

December 2024 Volume 149 Number 1117

The *Naturalist*



Journal of Natural History for the North of England



The Naturalist

Vol. 149 No. 1117 December 2024

Contents	Page
Editorial	161
Derek Whiteley BSc FRES: YNU President for 2024-2025	161
Yorkshire Plant Gall Recorder's report for 2023	Sam Buckton 165
Two Hymns to <i>Oikopleura</i>	Peter Larnar 172
A Bumblebee Bycatch	Andy Millard 175
Scarce Vapourer in the North	Jim Horsfall 180
The Barnsley poet-naturalist Thomas Lister (1810-1888) – a reflection from 2024	Jeff Lunn & Peter Roberts 185
A neonative Peppermint born and bred in Coatham, VC 62 Northeast Yorkshire	Ambroise Baker 190
YNU Conference 2025	194
YNU Excursion Reports 2024	194
VC63: Anston Stones Wood	194
VC64: Lower Winskill Farm	199
VC65: Preston-under Scar Woods	207
VC61: Priory Meadows, Cottingham	211
VC62: Castle Howard	216
The strange case of the desiccated fox: an unusual discovery in the East Riding of Yorkshire*	Kenneth Phipps 229
Notice	171
YNU Calendar 2025	240

An asterisk * indicates a peer-reviewed paper

Front cover: Ruby-tailed wasp in the *Chrysis ignita* group, seen during the VC64 Excursion - see p202 (Photo: unattributed).

Back cover Upper: Attendees at 2024 YNU AGM, Barnsley; **Lower:** Barnsley Mayoral Party & members of the YNU at the unveiling of the plaque to Thomas Lister during the 2024 YNU AGM – see p185 (Photo: Michael Hardy).

Editorial

We hope you enjoyed our special issue on *The State of Yorkshire's Nature*. This was a collaborative project, initiated by the Yorkshire Wildlife Trust but with significant contributions from members of the Yorkshire Naturalists' Union and utilising *The Naturalist* as a vehicle for publication. The aim of this is to provide a baseline of information against which future changes can be measured and, most importantly, stakeholders and policy-makers can use to guide future developments and interventions in an ecologically sustainable way.

This is the last issue with Paul Simmons on the Editorial Board. He has been with us ever since *The Naturalist* was merged with the *Bulletin* in 2011. As well as contributing to the general editing process, Paul has been the chief 'typesetter', determining which articles go where in an issue to fill the 80 pages. This has involved wrestling with the relevant software and the inevitable issues that can arise with it. We're extremely grateful to Paul for all the many hours of effort he has put in to produce *The Naturalist*. His calm, persistent determination and skill have overcome many a problem and contributed very significantly to the quality of *The Naturalist*.

Derek Whiteley BSc FRES YNU President for 2024-2025

I consider it a huge honour to be elected as your President for 2024-25, following in the footsteps of such great and distinguished names over the past 148 years. I am especially proud and humbled to be listed alongside two of my heroes: Dr Henry Clifton Sorby of Sheffield ("Sheffield's Greatest Scientist") who was the second YNU President in 1878, and Henry Seebohm, a Sheffield ornithologist and Arctic explorer, who was President in 1893.



I was born and raised in Sheffield, inspired as a youngster by family trips to the Peak District and a fanatical interest in I-Spy books, which provided good basic training in being observant and recording. Joining the Sheffield City Grammar School Bird Club led to regular birdwatching walks from my home to local subsidence flashes in the Rother valley. On one of my weekly trips I met the famous ornithologist Ray Hawley at Catcliffe Flash, who persuaded me to join the Sorby Natural History Society (at the age of 15), in

1970. This turned out to be a pivotal moment.

The Sorby "boot camp" expanded my interests from birds to other branches of natural history and I pay tribute to the many meeting leaders and experts who encouraged and nurtured this teenage lad and emphasised the need to keep accurate notes and to submit

records. I was taught, in my formative years, to identify accurately, to record and report everything, to photograph, to publish and to speak to an audience!

During three enjoyable years at the University of Sheffield reading Genetics and Microbiology, I took the opportunity to work as a summer student at Weston Park Museum. The work involved a combination of fieldwork, biological specimen preparations and filing record cards and site reports for the embryonic Sheffield Biological Records Centre. In those days many Local BRCs were run by local museums. At this stage I resolved that a future in museums was for me and as chance would have it a post became vacant; in 1975 I joined the permanent staff as Assistant Keeper (Natural History).

About the same time, I joined the YNU and sat on the Mammals and Lower Vertebrates Committee with Colin Howes, Ian Massey and Mike Clegg. I recall hilarious meetings in Mike's office at the Yorkshire Museum, returning home with cheeks aching after a barrage of classic Clegg anecdotes. We didn't get through too much business, but I recall making plans for a new "Mammals of Yorkshire" publication. Mammals, reptiles and amphibians were my main interests at the time. Memorable events included Dr Stephen Harris showing us how to find Harvest Mouse nests at Potteric Carr, Adder-watching with William Bunting on Thorne Moors and Mike Clegg demonstrating the basics of bat identification and handling in Arthur Whitaker's bat tunnel at Rockley. I even sat on the YNU Executive for a while, meeting other YNU stalwarts, Roy Crossley, John and "Tim" Flint, Joan Duncan, Roy Watling and Mark Seaward. It was all very inspirational, but I must say, rather daunting for a 21 year old.

I must also mention the late great Dr Derek Yalden of Manchester University and Mammal Society fame. We shared a keen interest in Peak District mammals and in 1975 discovered that we were independently collecting data on small mammals. Derek proposed that we pool our records and collaborate to write a paper for *The Naturalist* and insisted that I should be lead author. I remember feeling so proud of that paper and grateful for Derek's generosity and guidance. He was a huge inspiration and mentor to many and is sadly missed. Over many years we shared information and ideas about the Peak District fauna, and again I was proud to be able to co-author a paper on Mountain Hares for *British Wildlife* in 2003.

My interest in Diptera also started in 1975 when Sheffield Museum began to build up a new reference collection of local insects. I was instructed to go out, collect flies, pin and label them for Peter Skidmore at Doncaster Museum (and YNU Recorder), who very kindly identified them. Later I began to identify my own hoverflies and a chance meeting with Alan Stubbs in 1979 kindled a growing interest, leading to my involvement with the national Diptera Recording Schemes and their annual field weeks. This was a steep learning curve, and my interests quickly expanded to other families of flies, enhanced by the weekend workshops at Preston Montford organised by the Dipterists Forum.

I believe in the importance of local museums. As Secretary of the Biological Curators Group (BCG) in the 1980s I led the national "Beetle-down to Your Local Museum" campaign to

profile local natural history museums across the UK and the range of activities and services that they offered. It was tremendous fun, hard work and very successful. This was quickly followed by the “Sunflower Campaign” to lobby for more funding for local museums. The argument was that the equivalent of one of Van Gogh’s paintings could fund a huge amount of curatorial work in local museums. We were determined that the hefty publication *Biological Collections UK* (Museums Association 1987) should underpin the campaign and provide credibility. The result was an extra several hundred thousand pounds nationwide, ring-fenced for additional curatorial work and a higher profile for collections. In those days BCG also operated a “watchdog” to make sure that vacant posts were filled. We lobbied local authorities and politicians and even succeeded in creating some new posts. I recall writing some very stiff letters to important people. BCG also played a key role promoting and co-ordinating local biological records centres in museums, before the NFBR (National Federation for Biological Recording) formed in 1986 and took over the lead. They were exciting and busy times.

Having successfully sat my exams for the Museums Diploma (AMA) in 1979, I later did my bit as a trainer and examiner for the Museums Association, assisting young natural sciences curators through the curriculum and trying to steady the nerves of those taking the dreaded natural history viva. Training seems to be a constant thread running through my career. I was a part-time lecturer for Sheffield University Extramural Studies for many years and a trainer for the Mammal Society as part of the LOFM (Look Out for Mammals) initiative in the 1990s.

In 2000 I left Sheffield Museum (as Principal Keeper) and the museum profession after 25 years, and took some time out to do some home parenting, before joining Sheffield City Ecology Unit as a database manager and field assistant for the next 18 years. In 2011 I was seconded to Barnsley to set up a brand new RECORDER 6 database as part of the resurrected Barnsley Biological Records Centre. The opportunity to start a database from scratch was my dream job, and I thoroughly enjoyed the next few years, collecting existing datasets, and exploring and recording the wonderful diversity of the Barnsley District, before returning to Sheffield for my final few years of professional work. In 2018 I retired with a total of 43 years with Sheffield Biological Records Centre in its various guises, under my belt.

The Sorby Natural History Society has been a constant backdrop to my life. Over the years I have served as President (four times), General Secretary, Treasurer, Editor, and various Recorder and group secretary posts. Three roles have given me particular satisfaction. Around 1990, I formed Sorby Invertebrate Group (SIG) to promote invertebrate recording and studies in the region affectionately now known as “Sorbyshire”. As part of our aim to improve standards, training has been a key goal and we have now run over 100 identification workshops, using specimens, keys and microscopes. Crucially, they have been provided for free, increasing knowledge and confidence for hundreds and raising standards for the recording schemes. For several years we teamed up with the Dearne Valley Landscape Partnership running workshops and field recording in Barnsley; work that was recognised by winning the 2017 Lynne Farrell Group Award at the NBN (National Biodiversity Network) conference. Thirty-four years on, I am still SIG Secretary and the group is as active as ever, meeting, recording, training, publishing and simply enjoying invertebrates.

