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There are a number of vacancies for particular groups, including terrestrial and aquatic molluscs and the Neuroptera (lacewings and allies). If anyone has some expertise/interest in these groups or any groups not currently covered within Hertfordshire, please contact the Chair of the Biological Recorders, Dr Ronni Edmonds-Brown, Department of Biological and Environmental Sciences, University of Hertfordshire, Hatfield, AL10 9AB, email: v.r.edmonds-brown@herts.ac.uk to discuss.

Recorders' reports

Recording of higher plants 2021 *Ian Denholm, Alla Mashanova and Astrid Biddle*

Although a respite from Covid-related restrictions during the spring and summer of 2021 enabled a considerable renewal of recording activity, much of this was done at an individual level with just one formal field meeting of the Herts Flora Group (HFG). This took place at Woodoaks Farm, Maple Cross at the invitation of the Soil Association, who are aiming to develop the site as a flagship demonstration of sustainable farming practices. The tour of the farm enabled extensive discussion of management options for increasing floral diversity, and led to the discovery of a nationally rare arable weed (see *Torilis arvensis* below). At the time of writing, plans for a full programme of monthly HFG meetings during 2022 are well advanced.

Significant botanical highlights for 2021 are summarised below. Nomenclature conforms to that in the 4th edition of Clive Stace's *New Flora of the British Isles* (Stace, 2019). Localities are followed either by a monadal (1km × 1km) reference or an abbreviated tetrad (2km × 2km) reference using the 'DINTY' scheme (James, 2009, page 3).

Fabaceae (Peaflower family)

Astragalus glycyphyllos (Wild Liquorice)
As a native plant of chalky soils, this species is probably now confined in Herts to downland north of Tingley Wood (TL 1330), where it was still present in quantity in 2021 (ID). It crops up sporadically as an introduction elsewhere but never seems to persist.

Vicia villosa (Fodder Vetch). This plant appeared in quantity on newly-created grassy banks of the Katherine Warrington secondary school in Harpenden (TL 1415 and 1515) (ID), either as a constituent of wildflower seed or in imported soil. It resembles *V. cracca* (Tufted Vetch) but has larger and bluer flowers.

Rosaceae (Rose family)

Rosa agrestis (Small-leaved Sweet-briar). This nationally rare rose was reported by James (2009) in scrub at Wymondley transformer station (TL 2027) during the 1980s and 1990s. Visits during 2021 established that not only has it survived but it had spread dramatically in chalky turf and scrub with an abundance of seedlings as well as mature plants (Alan Leslie/ID). While the origin of this species may be suspect (Trevor James considered it an introduction),



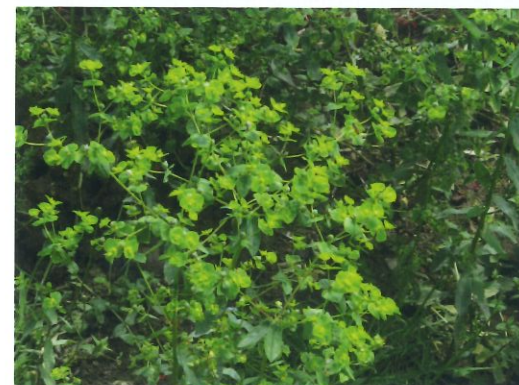
Rosa agrestis, Wymondley (photo Ian Denholm).

it is now fully naturalised and almost certainly the largest colony in Britain.

Sorbus torminalis (Wild Service-tree). During a visit to Golding's Wood near Hertford (TL 3511), William Bishop and Simon Knott investigated a mature tree and found many seedlings around it. The origin of the tree is unknown, but it was well away from the path. According to James (2009), Wild Service-tree often reproduces by suckers, but is known to set seed in Great Groves near Bayford, which is not far from Golding's Wood.

Euphorbiaceae (Spurge family)

Euphorbia platyphyllos (Broad-leaved Spurge). Following her discovery of a new site for this scarce arable weed last year (Denholm *et al.*, 2021), Margaret



Euphorbia platyphyllos, Little Horstead (photo Ian Denholm).

Carrier undertook a search of several former sites in central and eastern Herts and found the plant in relative abundance in the corner of a field and beside a footpath close to Little Hormead (TL 4028 and 4128). One other feature of an otherwise unexciting flora at this location was a spectacular quantity of Dwarf Spurge, *Euphorbia exigua*.

