes* (Green-flowered Helleborine) is in an equally perilous state, having disappeared from nearly all former sites including Little Frithsden Copse (TL0109). In 2019 it could only be found in Harmergreen Wood, Welwyn (TL2516), where five plants occupied a triangular area surrounded by encroaching footpaths (ID). Although present since 1980 or earlier (Bateman, 1982), its continuing survival here must be in question.

Epipactis palustris (Marsh Helleborine) has only been recorded recently in a long-standing locality, the calcareous fen at Bury Mead, Ardeley (TL3226). James (2009) reported it to be decreasing there so it was pleasing to find at least 30 flower spikes in July 2019.

Herminium monorchis (Musk Orchid). The only recent record for this species in Herts is on North Down, Tingley (TL1330), where it was seen in 2015 (James, 2017). Unfortunately, intensive searches in 2018 and 2019 failed to re-find it. In 2018 the site contained an abundance of *Gymnadenia conopsea*

(Chalk Fragrant-orchid) and *Dactylorhiza fuchsii* (Common Spotted-orchid), whereas in 2019 there was inexplicably an almost complete lack of orchids. The habitat looks unspoilt and well managed, fostering hope that *Herminium* will reappear.

Gymnadenia densiflora (Marsh Fragrant-orchid). This formerly occurred alongside *Epipactis palustris* at Bury Mead, Ardeley but couldn't be re-found in 2019. It may now be lost from the county.

Dactylorhiza (Marsh- and Spotted-orchids). This genus often inspires trepidation based on perceptions that species are hard to distinguish morphologically and that hybridisation is rampant. The 'pure' species that occur in Herts are actually not difficult to separate and while hybrids occur, they are frequently over-prescribed.

The commonest species by far is *D. fuchsii* (Common Spotted-orchid), growing in a variety of (mostly calcareous) habitats and frequently being reported from new locations, often as singletons. Its counterpart on acid soils is *D. maculata* (Heath Spotted-orchid). This is the most abundant species of orchid over the UK as a whole but in Herts it is restricted to two small colonies at Brickwood Common (TL10/F) and Frogmore Meadows (TL09/J). *D. incarnata* (Early Marsh-orchid) is another rarity that has suffered through a loss of wetland sites but famously turned up in abundance in gravel pits near Cheshunt, as



Dactylorhiza × grandis, Blagrove Common (photo Ian Denholm).



Dactylorhiza fuchsii (left), introgression between *D. fuchsii* and *D. praetermissa* (right), Roughdown Common (photo Ian Denholm).

documented by James (2009). A visit to Blagrove Common (TL3233) by HFG in 2019 found it reduced to less than ten individuals in a tiny area, due no doubt to the drying out of large sections of the reserve. A few plants were found growing alongside *D. praetermissa* (Southern Marsh-orchid) at Thorley Wash (TL4918) in 2018 (Robert Philips, comm. Jenny Rawson). *D. praetermissa* itself is widely distributed, typically in calcareous wetlands, but occasionally forms colonies in drier grassland. A single plant appeared in naturally-regenerating woodland at Heartwood, Sandridge (TL1511) in 2016 and persisted for the following two years.

The hybrid most likely to be encountered in the county is that between *D. fuchsii* and *D. praetermissa* (*D. × grandis*). It generally displays considerable vigour and is especially spectacular at Blagrove Common (TL3233), where it now outnumbers the *praetermissa* parent.

At Roughdown Common, Hemel Hempstead (TL0406), a colony of *D. praetermissa* in chalk turf fell victim to construction of the A41, but its genetic legacy is apparent in plants of *D. fuchsii* adjacent to the bypass showing *praetermissa*-like features but which are not first-generation hybrids (HFG).

A fifth species of *Dactylorhiza* – *D. viridis* (Frog Orchid) – formerly occurred in Herts, but following abandonment of the golf course at Sheethanger



Orchis militaris, near St Albans (photo Scott Chalmers).

Common, Hemel Hempstead (TL0305) and subsequent scrubbing over of two critical slopes of formerly short chalk turf, it could not be re-found in 2019 and is probably lost to the county.

Orchis militaris (Military Orchid). James *et al.* (2016) and James (2017) reported on the astonishing discovery in 2016, initially by Ian Carle, of a single plant of this nationally rare orchid on private land in central Herts. It could not be re-found in 2017 and we are not sure whether it was checked in 2018. However, Scott Chalmers reported it flowering in 2019 and a subsequent visit by Scott, Richard Bateman and ID enabled collection of material for eventual DNA testing to investigate its provenance. Between 2016 and 2019 the plant had propagated vegetatively through splitting of the tuber and two flowering spikes were present plus one barren rosette.

Anacamptis morio (Green-winged Orchid). A single plant of this local rarity was recorded in 2019 from a grass verge at Pirton (TL1431) (Graham Bellamy). The colony on private land in the SSSI at Langley (TL22/G) now ranks as one of the best in the UK, with well over 10,000 flowering plants in 2019 (ID). The owner has obtained subsidies to restore an adjacent 6ha field, and after five years of seeding using green hay from the SSSI, this new site had several hundred plants of *A. morio* in 2019. Seed from Langley has been sown (with permission from Natural England) on an area of Harpenden Common (TL1313) where a single specimen of *A. morio* has flowered sporadically over the last 15 years.

Alliaceae (Onion family)

Allium subhirsutum (Hairy Garlic). This introduction has persisted in grassland at the College Lane campus of the University of Hertfordshire (TL2107) for several years, where it is accompanied by impressive amounts of *Lathyrus latifolius* (Broad-leaved Everlasting-pea) (ID/AM). Its origin is unclear but the recurrent occurrence of more transient aliens nearby implies the sowing of wildflower seed.

Poaceae (Grass family)

Polypogon viridis (Water Bent). This species is headed for the textbooks as a dramatic example of range expansion in response to climate change. 15 years ago it was still a rare alien in southern counties of the UK. Scottish colleagues inform me that it is now established in Edinburgh and is en route to Inverness! It was found in full flower in a Harpenden alleyway (TL1413) in January 2018 during a BSBI New Year Plant Hunt (David Williamson). 'Water Bent' is a misnomer; in Herts it has become ubiquitous in urban and suburban surroundings, especially at the base of walls, and once known is easy to identify.

Polypogon monspeliensis (Annual Beard-grass). A native plant of salt marshes that is also a rare and enigmatic casual inland in the UK. Since 2017 it has appeared in profusion around the Methodist Church in Southdown, Harpenden (TL1413), with no clue to its origin unless it was present in nearby hanging baskets.

Brachypodium pinnatum (Heath False-brome). James (2017) mentions an increasing occurrence (or perhaps increasing recognition) of this species, following a recent taxonomic overhaul of the genus. It was frequent in flowerbeds at Apsley railway station (TL0604) in 2017 (HFG), possibly reflecting inclusion in a wildflower mix.

Phalaris paradoxa (Awned Canary-grass). An uncommon and very distinctive introduced arable weed with a persistent seedbank in a field at Rothamsted Research, Harpenden (TL11/G) (ID). It only appears above ground when the crop (usually wheat) and agronomic conditions are to its suiting, but when it does it can be present in profusion, as in 2019.

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