I spent the “noughties” square-bashing Derbyshire for mammal records as a joint project between Sorby Mammal Group and Derbyshire Mammal Group. We managed to cover every monad in the county bar two; 2922 one kilometre squares yielded 85,000 records from 2003 to 2010. *The Mammals of Derbyshire* was published in 2012, combining a county atlas with a definitive account of local mammal ecology. It was a labour of love. Collaborating with co-authors is often fraught with problems, but working with Dave Mallon and Debbie Alston was quite the opposite, a very pleasurable and positive experience.

I am a passionate believer in the importance of biological recording and the essential role played by amateurs (defined as “for the love of” – professionals can be amateurs too!), particularly those associated with local natural history societies. I understand that the UK is pretty unique in this aspect, and Yorkshire is a fine example of an active county with a very long amateur tradition and track record. Our records provide the backbone of national recording schemes, county schemes and local records centres. We live in exciting times with advancing technology allowing instant data entry and instant recall, yet there remains the fundamental need for naturalists to actually get out in the field to make primary observations. Maybe one day remote DNA sampling will take over, but for the time being we still have a job to do.

Now to publications. In 1976 I succeeded Martin Spray as Editor of the *Sorby Record*, a journal of natural history for South Yorkshire, the North Midlands and the Peak District (established in 1958). The importance of publishing and disseminating information was instilled from an early age and I cut my teeth co-authoring a couple of papers on Treeton Dyke whilst still in the sixth form, cajoled by Martin Spray and assisted by Ray Hawley. After 49 years I still have a passion for publishing and assisting other naturalists to publish and I am looking forward to my 50th year at the editorial desk. This is our legacy to the future. Hopefully our electronic databases will survive but I have more faith in the printed word. So far, it has stood the test of time. It is comforting to think that in a hundred years’ time readers looking at volumes from the 2020s will get the same pleasure that I do now, browsing and referring to 1920s volumes of *The Naturalist*. I encourage everyone to take more time to study the history of natural history. It has endless fascination.

At national level, in the mid-1980s there was growing frustration amongst the younger dipterists over the difficulties of getting work published in the well-established journals. So, in 1988 I founded and edited a new journal *Dipterists Digest* and ran it privately for some years before handing it over to become the house journal of the newly formed Dipterists Forum, the national society for fly recorders and enthusiasts. I am pleased to say that it still thrives, under the long-term editorship of Peter Chandler.

I am also a big fan of local natural history societies. For a while they became rather unfashionable, overshadowed by the growth of the Wildlife Trusts (of which I am a member and supporter) with their colour magazines positively glowing with youth. Now, I believe they may be on the rise again. In 2017 I presented a paper at the YNU Conference in York on “A Survival Manual for Natural History Societies” based on 47 years’ experience with the

Sorby. My conclusion was that they don't need to attract young people to make them futureproof. They need to attract active and enthusiastic people of all ages, with some spare time and with a range of skills – computing, event organisation, publishing, marketing, finance etc. in addition to embracing the specialist groups and specialist knowledge of individuals.

We are a social species and natural history societies form important local hubs for meeting, exchanging information, providing informal and formal training. They also provide friendship, compassion, celebration and enjoyment. The COVID crisis demonstrated how much we missed getting together in real life, how virtual meetings don't have the same zest and how we took so many things for granted. Post-COVID, some societies seem to be doing well, others not so much. But for now, may the affiliated societies of the YNU thrive and prosper! I wish you all the very best.

Three years ago we moved to West Witton and I was immediately welcomed by the Yoredale Natural History Society which is currently very active in Wensleydale and Swaledale, and will host the 2025 YNU AGM. In return I now produce the society's annual journal *The Yoredale Bulletin* and I have set up a recording scheme for hoverflies in the dales. So I now feel that I have two "homes" and spend about half my time exploring the delights of the Yorkshire Dales and Richmondshire, whilst maintaining my links and a base in "Sorbyshire".

I am now looking forward to the coming year, exploring the rest of Yorkshire, visiting as many Affiliated Societies as possible, sharing experiences and meeting members on behalf of the YNU.

Yorkshire Plant Gall Recorder's report for 2023

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Number and sources of records verified

This report is largely based on all Yorkshire records of gall mites (Eriophyidae and Phytoptidae), gall midges (Cecidomyiidae) and gall wasps (Cynipidae) on iRecord added in 2023 (i.e. recorded in 2023 or earlier), as well as records sent to me separately by Bill Dolling, and some earlier records reassessed in light of new information (see below). In this time period, 624 records were added on the main iRecord site (down from 856 in 2022) and 231 on iNaturalist and filtered through to iRecord (up from 91 in 2022). See Buckton (2022) for details on how records are assessed.

I have now obtained the full list of gall records from the British Plant Gall Society (BPGS) MapMate database (nearly 71,000 records), which includes 15,110 records from the Yorkshire vice-counties. This means that I will no longer need to keep badgering Ken Merrifield to query the database for me! It is hoped that all MapMate records will soon be

uploaded to iRecord, which I anticipate will become the 'hub' for collating the vast majority of British gall records, and then formally verified by me if they are from Yorkshire. Soon before this article went to press, Ian Farmer kindly sent me what must amount to thousands of his gall records from Yorkshire since 2012 and that are absent from the BPGS database; I am continuing to explore these for notable records, which will appear in my forthcoming 2024 report.

I have also completed trawling *The Naturalist* archives in the Biodiversity Heritage Library for historic gall records other than galls caused by Diptera (already assessed by Andrew Grayson), cynipid wasps (already assessed by Bill Ely), sawflies (due to be assessed by Ian Andrews), powdery mildews (Erysiphales), downy mildews (Peronosporales), rusts (Pucciniales), smuts (Entylomatales, Microbotryales, Urocystidales and Ustilaginales), Exobasidiales, and Taphrinales (all previously assessed by the late Chris Yeates). Chris may have assessed other gall-causing fungi (e.g. chokes *Epichloë* spp. and ergots *Claviceps* spp.) but I do not currently have access to any collations of these. Most records reported in *The Naturalist* were unfortunately not in the BPGS database, including some recent records.

It has been fascinating to explore Yorkshire gall records from as far back as the 1860s. Many of them are of national significance, including numerous galls apparently new to Britain and overlooked in the keys that we use today (Redfern *et al.* 2023). I am preparing papers for the BPGS journal *Cecidology* on these finds. Delving into the archives has also made it clear that I was too hasty to assess the Yorkshire status of certain eriophyoids prior to accessing the historic records, and I list below several corrections to my previous reports from 2021 and 2022. I apologise to the corresponding recorders for my misleading assessments.

Based primarily on the BPGS and *Naturalist* records, I have started creating a rough checklist of Yorkshire's plant gall causers, including the vice-counties in which they have been recorded, and selected records of note. VC63 (South-west Yorkshire) has by far the most gall records, mainly thanks to the efforts of Tom Higginbottom and Ian Farmer.

General observations

Anecdotally, 2023 seems to have been an exceptionally poor year for familiar cynipid galls on oak *Quercus* across many areas of Britain, including in Yorkshire. Cynipid populations may fluctuate naturally due to factors such as parasitoid abundance, but anthropogenic factors such as climate change may also play a role (Lombardero *et al.* 2021), although these impacts are under-researched. An important development in 2023 was the publication of the third edition of Margaret Redfern and Peter Shirley's *British Plant Galls* keys (Redfern *et al.* 2023). It has expanded significantly since its previous edition as our knowledge has improved. However, the world of cecidology is fast-moving and work has already begun to collate additions and corrections to the third edition keys (Buckton 2024).

Corrections

Sam Newton's record of *Aceria centaureae* is not the first for VC62 as reported in Buckton (2023a), although it appears to be the first since 1956.

While Jill Cunningham's record of *Aceria hippophaena* reported in Buckton (2022) is indeed new to VC62, there are previous Yorkshire records from VC61 as well as VC63.

Jill Cunningham's record of *Aceria labiatiflorae* is not the first for VC64 as reported in Buckton (2023a). Tom Higginbottom recorded this species two months earlier in 2019 at the same location.

Daniel Lombard's record of *Aceria sanguisorbae* is not the first for Yorkshire as reported in Buckton (2022). There are 20th century records from VC64 and VC65. Daniel's record is the first for VC61, however.

Jill Cunningham's record of *Cecidophyopsis ribis* is not the first for Yorkshire as reported in Buckton (2023a). This species has been previously recorded in all five Yorkshire vice-counties, although oddly there appear to have been no other records since the early 20th century.

Notable records

Members of the British Plant Gall Society visited the Yorkshire Arboretum on 13 September 2023. The most notable record from this excursion was an erineum gall found by the author on Cornelian Cherry *Cornus mas* (SE70456954) (Fig. 1). It matches the galls of the tenuipalpid mite *Cenopalpus spinosus*, which is not known in Britain, although mites observed in the erineum did not match descriptions of *C. spinosus*, so the causer remains a mystery. This gall appears to have been overlooked in Britain for many years and may be widespread (Buckton 2023b). Other notable records from this excursion are included in the main list below.



Figure 1. A mystery erineum gall on Cornelian Cherry *Cornus mas*. Yorkshire Arboretum, 13/09/2023. (Photo: Sam Buckton)

Many of the records below can be found by querying the iRecord database: I have included record IDs for each record for ease of searching. In each entry I include (in order) the causer name, record ID (for records on iRecord), date, location, vice-county (VC), recorder(s) and notes. Species names followed by an asterisk (*) are new to the vice-county; those followed by two asterisks (**) are new to all Yorkshire.

GALL MITES (ERIOPHYIDAE)

*Aceria campestricola** ID 20727626 01/06/2021 Moor Lane, Brawby (SE737786) VC62 Sam Newton. Galls on Wych Elm *Ulmus glabra*.

*Aceria campestricola** ID 27976212 20/08/2005 Dawker Hill, Wistow (SE598360) VC64 Chris Yeates. Galls on English Elm *U. procera*.