Brassicaceae (Cabbage family)

Barbarea intermedia (Medium-flowered Winter-ress). The native member of this genus, *B. vulgaris* (Common Winter-ress) is frequent in wetlands and increasingly in drier habitats and disturbed ground. *B. intermedia* is a non-native with deeply lobed stem leaves that turns up sporadically as a colonist, mostly of waste ground. An abandoned arable field between Shenley and Borehamwood (TQ 1999) contained an abundance of both species, allowing an easy comparison of their morphologies (Jason Reynolds, conf. ID). The origin of *B. intermedia* at this locality is unknown.



Barbarea intermedia, Shenley (photo Ian Denholm).

Caryophyllaceae (Pink family)

Scleranthus annuus (Annual Knawel)

This once common species of arable and bare ground has undergone a precipitous decline due to agricultural intensification. It was found in abundance in a conservation margin bordering an arable field near Burleigh Meadow (TL 2222) (ID).

Rubiaceae (Bedstraw family)

Galium parisiense (Wall Bedstraw). In some respects this is a dwarf and spindly version of *G. aparine* (Cleavers). It is widespread in parts of East Anglia but until 2021 there were no recent records from Herts. It was found in abundance on open grassland surrounding the Wymondley Transformer Station (TL 2026 and 2027) in the illustrious company of *Rosa agrestis* (see above). Is this a species likely to spread further in response to a warming climate?

Solanaceae (Nightshade family)

Datura stramonium (Thorn-apple). This uncommon and usually ephemeral weed of waste ground was found by William Bishop on a manure heap in Lemsford (TL 2112). On investigation by AM, several actively seeding plants were seen. It was also found in quantity in Harpenden (TL 1415 and 1515) during the construction of a new school (Darin Stanley and ID).

Boraginaceae (Borage family)

Cynoglossum officinale (Common Hounds-tongue). A surprisingly scarce species of calcareous soils that may now only be persistent in the vicinity of the Tingley estate, Pirton (TL 13/F). However, it can occur sporadically as in bare ground at Downfield Court near Ware (TL 3416) (ID), close to the Verbascum site described below.

Scrophulariaceae (Figwort family)

Verbascum (mulleins). We are grateful to Margaret Carrier for drawing attention to a remarkable and



Verbascum pyramidatum, Ware (photo Ian Denholm).

confusing mixed-species colony of mulleins in grassland and scrub at Downfield Court near Ware (TL 3416). Those with simple flower spikes included *V. thapsus* (Great Mullein) and *V. phlomoides* (Orange Mullein), the latter being a feature of the region around Hertford and Ware and easily distinguished from *V. thapsus* when growing side-by-side by the non-decurrent leaves and larger flowers. Plants with a more showy candelabra-like inflorescence were mostly *V. speciosum* (Hungarian Mullein) but at least one plant was assignable to *V. pyramidatum* (Caucasian Mullein) (Margaret Carrier, conf. ID). The latter is an alien with a long-standing colony in Cambs but this represents the first record for Herts. Mulleins are renowned for hybridising and another plant at the site bore all the hallmarks of *V. speciosum* × *V. pyramidatum*, which if confirmed would be new to Britain and possibly new to science!

Scrophularia vernalis (Yellow Figwort) A small patch was seen at the edge of Aldbury Common (SP 9712) following a fortunate diversion from a planned



Scrophularia vernalis, (photo Alla Mashanova).

route during a field meeting led by William Bishop. Although a certain introduction it was well away from housing.

Orobanchaceae (Broomrape family)

Orobanche rapum-genistae (Greater Broomrape).

A county rarity known since the 1960s only from the vicinity of Burleigh Meadow near Stevenage, and so sporadic in appearance that it has on occasions been suspected of being lost. Thankfully this is not the case. In 2021 10 flowering spikes were found parasitising Broom on a hedgebank bordering an arable field (TL 2629) (Darin Stanley/ID). Some spikes exhibited damage consistent with rabbit predation, as also noted by James (2009).

Orobanche hederae (Ivy Broomrape). The 'classic' site in Herts for this species has always been Weston churchyard, where it can still be found in

quantity but it is inexplicably localised despite the abundance of its host throughout the graveyard (TL 2629) (Darin Stanley/ID). James (2009) refers to it being introduced to a garden bordering Ware Road, Hertford, and from here it seems to be in the process of spreading substantially. It was found under a hedge of *Hedera hibernica* (Irish Ivy) opposite an Xpress Food and Wine shop and subsequently recorded as established in at least four front gardens along a 500m stretch of Ware Road (TL 3413) (Darin Stanley/ID). Surveying front gardens (from the pavement) for rare plants can draw interesting reactions from residents – usually friendly and/or inquisitive but not always!