*Aceria erineum** ID 27976073 02/10/2006 Near Forestry Commission office, Wykeham Forest, south-west of Scarborough (SE948863) VC62 Chris Yeates. Gall on 'Juglans'.

*Aceria filiformis** ID 20860985 30/06/2021 St Nicholas Fields, York (SE615517) VC62 Jane Thomas. Galls on leaves of elm *Ulmus* sp.

*Aceria genistae** ID 23566966 12/01/2022 Templegate, Leeds (SE357331) VC64 Jill Cunningham. Galls and mites on Broom *Cytisus scoparius*.

Aceria ilicis* ID 4480549 05/02/2017 Beverley (TA03693980) VC61 Robert Jaques. Bulge-causing variety of this erineum on Holm Oak *Quercus ilex*.

Aceria iteina* ID 733072 15/07/1989 Thorpe Hall, Rudston, woodland on SE of Gypsy Race (TA106674) VC61 Bill Ely. Gall on willow *Salix* sp. Gall mite names on *Salix* in *The Naturalist* archives are confused and it is unclear whether many records on willows refer to *A. iteina*, *Aculus laevis*, *Aculus tetanothrix*, or other species. Bill's is the first clearly verifiable record for VC61 that I am aware of. Accepted as considered correct despite lack of photos as the stalked pimple galls are generally distinctive.

Aceria iteina* 22/08/2001 New Earswick Nature Reserve (SE6054) VC62 Tom Higginbottom. Galls on Goat Willow *S. caprea*. Accepted as considered correct, as above.

Aceria iteina* ID 24830319 02/06/1990 Hell Wath, hollow close to River Skell (SE300700) VC64 Bill Ely. Recorded from gall. Accepted as considered correct, as above.

Aceria iteina* ID 819389 19/07/1986 Bardale Beck (SD8986) VC65 Bill Ely. Gall on willow *Salix* sp. Accepted as considered correct, as above.

Cf. *Aceria lophophyes*** ID 18418610 29/09/2020 St Nicholas Fields, York (SE617517) VC62 Sam Buckton. Erinea in vein angles of Field Maple *Acer campestre* (leaf underside) (Fig. 2). See Buckton (2023c) for details about this taxon. A poorly recorded but probably widespread and frequent gall in Yorkshire and elsewhere. Some old records of *Aceria macrocheluserinea* potentially refer to cf. *A. lophophyes* but are not verifiable. Subsequently found by the author on 13/09/2023 at the Yorkshire Arboretum (SE7069) VC62.



Figure 2. Galls of cf. *Aceria lophophyes* on Field Maple *Acer campestre*. St Nicholas Fields, York, 29/09/2020. (Photos: Sam Buckton)

Aceria tenella* 13/09/2023 Yorkshire Arboretum (SE7069) VC62 Ian Farmer / Tom Higginbottom. Galls on Hornbeam *Carpinus betulus*.

Aceria thomasi* ID 31518125 25/07/2011 South Cave, Beverley Clump, north of road (SE9432) VC61 Bill Ely. Recorded from gall. Although no photos were provided, the record was considered correct as this gall on *Thymus* is distinctive.

Aceria tuberculata* ID 32349647 26/07/2023 St Nicholas Fields, York (SE61655167) VC62 Sam Buckton. Galls on Tansy *Tanacetum vulgare*.

Aculus anthobius** 12/07/2020 Heslington Common, York (SE635481) VC61 Sam Buckton. Galls on Heath Bedstraw *Galium saxatile*.

Aculus magnirostris* ID 707392 15/07/1989 Thorpe Hall, Rudston (TA109674) VC61 Bill Ely. Gall on Crack Willow *S. × fragilis*. Despite lack of photos, accepted as considered correct because the gall is generally separable from galls of *A. craspedobius*.

Aculus magnirostris* ID 9808439 27/08/2009 Ings Bridge, Pickering (SE79128206) VC62 Jerry Clough. Gall on suspected Crack Willow. Accepted as considered correct, as above.

Aculus tetanothrix* ID 11439932 12/08/2019 Brantingham (SE93732965) VC61 Richard Shillaker. Galls on White Willow *S. alba*. I have only been able to verify *A. tetanothrix* galls on willows proper (e.g. White Willow), as on salallows the galls need sectioning to check for internal hairiness in order to separate from galls of *A. laevis*. Various mite galls have been reported from willows in Yorkshire in *The Naturalist* archives, including by William Falconer in the early 20th century, but as far as I am aware none of these are clearly referring to galls of *A. tetanothrix*.

Aculus tetanothrix* ID 15946441 26/07/2020 St Nicholas Fields, York (SE61615182) VC62 Sam Buckton. Galls on White Willow.

Aculus tetanothrix* ID 28041566 02/09/2022 Nosterfield Quarry (SE273810) VC65 Jill Cunningham. Galls on White Willow.

Cecidophyes nudus* 2016 Knightsway, Leeds (SE36223404) VC64 Jill Cunningham. Galls on Wood Aven *Geum urbanum*. 'Also seen on Queensway and Templegate garden street edges'.

Cecidophyes nudus* ID 28043140 02/09/2022 Nosterfield Quarry (SE277808) VC65 Jill Cunningham. Galls on Wood Aven.

Epitrimerus gibbosus* ID 808897 23/07/1988 The Moor, Burton Constable (TA1837) VC61 Bill Ely & John Newbould. Gall 'on bramble'. Accepted as considered correct despite lack of photos because the gall is distinctive.

Epitrimerus gibbosus* ID 12201692 09/11/2019 Askham Bog (SE572481) VC64 Sam Buckton. Galls on Bramble *Rubus fruticosus* agg.

Eriophyes arianus* ID 11027862 25/07/2019 Brantingham (SE94422932) VC61 Richard Shillaker. Galls on whitebeam *Sorbus aria* agg.

Eriophyes arianus* ID 9808557 27/08/2009 Low Mill, Pickering (SE79328277) VC62 Jerry Clough. Galls on whitebeam.

Eriophyes arianus* ID 10547333 Muker, Swaledale, Yorkshire (SD910978) VC65 29/06/2019 Jill Cunningham. Galls on whitebeam.

Eriophyes crataegi* ID 7269718 18/07/2018 Reighton (TA1476) VC61 Daniel Lombard. Accepted as considered correct despite lack of photos because this mite's gall on Hawthorn *Crataegus monogyna* is generally distinctive.

Eriophyes distinguendus* ID 819390 19/07/1986 Bardale Beck (SD8986) VC65 Bill Ely. Gall on Bird Cherry *Prunus padus*. This erineum appears to be scarce in Yorkshire. The only previous Yorkshire record I am aware of is from Barrett Clough, Slaithwaite (VC63) in 1922 by William Falconer. Accepted as considered correct despite lack of photos because this gall is unmistakeable.

Eriophyes homophyllus* ID 13407929 05/05/2020 Southfield House, nr. Kirbymoorside (SE693824) VC62 Sam Newton. Galls described as 'numerous' on Blackthorn *Prunus spinosa*. There are many previous Yorkshire records of *E. similis* or its synonym *Phytoptus similis*; it is unclear for most records whether these refer to galls around the leaf edge (thought today to be caused by *E. similis*) or along the midrib (thought today to be caused by *E. homophyllus*). Sam's is the first clearly verifiable record of *E. homophyllus* for VC62.

Eriophyes malimarginemtorquens* 29/10/2010 Hooton Roberts (SK4797) VC63 Ian Farmer. Gall on Crab Apple *Malus sylvestris*. Accepted as considered correct despite lack of photos because this leaf edge roll gall is distinctive.

Eriophyes malimarginemtorquens* ID 28208247 23/09/2022 Nosterfield Quarry (SE28208097) VC65 Charles Fletcher. Galls on Crab Apple.

Phyllocoptes malinus* ID 28027260 02/09/2022 Nosterfield Quarry (SE280808) VC65 Jill Cunningham. Erineum on Crab Apple.

Stenacis euonymi* ID 12234504 05/11/2019 Skinningrove (NZ70861849) VC62 Andrew Watchorn. Galls on Spindle *Euonymus europaeus*.

Stenacis euonymi* 03/09/2006 Hetchell Wood, Bardsey (SE3742) VC64 Tom Higginbottom / Ian Farmer. Galls on Spindle. Accepted as considered correct despite lack of photos because the galls are unmistakeable.

Vasates quadripedes** 27/08/2010 Tickhill (SK5992) VC63 Ian Farmer. Galls on Silver Maple *Acer saccharinum*. Accepted as considered correct despite lack of photos because the galls are unmistakeable.

Vasates quadripedes* ID 9925049 21/06/2018 Grosvenor Square, York (SE495610) VC62 dbellamy (via iNaturalist). Galls on Silver Maple.

GALL MITES (PHYTOPTIDAE)

Phytoptus tetratrichus* ID 22651391 13/10/2021 St Nicholas Fields, York (SE615518) VC62 Sam Buckton. Galls on Common Lime *Tilia × europaea*. The first Yorkshire record outside of VC63.

GALL MIDGES (CECIDOMYIIDAE)

Kiefferia pericarpiicola* 20/09/2023 Beverley, Swine Moor (TA0541) VC61 Bill Dolling. A vacated gall on Upright Hedge-parsley *Torilis japonica*. Rarely recorded in Yorkshire. As far as I am aware, this record is the first for Yorkshire on this host. The host is an interesting one; the vast majority of British records are on Wild Carrot *Daucus carota*, although Redfern *et al.* (2023) note one record from 2019 on Upright Hedge-parsley in a footnote. The gall has also been noted on *Angelica* in Yorkshire.

GALL WASPS (CYNIPIDAE)

Andricus glandulae* ID 22037876 25/09/2021 Yorkshire Arboretum (SE705696) VC62 Sam Buckton. 'Thatched galls' of the agamic generation on an oak *Quercus* sp. (Fig. 3).

Aylax minor* 30/07/2022 Leven (TA1144) VC61 Bill Dolling. Six galled capsules of Common Poppy *Papaver rhoeas* collected at Leven on 30/07/2022 yielded 41 adults from 17/04/2023 to 01/05/2023; most were released but the first ten were retained, comprising 3 males, 7 females; no inquiline or parasitoids were present. Abundant galled capsules of the same host at Glebe Farm, Hotham Carrs (SE8633) VC61 on 01/08/2023; the galled capsules



Figure 3. 'Thatched gall' induced by the agamic generation of *Andricus glandulae* on an oak *Quercus* sp. Yorkshire Arboretum, 25/09/2021. (Photo: Sam Buckton).

were discoloured (something that is not apparent once the capsules have dried) and several pteromalid parasitoids *Habrocytus sequester* emerged the same year.

Cynips disticha* ID 32659205 23/08/2023 Hull (TA073320) VC61 Africa Gómez. Agamic generation galls on an oak *Quercus* sp. The wasp is now known from all five Yorkshire vice-counties.

GALL-CAUSING FUNGI

Taphrina crataegi* ID 25388939 15/05/2022 Nidd Hall, Harrogate (SE3060) VC64 Jill Cunningham. Galls on Hawthorn.

Acknowledgements

I am grateful to all the gall recorders in Yorkshire (both past and present) for keeping me busy!

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NOTICE: Don Grant

We were very saddened to learn of the death of Don Grant in September of this year. Don was a consummate botanist and had been Chairman of the YNU Botanical Section for many years up until the end of 2015. We are intending to publish an obituary for Don in a future issue. Anyone who has information that could contribute to this, particularly on Don's early life, please contact Louise Hill at louise.a.hill@gmail.com.

Two Hymns to *Oikopleura*

Peter Larner

We are very sorry to announce that Peter died on 25 October aged 96, only a few months after submitting this article. Peter was a lifelong naturalist, a key member of Leeds Urban Wildlife Group and Leeds Naturalists' Club. His interests were broad, particularly birds, butterflies and hoverflies but, as this article testifies, were by no means restricted to the more familiar areas of natural history study.

Introduction

Many naturalists may be familiar with *Oikopleura*, with the name if not the animal itself, but I confess that I had never heard of *Oikopleura* until Bob Bray, a friend, sent me a copy of a poem he had written about it. I enjoyed the poem, but made no further attempts to find out more about *Oikopleura* until, several years later, I discovered another poem on the same organism, by Walter Garstang, which had been published about 50 years earlier. Sadly, Bob had died by this time and I never discovered whether he had read Garstang's poem, and where he learnt about *Oikopleura*

The Subject

To appreciate the poems it is necessary to know something of the subject's lifestyle. *Oikopleura dioica* is a larvacean, a primitive chordate, an organism that could be said to be intermediate between invertebrates and vertebrates. It is related to tunicates, which are also known as sea squirts. Larvaceans look like tunicate larvae but 'retain this larval shape when they become adult' (Fig. 1, p174). I think this means that, in layman's terms, they are members of the plankton community. *Oikopleura* creates for itself a mucus house (every four hours according to one source) in which it lives, directing sea-water through the house by wiggling its tail and feeding on the minute organisms filtered from the flow by incredibly fine-meshed filters. The fishing house itself is transparent and, therefore, virtually invisible. It has an emergency exit, a hole in the floor, through which the occupant can escape if danger threatens.

Oikopleura has a body length of about 1mm and a tail 3 or 4 times longer. Sources refer to its presence in the Weddell Sea, the Pacific Ocean and there are NBN records from the UK coast in Fife, Pembrokeshire and Devon.

The Poets

Robert Bray, always known as Bob (1928 – c. 2002), was a man of many talents, chief among which was his skill as an artist. Much of his work is in pencil crayon, which I gather is a difficult and time-consuming medium, and no doubt reduced his output. Another factor that probably contributed to his limited output was his botanical exploration of Yorkshire, on which he and his brother Harry spent much of their spare time, touring round Yorkshire and, occasionally, parts of north Lancashire, on a motor-bike. He was a mine of information on the location of rare and uncommon species in the county. I can remember being shown

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beech fern (*Phegopteris connectilis*), oak fern (*Gymnocarpium dryopteris*), moonwort (*Botrichium lunaria*), *Dryas octopetala* and, as I write, other trips and other plants come to mind. But then any excursion with Bob was likely to produce something unexpected and interesting.

Bob had many other interests, but his overriding characteristic was that he was completely unclubbable. After a spell at Leeds College of Art and service in the RAF, I doubt if he ever joined any other organisation. I did try to persuade him to join some natural history society, where his botanical knowledge, his artistic skills and his sense of humour would have won him many friends. He could have made a significant contribution to the botanical knowledge of Yorkshire and, no doubt, broadened his own horizons, but he would have none of it. As it was, he was known to only a very few naturalists.

Walter Garstang (1868 – 1949) our other poet, was by contrast, well known and no doubt often in the public eye. He was born in Blackburn, where his father was a doctor; entered Oxford at the age of 16½ to study medicine, and graduated aged 20 after changing to zoology. After various posts involving research into marine organisms, he was elected a Fellow of Lincoln College, Oxford, in 1893 and to a lectureship in 1894. In 1897 he left Oxford to become Naturalist in Charge of Fishery Investigations, later becoming director of the Fisheries Research Station at Lowestoft.

In 1907 he was invited to take up the newly created chair of Zoology at the University of Leeds. It was a difficult decision to make as in Leeds he had to develop his knowledge of terrestrial zoology. However he did not leave his love of marine zoology behind entirely, being instrumental in the establishment of the Leeds University Marine Biology Laboratory at Robin Hood's Bay. He began studies of insects and birds, delighting in the study of bird songs, publishing *Songs of the Birds* (published by Bodley Head, London, 1922) which interpreted the songs in verse and musical notation.

Whilst in Leeds he was an active member of the YNU, a member of its Bird Protection Committee 1916-18 and elected President 1918. Like many Leeds University biologists of that era, he was a member of the Leeds Naturalists' Club. He was also president of the Leeds Philosophical and Literary Society 1924/26.

When he retired in 1936 he was respected both for his scientific work, and by his students, for his enthusiasm for zoology and for his kindness and hospitality at his house in Meanwood. He is remembered today chiefly for his book *Larval Forms and Other Zoological Verses* which contains 26 poems, most of them about marine invertebrates, which was published posthumously in 1954 by Blackwell, Oxford, having been prepared for publication by Professor Sir Alistair Hardy (his son-in-law and obituarist) and from which the poem on *Oikopleura* is taken.

With two very different poets it is hardly surprising that we have two very different poems. Garstang presents the life-style of *Oikopleura* in great detail, whilst maintaining rhythm and rhyme and at the same time managing, I think, to avoid descending into doggerel. Bray adopts a freer verse form and a more figurative approach to the biology.

The Poems

Oikopleura -Jelly Builder By Walter Garstang

Oikopleura, masquerading as a larval Ascidian,
Spins a jelly-bubble-house about his meridian:
His tail, doubled under, creates a good draught.
That drives water forward and sucks it in aft.

A filter in front collects all the fine particles –
Micro-flagellates and similar articles –
Which pour in a stream through a jelly-built
tunnel
Into his mouth and its mucilage funnel.

The funnel begins with his endostyle gland,
Which flicks mucus up to his circular band,
The stream through his mouth trails it out into
threads,
And the whole is rotated as fast as it spreads.

In effect this rotator's a neat centrifuge
That lets out the water and keeps in the ooze,
The water's sucked outwards by paired water-
wheels,
The residue serves him with plentiful meals.

Now although *Oikopleura* sits by himself
In the midst of his house on a jelly-built shelf,
He's firmly attached in front by his snout,
And never lets go till his house wears out.

But his body behind is completely free
And bathed by the water that comes from the sea
Through two lattice-windows let into the walls,
Which limit the size of incoming hauls.

Into this water-space the effluents flow
That start from the spiracles' outward throw,
And lest water-pressure the bubble should burst,
A tubular valve in front blows first.

What shall we say of this marvellous creature
Who breaks all the rules by his composite
nature?
The puzzle increases the more it's observed
How far from the track of his fellows he's
swerved.

When his jelly-house starts as a lump on his
back,
His tail is the finger that stretches it slack:
He probes with its tip between body and test
And loosens the parts which too closely are
pressed.

Then, after windows and traps are all ready,
The tail pops inside and, with motions more
steady,
Sets the pump working, the water streams in,
The jelly-house swells and the fishings begin.

We believe we can satisfy any scrutator
That anatomy, house, and pharyngeal rotator
Are pure Doliolid in all their relations
With highly original specialisations.

His tail is the problem and also the base,
For nothing will work if this you erase,
It seems that, from lack of metamorphosis,
He's larva and adult in half and half doses.



Figure 1. Adult *Oikopleura dioica* specimen. The complete trunk and a partial tail are visible in the picture. Photo: by Mowgli - Own work, under Creative Commons Licence: CC BY-SA 4.0, available at <https://commons.wikimedia.org/w/index.php?curid=93709610>

A Place of One's Own by Robert Bray

Oikopleura of the Plankton,
Visible – just – to the naked eye,
From inner resources inflates a house
Gelatinous, diaphanous,
A modular undersea see-through abode.

Lodged at the crux of a homespun
scheme
Of grilles and filters, he busily fans —
In switchback mode — a flattened tail
Whose undulant urgings coerce a stream
Of salted subsistence; a lesson for all
In Home Economics, not least for those
Of hermit persuasion, — could they
ignore

The flaw in his flooring, the capital O
Through which in crisis he arrows down
To spin if spared a house elsewhere.