Campanulaceae (Bellflower family)

Legousia hybrida (Venus's-looking-glass). A few plants of this scarce weed were seen at a field edge near Wallington (TL 2733) during a walk led by Chris James. Its stronghold has always been on the chalk in North Herts.



Orobanche rapum-genistae, Stevenage (photo Ian Denholm)

Apiaceae (Carrot family)

Scandix pecten-veneris (Shepherd's Needle). Away from its celebrated and long-standing site in the Broadbalk field at Rothamsted (TL 1213), this once frequent arable weed mostly crops up as a non-persistent casual in disturbed settings. We were alerted to photos posted on the internet by Nick Ashton of suspected Shepherd's Needle bordering an arable field in Pimlico, Hemel Hempstead (TL 0905). A visit to the site confirmed its identity and found it in quantity over a 20m stretch between the field and a footpath. Plants also occurred in the adjacent barley crop but had succumbed to herbicide.



Scandix pecten-veneris, Pimlico (photo Ian Denholm).

Sison segetum (Corn Parsley). Although it is mainly found on chalk in the north this plant might be overlooked when not in flower (James, 2009). A few plants were seen by AM on a newly-created grassy bank in Harpenden (TL 1414) and in a well-established grassy road verge in St Albans (TL 1405).

Torilis arvensis (Spreading Bur-parsley). An HFG visit to Woodhall Farm, Maple Cross in June led to the provisional identification of two plants of this nationally rare arable weed in a field margin (TQ 0393) (William Bishop/Claudi Soler/AM). Follow up visits in July by ID and AM confirmed the identity and disclosed another 100+ plants distributed in a conservation strip between Ladywalk Wood and an adjacent field. It is fortunate that this colony is on land now owned by the Soil Association, who are aware of its national importance.

Orchidaceae (Orchid family)

A survey of Hertfordshire's scarcer orchids was continued in 2021 and yielded the following observations to supplement ones reported by Denholm and Mashanova (2020) and Denholm *et al.* (2021).

Epipactis leptochila (Narrow-lipped Helleborine). The welcome rediscovery of this species in 2020 at its former site in Stubbings Wood, Tring (SP9110) was followed up by careful scrutiny of the small colony



Torilis arvensis, Maple Cross (photo Ian Denholm).

during 2021. In July there were 21 plants with 13 in flower or about to flower (ID). For the short-term the colony seems stable but the fact that all the plants may be derived from a single self-fertilised seed capsule (Denholm *et al.*, 2021) may have implications for longer-term survival.

Herminium monorchis (Musk Orchid). This very inconspicuous species of open chalk turf has always been a major rarity in Herts, and in recent years has been recorded very intermittently in privately-owned



Herminium monorchis, Tingley (Ian Denholm).

downland adjacent to Tingley Wood (TL 1330). Searches between 2017 and 2020 failed to locate any plants, but in 2021 two flowering plants were found in the area of the down where it had been recorded most frequently in the past. A welcome rediscovery of a species that James (2009) feared was approaching extinction in the county.

Dactylorhiza incarnata (Early Marsh-orchid). The very limited distribution in Herts of the native *D. incarnata* subsp. *incarnata* in base-rich marshes was summarised by Denholm *et al.* (2021). James (2009) also refers to presumably introduced colonies of *D. incarnata* that appeared in dumped pulverised fuel ash (PFA) at Rye House Power Station and Cheshunt Gravel Pit in the 1980s, noting that plants from Rye House were transferred to PFA at a site adjacent to Hollycross Lake in Amwell Nature Reserve (TL 3713) in 1985. This colony has been closely monitored and in 2021 contained at least 100 flowering plants within a fenced enclosure (ID). Flower colour is exceptionally varied, ranging from the characteristic flesh-pink of subsp. *incarnata* to intense red (characteristic of subsp. *coccinea* of coastal sand-dunes) and purple (characteristic of subsp. *pulchella* in acid wetlands elsewhere in the UK).

Himantoglossum hircinum (Lizard Orchid). In 2021 this spectacular species continued to appear as singletons at new locations through southern Britain, part of its ongoing northward colonisation in response to a warming climate. In Herts, the failure of the single flowering plant that appeared in 2020 on private land near Puckeridge to reappear in 2021 was compensated for by the occurrence of an equally striking specimen



Himantoglossum hircinum, St Albans (Ian Denholm).

in rough grassland on the outskirts of St Albans (TL 1306). The initial discovery was made by 8 year-old Casper Lee-Motzkau, a local resident, and was covered in a full-page article in the Herts Advertiser At the time of writing this plant looks set to flower again in 2022.