Engaging though to think of him
Paddling his mill, twirled in the wake
Of whale or shark, — humming perhaps
To his self-engendered bathroom walls
An Oikopleuran hymn of home...

The Hole unheeded, that focus of doubt
For we who look and think ahead
(Above, below, and side to side)
Expecting always the hail-fellow grin
Of something that swims not out, but in.

A Bumblebee Bycatch

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Introduction

In 2003 a PhD student at York University was investigating the community of four closely related sub-families of Ichneumonidae parasitoid wasps across different woodland types in the Vale of York. The aim of this was to test the null hypothesis that parasitoid abundance and diversity show no association with woodland vegetation variables (Fraser *et al.* 2007, Mayhew *et al.* 2009). Collection of specimens for identification was undertaken from 15 woods comprising coniferous, broadleaved and mixed, with two Malaise traps set up in each wood. Traps were opened for two consecutive weeks in every four, from 1–15 July and 29 July – 12 August. The trap bottle was changed after 1 week to give two samples of 1-week duration in each month. The inevitable bycatch from Malaise trapping, preserved in 70% ethanol, was passed on to Bill Ely who, in turn, gave me the aculeate hymenopterans.

This bycatch included a number of bumblebees *Bombus* sp. This article details their identification and any possible interest arising from this.

Method

Specimens were taken from the 70% ethanol, dried on absorbent paper, when colour variations became clearer, and then examined under a binocular microscope, dissecting out male genitalia when necessary. Unless species of particular interest were identified, specimens were disposed of after identification. For comparisons, the following three

sources were also interrogated for *Bombus* records from the area of Fraser's sampling, as close as possible to 2003:

- The YNU aculeate database for *Bombus* records from kilometre squares within 1-2 km of the Malaise trap locations. This distance was chosen because of evidence that bumblebees can fly at least 1.5km for foraging purposes (Osbourne *et al.* 2007)
- iRecord for 2003 *Bombus* records from VCs 64 and 61.
- NBN for records within a polygon defined by the outer limits of 2km buffer zones around the sampling sites.

Results

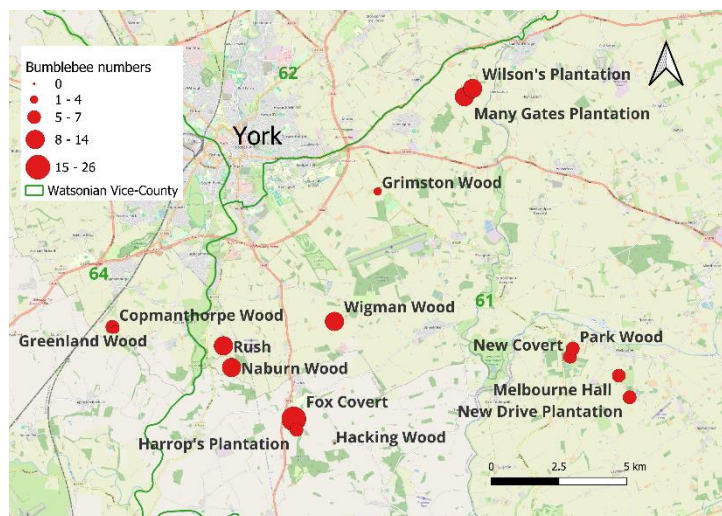


Figure 1. Numbers of bumblebees caught by Malaise trapping in woods around York, 2003.

Across all sample areas and over the whole season, a total of 128 bumblebees were identified giving a mean of 8.5 ± 6.2 per wood sampled. The highest number caught were from Fox Covert (26) with none caught from Hacking Wood and five only from each of Copmanthorpe and Grimston Woods, Harrop's Plantation and New Covert. Figure 1 shows the relative numbers of bumblebees

and their distribution. There are no obvious trends in the pattern of distribution, although some of the higher count sites were nearer to York city. Numbers and overall percentages of individual species are given in Table 1.

The five species recorded all belong to the 'Big Seven' group (Gammans *et al.* 2018), the most widespread and abundant of our bumblebee species. For some worker bees it was not possible to distinguish between *B. terrestris* and *B. lucorum* agg. so these have been aggregated. The two missing species from the 'Big Seven' were the Red-tailed *B. lapidarius* and the Tree *B. hypnorum* bumblebees. The latter was recorded for the first time in the UK in Wiltshire in 2001 (Goulson & Williams 2001) and by 2004 was still restricted to just four records in southern England (van der Wal *et al.* 2015) before a major expansion after 2007 (Roberts, S. 2012). The commonest species caught were the Common Carder *B. pascuorum* and the Garden *B. hortorum*.

Table 2 (p178) gives records for *Bombus* spp. from additional sources. iRecord had no *Bombus* spp. records for VCs 61 and 64 in 2003. The earliest NBN records for the area were

from 2011, all but three of the 18 records being from the edge of Copmanthorpe village, approximately 1.5 km from Malaise traps in Copmanthorpe and Greenland Woods. Species recorded were *B. hortorum*, *B. lapidarius*, *B. lucorum* and *B. terrestris*.

Table 1. Numbers and percentages of *Bombus* spp. caught as bycatch during Malaise trapping in woodlands, Vale of York, 2003. Mxd = Mixed Woodland; Conf = Coniferous Woodland; Bdlv = Broadleaved Woodland; Plant. = Plantation. Percentages have been rounded to the nearest whole number.

Location	Habitat	Area (ha)	Grid Ref	<i>B. hortorum</i>	<i>B. lucorum</i> agg.	<i>B. pascuorum</i>	<i>B. pratorum</i>	<i>B. terrestris</i>	<i>B. terrestris/lucorum</i> agg.
Copmanthorpe Wood	Mxd	6	SE562450	2	1	1	1	0	0
Fox Covert	Mxd	3.7	SE629416	9	0	7	1	0	9
Greenland Wood	Bdlv	2	SE563449	2	0	0	0	1	0
Grimston Wood	Conf	4.9	SE660500	0	0	3	0	0	2
Harrop's Plantation	Mxd	5	SE630412	1	2	2	0	0	0
Hacking Wood	Mxd	6.6	SE644407	0	0	0	0	0	0
Melbourne Hall	Bdlv	3.5	SE749432	1	2	1	0	1	1
Many Gates Plant.	Conf	2	SE692535	1	3	3	0	3	0
Naburn Wood	Conf	18	SE606435	6	0	5	0	0	1
New Drive Plant.	Conf	11.2	SE753424	3	2	1	1	0	0
New Covert	Bdlv	3.3	SE731439	1	1	3	0	0	0
Park Wood	Bdlv	2.8	SE732442	0	1	3	0	0	2
Rush	Bdlv	2.4	SE603443	2	1	6	0	2	0
Wilson's Plant.	Mxd	3	SE695538	7	2	2	1	1	0
Wigman Wood	Conf	4.5	SE644452	2	1	7	0	4	0
			Total	37	16	44	4	12	15
			%	2 9	1 3	3 4	3	9	12

B. lapidarius, missing from all the Malaise trapping, was recorded close to two of the sites before 2003 and close to four sites after 2003. The other notable absence from the Malaise trapping were any cuckoo bumblebee species, while *B. bohemicus* was recorded close to two sites (Park Wood and New Covert) before 2003 and *B. sylvestris* close to two sites (Many Gates & Wilson's Plantations) after 2003. *B. vestalis* was also recorded after 2003, close to four sites (Melbourne Hall, New Drive Plantation, Many Gates & Wilson's Plantations).

Table 2. *Bombus* sp. records from other sources, close temporally and spatially to the Fraser 2003 sampling locations. * indicates cuckoo species.

	Source					
	iRecord	National Biodiversity Network	YNU Aculeate Database			
	VCs 61 & 62, 2003	Within 2 km of 2003 Malaise trapping sites				
Species		Copman-thorpe & Greenland Woods, 2011	Wigman Wood, 1980	Park Wood & New Covert, 1991-98	Melbourne Hall & New Drive Plantation, 2010 & 2015	Many Gates & Wilson's Plantations, 2009
<i>B.bohemicus</i> *	-	-	-	Y	-	-
<i>B.hortorum</i>	-	Y	-	Y	-	Y
<i>B.lapidarius</i>	-	Y	-	Y	-	Y
<i>B.lucorum</i> agg.	-	Y	Y	Y	Y	Y
<i>B.pascuorum</i>	-	-	Y	Y	Y	Y
<i>B.pratorum</i>	-	-	Y	Y	Y	Y
<i>B.sylvestris</i> *	-	-	-	-	-	Y
<i>B.terrestris</i>	-	Y	-	Y	Y	Y
<i>B.terrestris/lucorum</i> agg.	-	-	-	-	-	-
<i>B.vestalis</i> *	-	-	-	-	Y	Y

Discussion

Malaise trapping has only caught common and widespread species, as might be expected. There was no correlation between numbers of bumblebees and area of woodland ($r^s = -0.0643$; $p > 0.05$; $n = 15$) and no apparent relationship with the broad category of woodland. Since Malaise traps were set between 10 and 20m of the southern edge of the woods (Fraser *et al.* 2007) bees did not have far to fly to enter more open habitat with additional potential sources of nectar and pollen.

B. lapidarius was recorded in the area of some of the Malaise traps both before and after 2003 and it seems likely that its absence from the traps did not reflect any particular trend and was probably a chance event. The absence of *B. hypnorum* can be explained by the fact that it had not yet spread beyond its initial colonisation sites in southern England.

The absence of any cuckoo bumblebees from the samples is worth considering. In general, as parasites on social bumblebees, their abundance will be lower than that of their host species. In a North American study of bees comparing Malaise trapping with pan trapping

(Andersen *et al.* 2024) cuckoo species made up just 2% of all bees trapped. It is therefore not that surprising that of the 128 bumblebees caught in 2003 none was a cuckoo species.

Three species of cuckoo bumblebee were recorded within 2 km of the trapping sites before and/or after 2003. *B. bohemicus* was recorded at Thornton Ellers within 2km of Park Wood and New Covert every year between 1992 and 1997. Only two specimens of its host, *B. lucorum* agg., were caught in the Park Wood and New Covert traps. So it is perhaps not that surprising that it was absent. In addition, while relatively widespread nationally it is more associated with 'base-poor or upland habitats' in areas of northern and western Britain (Falk & Lewington 2015). Dozier *et al.* (2023) note that the population trend for *B. bohemicus* is 'decreasing.'

B. sylvestris was recorded on five occasions in Hagg Wood, Dunnington, within 2 km of Many Gates and Wilson's Plantations, during 2009. Its host is the Early Bumblebee *B. pratorum* and, while all the 2009 records were from April and May, the Malaise trapping was in July and August, later in the season than for the peak numbers of *B. sylvestris*.

There were four records of the Southern Cuckoo Bumblebee *B. vestalis*, a parasite of *B. terrestris*, within 2km of Melbourne Hall and Many Gates, Wilson's and New Drive Plantations, all after 2003. It is the commonest cuckoo in most parts of England; Falk & Lewington (2015) and Dozier *et al.* (2023) note that its population is increasing.

Foraging bumblebees are relatively docile, easy to catch and identify while alive. Consequently, bumblebee surveys frequently involve direct observation of foraging individuals (e.g. Bumblebee Conservation Trust 2024; UK Pollinator Monitoring Scheme 2024) and do not require Malaise trapping. Nonetheless, Malaise traps have proved valuable in some studies of *Bombus* spp. (e.g. Anderson *et al.* 2024), particularly when compared with pan traps.

Conclusion

A preserved bycatch of bumblebee specimens from Malaise trapping in woods around York in 2003 contained only common and widespread species but was notable for the absence of any cuckoo bumblebee species. Comparison with other data sources provided some possible reasons for this, although, in the light of the very limited data, any explanations have to be speculative.

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Scarce Vapourer in the North

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The Scarce Vapourer *Orgyia recens* is a rare and declining day-flying moth found in a very restricted range in the north and east of England (Yorkshire, Lincolnshire, and Norfolk). It has an unusual life cycle in that the female is virtually wingless and cannot fly so the males (Fig. 1) must fly and follow pheromones emitted by the female to find a mate. This may seem like a restrictive life strategy; however the Vapourer *O. antiqua* is quite widespread and faring much better. There are also a number of other common and widespread moth species in the Geometridae (subfamily Ennominae) such as Pale Brindled Beauty *Phigalia pilosaria* and Dotted Border *Agripois marginaria* with the same mating strategy.

The Scarce Vapourer larva (Fig. 2) feeds on a wide variety of mostly woody plant species, such as willows (*Salix* spp.), oaks (*Quercus* spp.), birches (*Betula* spp.) and brambles (*Rubus* spp.), and so it is not limited by availability of the food source. It usually has a single generation of adults in a year, although a second brood is known to occur in Norfolk and investigations to determine whether a second brood occurs in Yorkshire are currently underway. Eggs are laid in June or July; larvae hatch within a few weeks, feed up and overwinter on the bushes, feed again when leaves reappear in spring, before pupating in



Figure 1. Male Scarce Vapourer adult. Photo: J. Horsfall

May or June and appearing as adults in June or July. The second brood accelerates the larval stage and reappears as an adult at the end of August or first half of September.

The over-wintering of larvae on branches may be an adaptation for living in wet places, liable to flooding. The Vapourer in contrast overwinters as an egg near the ground. It is likely that alongside factors affecting the Vapourer (like habitat loss) the Scarce Vapourer is more prone to changes in management in the 20th century, most notably the use of side-arm flails to cut hedges. There may also be factors relating to the Scarce

Vapourer's preference for wetland areas and the widespread drainage of wetlands that has continued for centuries reducing available habitat; but given the food preference is not necessarily for wetland plants it is not easy to see this connection at present.

Because both species of vapourer moth have flightless females, they can become very large and heavy, and as a result produce a very large number of eggs, in captivity between 150 and 800 (Mitchell 2024). However, laying all the eggs in the same place does mean that they are more likely to be wiped out in one fell swoop through predation.

Another disadvantage to having flightless females is the inability to move if the adult female is in a sub-optimal location. There is some mobility at the larval stage, when they are presumed to balloon to other locations; some evidence of this in *ex situ* larvae has been seen (Mitchell 2024). When 5mm long or less they spin a thread of silk and the wind may then take them away to found a new colony. This is a hit-and-miss strategy and one larva was found in



Figure 2. Scarce Vapourer larva. Photo: J. Horsfall.

mown grassland nowhere near a food source (Bird 2017) but within 1km of a known (and in that year) large colony. However, there may have been other colonies in the vicinity, so it is

not possible to give any real information on the potential distance a larva could travel. This record does show that Scarce Vapourer can colonise new areas and, as colonies found at Potteric Carr have been on areas of habitat which were less than 25 years old, they clearly do colonise new patches. In that case, the patches were near to other suitable habitat, so it is likely that successful colonisation is over short distances (probably much less than 1km).

This habit of colonies, which can persist for several years, being founded by a ballooning female larva does suggest that the species might persist through a metapopulation structure within a local area, i.e. there are reasonably discrete colonies arranged in a wider group.

If you imagine a founder female landing on a new patch, the following year (if she is mated) a number of larvae may occur in a small area (a hedge, bramble patch or scrubby field). This number may build up in a small pocket of good habitat but potentially unconnected to other colonies or there may be adult males that can move between colonies (it is not known how far the adult males fly). Any single colony may persist for many years before falling victim to predation, disease, parasite or extremes of weather. A colony found at Potteric Carr was watched for over 5 years, but then this particular patch seems to have lost Scarce Vapourer, although other patches on Potteric Carr still retain the species. The numbers of individuals seen each year on this small area (a path edge of less than 20m in length) varied from a few to scores, although the difficulty in finding them does mean that numbers are unlikely to be the total population in that area.

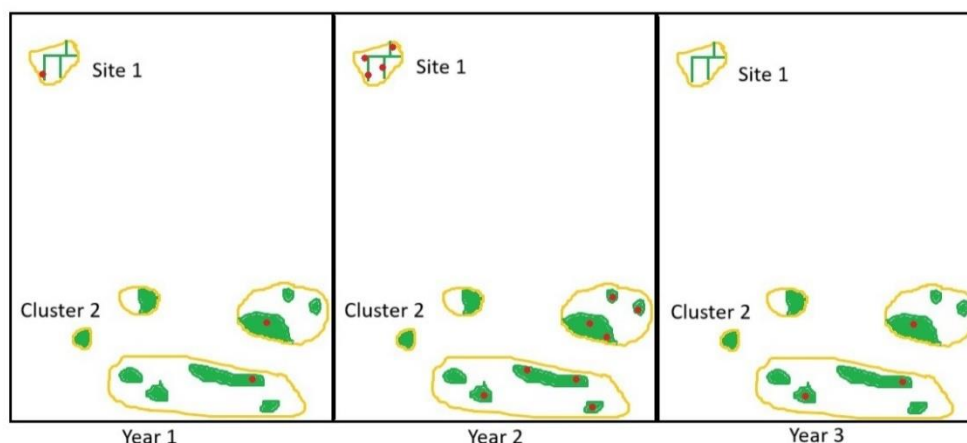


Figure 3. Metapopulation examples. Orange line is a nature reserve boundary or similar; green is suitable habitat like a hedge or patch of scrub; red dots are population colonies. Site 1 is unlikely to be recolonised but the individual sites that make up cluster 2 may become locally extinct and recolonised many times over the decades.

Consider the two examples of metapopulation structures in Fig. 3 above. In site 1 a population is completely within a single small site, and restricted to some adjacent hedges. Colonisation from year to year is probably high as the hedges may be close together, but if the site is small then predation and other factors will be similar across the whole site. The

colonies may wax and wane but over time it is likely that the metapopulation will disappear after a seemingly freak event and over the span of decades that is almost certain to happen; for example, two extremely cold winters consecutively are likely to happen at some point in the next 100 years. In contrast, at cluster 2, the sites are not so close together or linked, but there are several good patches of habitat within colonisation range. In a good year maybe several new patches or sites will be occupied. Also some of the patches are small so may be prone to local extinction, but also the variety of sites may mean predation, disease or 'freak weather' will affect each site differently and therefore risk of all patches becoming extinct in the same year is smaller (and, the larger the metapopulation, the smaller the risk of complete extinction).

This metapopulation structure is well known from a number of species, Marsh Fritillary butterfly *Euphydryas aurinia* being a good example. At Chamber's Wood farm in Lincolnshire, a well-known population for Marsh Fritillary, the species built up over many years and in a year of high population and good weather it then spread and colonised other nearby sites. However, Marsh Fritillary more widely in the countryside has declined enormously as patches became small and isolated, and most metapopulations have become extinct. The long-term continuation of Marsh Fritillary near Lincoln is dependent on a number of populations becoming well established and being able to build up in the good years to survive the bad ones.

The idea of a metapopulation is illustrated here, as the populations of Scarce Vapourer that remain in the north of England exist in exactly these kinds of location. In the last five years the sites with colonies found include Potteric Carr (220ha site) and Thorne and Crowle Moors (1900ha). Adult males were also found at Hatfield Moor (1400ha) and in the Lower Derwent Valley (660ha), although the exact location of colonies (i.e. larvae or adult females) is not known. Given the distance from other known colonies to these adult-only sightings, it seems unlikely that they originate from long distance dispersal of males, although lack of knowledge of dispersal distance means this has to be speculative.