Ophrys apifera var. *trollii* (Wasp Orchid). There are several named variants of the Bee Orchid, based on differences in the colouration and patterning of the labellum. Wasp Orchid is probably the most striking of these with very diffuse and unstructured markings, and a very visible attenuated tip to the normally down-turned labellum. A convincing specimen was photographed by Jamie Twine in grassland between the GlaxoSmithKline works and the River Lea in Ware (TL 3414) and subsequently confirmed by ID.



Ophrys apifera var. *trollii*, Ware (photo Ian Denholm).

Cyperaceae (Sedge family)

Carex binervis (Green-ribbed sedge). James (2009) drew attention to the presence of this species in marshy ground at Amwell Nature Reserve (TL 3713) at a site where fly-ash from Rye House was tipped prior to the translocation of the orchid *Dactylorhiza incarnata* (see above). It is still there in quantity in a zone surrounding the main concentration of *D. incarnata* (ID), a very unusual habitat for a plant otherwise characteristic of dry moorland and heathland.

Carex cespitosa (Scarce Tufted-sedge). A very special plant for Herts, discovered in 2011 in quantity in wet pasture and a soligenous mire on the outskirts of Braughing (TL 3824) (James *et al.*, 2012). In May, ID accompanied by Richard Lansdown, Fred Rumsey and Pete Stroh of the BSBI, and representatives of the landowner, the Herts and Middlesex Wildlife Trust



Carex cespitosa (with Fred Rumsey and Pete Stroh), Braughing (photo Ian Denholm).

and a local volunteer group, visited the site to assess its current status as well as the prevailing ecological conditions and any threats to its survival. The plant is still present in appreciable quantity (c. 250 plants in total) although there are some grounds for concern

due to the recent exclusion of grazing, over-shading by trees and shrubs and a large-scale invasion by Himalayan Balsam (*Impatiens glandulifera*). Work is underway to establish a programme of regular monitoring and to develop a management plan.

Acknowledgements

We thank all who have contributed sightings and other information during the year, and landowners who have permitted access to private land.

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Hertfordshire geology report for 2021/2022 Michael E. Howgate FLS

By the time you read this report the new and improved website for the Hertfordshire Geological Society will be up and running. The old website at www.hertsgeolsoc.org.uk will have been replaced by www.hertsgeolsoc.org.uk. The 'Herts Geology' section will include an interactive map, the video clips made for the Geologists' Association's Festival of Geology which were listed last year, and special sections on 'Chalk streams' and 'Hertfordshire Puddingstone'. The section on Herts Geo-conservation will include sub-sections on SSSIs with a geological interest, Regionally Important Geological Sites (RIGS) and 'Active Sites', which are currently being investigated by Herts Geological Society (HGS) members.

A separate section on 'The Geology of Church Building Stones' is currently being prepared. This will build into a county-wide survey, which could be coordinated with a study of the lichens prevalent on the different rock types.

The HGS is also continuing to monitor the 'Hertfordshire Bourne', maintain the sections at Little Heath, Hill End and Barkway, and a geological survey of Royston Cave is currently being completed.



The Hertfordshire Puddingstone block mentioned and illustrated in the last issue. It is now sited beside the village sign for Little Hadham at Hadham Ford.

Long-term monitoring at Heartwood Forest – 2022 update

Tim Wright (editor), Agneta Burton, Ian Carle, Margaret Clarke, Ian Denholm, Ian Flack, Chantal Helm, Brian Legg, Alla Mashanova, Colin Shawyer, Ken Smith, Linda Smith, Andrew Steele, Mark Sterling and David Utting

1. Introduction

Over the nine winters from 2009-10, some 600,000 native trees and shrubs were planted on previously arable farmland just north of Sandridge to form Heartwood Forest covering 347 hectares. Now, almost 13 years since the start, with its new and ancient woodlands interspersed with grassland and wildflower meadows, a community orchard and a native tree

arboretum, Heartwood is maturing into an important habitat for wildlife. Throughout this time, the flora and fauna have been monitored by experts supported by novice observers. This paper follows two previous papers (Smith *et al*, 2012; Wright, 2016) that described the monitoring activity, the methodology and the results to date. This latest paper updates those results. Figure 1 shows the transition of the new woodland



Figure 1: 2009, 2016 and 2022 photos of a newly wooded area (photos Judith Parry).