The suggested minimum size of patches in a metapopulation for Marsh Fritillary is 80 - 142ha (Bulman *et al.* 2007), but differences in life history would mean this number is different for different species. Until 2004 Potteric Carr nature reserve was only 165ha and, as the population must have survived here for some years, perhaps this gives an indication of the minimum size for a metapopulation? Alternatively, if a male Scarce Vapourer could regularly travel from Potteric Carr to Hatfield Moor (8km), those two sites could be considered part of a Scarce Vapourer metapopulation covering a much larger area. Clearly there is a need for further research.

The reintroduction of the species to a number of locations in the 20th century also muddies the waters, as most of these are not recorded as introductions in journals or databases. However, currently extant populations are from sites with a reasonably good history of Scarce Vapourer, albeit often with gaps without records for many years, so although reintroduction or reinforcement of populations is possible on these sites it is presumed that this has not occurred. NB The author would be grateful to hear from anyone who knows of reintroductions or reinforcements of this species.

The difficulty in surveying for Scarce Vapourer is a factor to consider here because, unlike Marsh Fritillary, it is hard to find both as an adult and as a larva. Much effort in surveying has been made in recent years, but with very few sites providing positive records. Finding just one larva is a significant result from a day in the field. It may be that a metapopulation could exist on a small area of habitat which is currently overlooked.

The best method for survey is still under investigation and it is hoped a method can be written up to enable a national survey in coming years. Any records of this species should be sent (ideally with a photo/s) to your county moth recorder as all records are very important for this species. Most records are of larvae from mid-May to the end of June, found by arduously searching visually for larvae on the food plants, by looking for feeding signs and then turning leaves over.

Sites with records from the 20th century have been revisited (for example Owstons Meadows, Skipwith Common, Bishop Wood, and Inkle Moor) but no Scarce Vapourers have been found at these smaller sites. At most of these sites it is expected that they are no longer present, but Inkle Moor is contiguous with Thorne Moor so is a likely spot to re-find it, and Skipwith Common's proximity to the Lower Derwent Valley also makes this a more likely location. However, access to good habitat is difficult at these sites so visual surveys may not be appropriate (Inkle Moor has a lack of paths and is hard to walk through; Skipwith is grazed, so larvae are likely above the browse line and out of human sight).

So the Scarce Vapourer indeed lives up to its name in the north and is very scarce, with 5 sites (4 clusters/metapopulations) in South Yorkshire, East Yorkshire and North Lincolnshire, plus a single record for a site in North Nottinghamshire, probably from a known reintroduction that remains to be revisited and investigated.

Acknowledgements

Much help in survey work has been undertaken by Nik Mitchell and Lucy Kucharik, and many records have been contributed by a number of volunteers. Discussion about the species with Julian Small, Senior Manager of Humberhead Peatlands NNR, and Dave Wainwright, Head of Conservation (England) for Butterfly Conservation, proved very useful in thinking about this article. Much thanks must also go to Natural England who have funded work on this species through the Species Recovery Programme.

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The Barnsley poet-naturalist Thomas Lister (1810-1888) – a reflection from 2024

Jeff Lunn (YNU President 2023-24)

Peter Roberts (Secretary, Barnsley Naturalist & Scientific Society)

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The Yorkshire Naturalists' Union Annual General Meeting 2024 was held in Barnsley and included an unveiling of a 'Blue Plaque' commemorating the life of Thomas Lister, a significant character in the town's nineteenth century history, and reflecting his role as the town's Postmaster and his contribution to natural history and poetry.

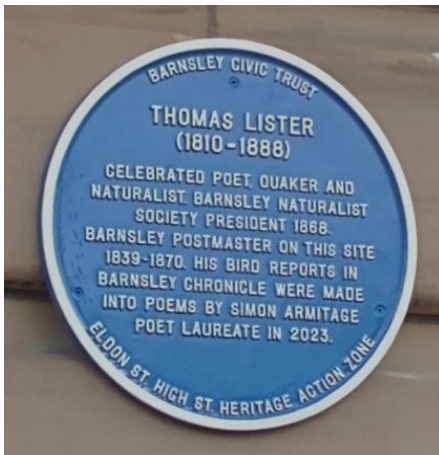


Figure 1. Blue plaque to Thomas Lister in Church Street, unveiled 16 November 2024. *Photo: A. Millard*

The Blue Plaque (Fig. 1) also marked the fact that Thomas Lister's 140-year-old bird sighting reports were recently resurrected as poems by the current Poet Laureate Simon Armitage.

Born at Old Mill Wharf, Barnsley, on 11th February 1810, Thomas Lister (Figure 2, p186) was the youngest of fourteen children. He was educated at the Quaker Friends' School, Ackworth, between 1821 and 1824 where he is said to have received a good English education and was admired for his athletic feats and physical courage. He was 'trained up' in the pacifist and egalitarian principles of Quakerism by his 'honest and revered parents' and then worked as a cart driver, composing many of his poetical works whilst 'pursuing his daily toils in the open air'.

In 1837 he met the 'Corn Law Rhymer' poet Ebenezer Elliott (1781-1849), who was at the height of his fame for leading the fight to repeal the Corn Laws, and who remained a close friend and mentor throughout his life. He also undertook a walking tour of the Lake District and Scotland, and in 1838 visited France, Italy, Switzerland and the Netherlands, sending his poems and translations (from the German, French and Italian) back home to Elliott who got them published by Tait in Edinburgh.

The local popularity of Thomas Lister's 'warblings wild' brought about an introduction to Lord Morpeth of Castle Howard. Impressed by Lister's character, Lord Morpeth offered to nominate him for the office of Postmaster at Barnsley in 1834 but, as a Quaker, Lister was unwilling to take the requisite oath. However, in 1839, on the office of Postmaster at Barnsley becoming vacant, Lister was appointed to it, a simple affirmation having been

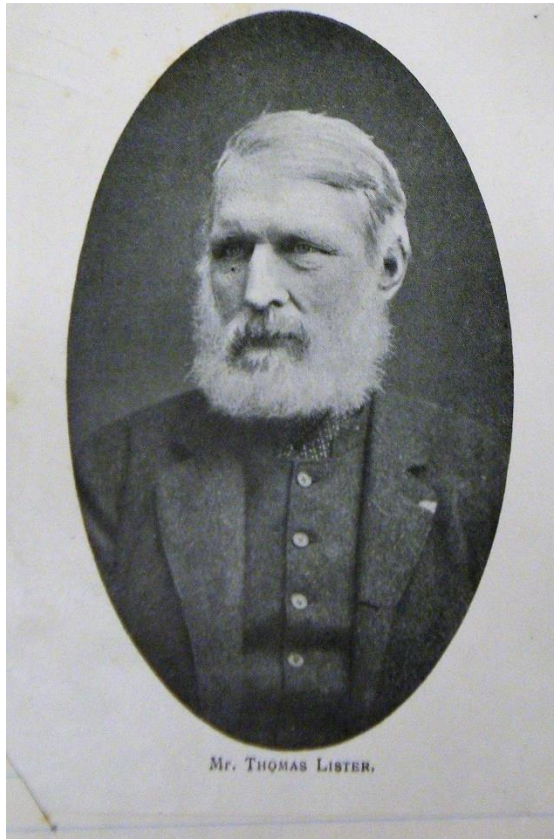


Figure 2. Thomas Lister. Source: Barnsley Archives & Local Studies

substituted for the oath. He held this position until 1870 when he retired with a pension and was presented with a handsome testimonial at a large public meeting, presided over by the Mayor of Barnsley.

Thomas Lister was an enthusiastic and energetic naturalist and a leading figure in the development of the Barnsley Naturalist and Scientific Society (BNSS) and its links with the YNU and other scientific organisations. He regularly published meteorological observations and notes on birds to the local paper *The Barnsley Chronicle* and also to *The Naturalist*. He maintained a network of observers who regularly reported sightings, and testimony to his prodigious walking feats is evidenced in his own records by visits to widely differing localities on consecutive days at a time when travel was not easy. His records have proved useful in charting the changes in arrival dates of summer migrants to the Barnsley area over a century after his death (Lister 1883; Lunn 1992).

In 1856 as Postmaster, he signed a circular leading to a meeting convened to form a 'Barnsley Natural History Society' for the 'observation and study of the objects and phenomena of natural history, geology, minerology, chemistry and meteorology'. Regrettably, nothing more was heard of it until 1867 when a group of five young men formed the Barnsley Naturalists' Society 'by subscribing two shillings entrance money and sixpence per month payable in advance'. Thomas Lister was elected President the year after, in 1868, a role in which he served for many years. The Society changed its name to the Barnsley Naturalist and Scientific Society in 1891 (Atkinson 1987).

In 1857 he read a paper at the Barnsley meeting of the Geological and Polytechnic Society of the West Riding, on the 'Natural History of Fossil Remains of Barnsley'. He was a constant attendant and contributor of papers at the annual meetings of the British Association. At the Southampton meeting in 1882 he read a paper on 'The Distribution of Yorkshire Spring Migrants', and when accompanying the association to Montreal in 1884, aged 74, he visited

Montreal and the main Canadian and American cities. He was very elderly to be thinking of sailing to the States, so he had to be both brave and physically fit to consider it (his three brothers had emigrated to America in 1829/30 and then moved on to Canada, so he was probably catching up on nephews, nieces and their parents). The poem 'The Home-expelled Britons' is thought to be one of the first written by Lister and relates to the emigration of his brothers.

In the mid-nineteenth century there was a great enthusiasm and energy for the pursuit of natural history. The West Riding Consolidated Naturalists' Society (WRCNS) was formed in 1861 and was the forerunner of the Yorkshire Naturalists' Union, formed in 1877. In 1880, when the YNU presented its 'memorial' to Charles Darwin, Thomas Lister was the President of the YNU vertebrate Section.

Before 1877, field meetings had marked the day's activities by appointing mentors who would name collected specimens gathered *en route* by members at a meeting point. After this date, it was realised that meetings would be more profitable if extended to encompass the whole county, but made more purposive and restricted to a defined area with a prepared programme of serious investigation. It is interesting to note the enthusiasm and leadership that Thomas Lister gave to both the BNSS and YNU at this time.

A Whitsuntide excursion to Cannon Hall and Deffer Wood in 1870 was led by the 'redoubtable Thomas Lister' and an impressive list of species were recorded. He gave a report on the birds of the Barnsley area and closed his discourse by quoting some lines of poetry by Ebenezer Elliott. A vote of thanks was given to J. S. Stanhope for throwing open Cannon Hall park and who, earlier in the day, had displayed the bow of Robin Hood to the assembled party. How notable it would now be to mark a YNU meeting with the viewing of a mythical artefact and ending with a poetry recital!

A repeat visit by the WRCNS to Cawthorne was made the following year and Thomas Lister, in the formal meeting, highlighted the similarity between the notes of Lesser Whitethroat and Redstart which could lead to confusion. In what was a perceptive contribution to the development of ornithology, his radical suggestion was to view the singing bird through a 'field glass' thereby 'furnishing one of many instances in which the ear requires correcting by the eye aided by a small telescope'.

In 1884 – one hundred and forty years ago – the 22nd annual meeting of the YNU took place in Barnsley Public Hall. The Presidential Address was given by the famous Yorkshire botanist John Gilbert Baker on 'The Fathers of Yorkshire Botany', and the BNSS organised a Natural History and Fine Art Exhibition in honour of this visit.

The BNSS was instrumental in creating and maintaining the town's only museum; the Society's Museum was begun in 1878 in a room at the Harvey Institute (now The Civic). It benefited from collections by other members, purchases and bequests — Thomas Lister bequeathed his library and collection of stuffed birds on his death.

Much travelled and enlarged, the BNSS museum returned to the Public Hall in 1948 when the museum was donated to Barnsley Borough Council. Unfortunately, the contents of the Museum, both natural history and social history artefacts, were disposed of in the 1960s and the museum was lost. A sad reflection of the times. A fuller account can be found in Atkinson (1987).

Thomas Lister died at Barnsley on 25th March 1888, and was buried on the 29th in the Friends' Meeting-House ground in the Cockerham Road. In 1841 he had married Miss Hannah Schofield (1812-1882), but had no issue.

Eldon Street

Eldon Street, in Barnsley town centre, was first laid out in the 1840s. It quickly became an important gateway to the town, with the first railway station opening on Eldon Street in 1850, and quickly became a commercial and cultural hub, with bustling theatres, shops, pubs and markets. It would have been at the heart of Thomas Lister's world. As with many historic high streets and town centres, the area has faced many challenges in recent years, with shops closing and becoming run-down; however investment and an optimistic plan for the future has seen the town centre rejuvenated and revitalised. Today, in 2024, Eldon Street forms an important link between the Old Town and the new Glassworks development, at the heart of Barnsley town centre.

In 2020, 210 years after Thomas Lister's birth, the Eldon Street High Street Heritage Action Zone (HSHAZ) project was launched by Barnsley Metropolitan Borough Council and Historic England with the intention of using arts and culture to help to rejuvenate Eldon Street and improve connectivity within the town. It engaged the local community to uncover and celebrate the stories and often overlooked heritage of one of Barnsley's most important historic high streets. Whilst Eldon Street HSHAZ closed in April 2024, a legacy of local history, art, architecture and personal stories were uncovered and documented, including the history of the BNSS museum and the roles played by town worthies such as Thomas Lister.

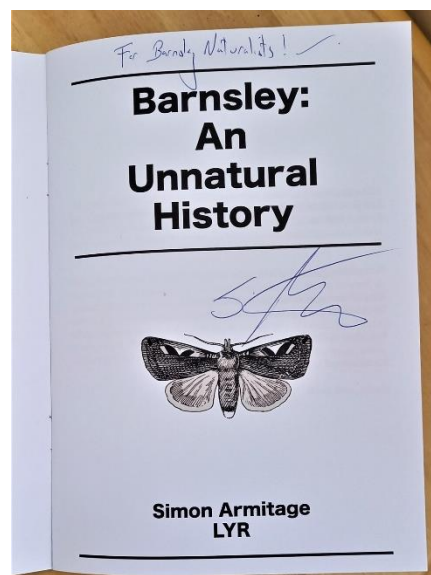


Figure 3. Signed copy of *Barnsley: An Unnatural History*. Photo: P. Roberts

Barnsley, an unnatural history

Simon Armitage, Poet Laureate for the UK, took up a residency with the HSHAZ and spent time in Barnsley Archives, drawing inspiration from some of the many historic documents relating to Eldon Street. He was particularly interested in the natural history stories connected to Eldon Street, including the work of the BNSS and their almost-forgotten

museum which was housed on the top floor of the Barnsley Civic Hall, and the animals connected to the many circuses, fairs and markets that have been held in and around Eldon Street over the years.

During the residency he produced a series of new works and stories inspired by the project coming together in: 'Barnsley: An Unnatural History, a poetic and musical happening celebrating Barnsley's Eldon Street through the lens of its former Natural History Museum' (Fig. 3).

These were performed by Simon and his band, LYR, at the Parkway Cinema in September 2022 and became part of a BBC Radio 4 programme 'The Ballad of Eldon Street' broadcast in September 2023.



Figure 4. Telephone box displaying Hebrew Character Moth and poem of same name by Simon Armitage. Photo: P. Roberts.

A poetic legacy of Simon's can be found in a re-vamped red telephone box opposite Barnsley Town Hall, where a poem and art to the Hebrew Character moth (*Orthosia gothica*) links the project to the influence of the BNSS (Fig. 4).

Full circle

When Thomas Lister first supported the creation of a Barnsley Natural History Society in 1856, and later went on to be its President, as well as cultivating links with neighbouring societies through the WRCNS and the YNU, science was beginning to replace curiosity and collecting as the rationale for natural history. It must have been an exciting time, discovering the delights of animals and plants across the District and beyond, sharing the discoveries and learning with fellow enthusiasts and experts, and forming societies dedicated to the pursuit of knowledge of the natural world.

With the resurgence of interest in local heritage, and the role it can play in the development and prosperity of our towns and cities, it is heartwarming to see that the endeavours of our forebears can still be recognised and celebrated. The 'Blue Plaque' is a fitting tribute, though what Thomas Lister would have made of a red 'telephone box' covered with a poem to a moth would be anybody's guess.

Acknowledgements

We would like to thank Mr John Coldwell for permission to use his unpublished research into *The Yorkshire Naturalists' Union in the Barnsley area: Part 1. The Victorian naturalists*.

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A neonative Peppermint born and bred in Coatham, VC 62 Northeast Yorkshire

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Introduction

Mentha × piperita (Peppermint), a sterile hybrid between *M. spicata* (Spearmint) and *M. aquatica* (Water Mint), is a well-known and widely-cultivated culinary herb. In Victorian time, it became extensively grown at field scale for the production of Peppermint oil, especially in Southern England. There exist a range of cultivated forms found in cultivation. Regularly, individual plants find their way from cultivation into the wild and over time, Peppermint has been observed growing in several habitats, usually near water bodies such as lakes, ponds and rivers across Britain (Stroh *et al.* 2023), as an emergent wetland plant. When encountered in the wild, it is often clear that the organism has been horticulturally selected prior to naturalisation in nature. Indications include the pleasant and strong Peppermint fragrance, vigorous growth, and the near absence of hair on leaves and stems. It is not fully clear why the absence of hair is associated with domestication in Mints, but it is also observed in domesticated Spearmint and Water Mints as well, the two progenitor species. Being mostly sterile, Peppermint's spread in space happens via vegetative reproduction, while new diversity would only arise with new hybridism events between the progenitors (Harley & Brighton 1977), or via meristematic mutation (López-Hernández & Cortés 2022). When observed in the wild, glabrous Peppermint is likely to be of cultivated stock, for example, a garden escape, having established from garden waste, or having dispersed vegetatively from such introductions, even if found away from urban centres or gardens. In such cases, Peppermint is assessed as a non-native of horticultural origin. In contrast, hairy clones are rarely found in cultivation and can be expected to have originated spontaneously in the wild (Harley 2015). Despite this distinction, Peppermint hairiness is rarely recorded during field work by botanists and there is a dearth of information about the distribution of man-selected and spontaneous Peppermints encountered in the wild in Yorkshire.

Methods

On 07/09/2024 I undertook a field visit to NZ58692543, within the Teesmouth and Cleveland Coast SSSI, near the Coatham Caravan Park, to re-locate a Spearmint population originally spotted by Vincent Jones. I also revisited the site on 21/09/2024 to take pictures. The NBN Atlas, BSBI maps and the Plant Atlas (Stroh *et al.* 2023) were consulted to retrieve relevant records of Mints (*Mentha*) in the local area (NZ52). All three taxa were identified using Stace (2019) and Leaney (2023).

A Peppermint discovery

The Spearmint was re-found and was well established. It showed the typical characteristics of a garden escape, with a strong and pleasant smell of Spearmint, narrow and pointy leaves, and being near glabrous in all parts. Nearby, un-expectedly, a hairy plant of Peppermint was also observed growing by a pond between the Coatham dunes system and Coatham golf course at NZ58602540. Further down into the pond, within a couple of meters away, was a population of Water Mint with typical morphological features, including fertility, rounded inflorescences and conspicuous hairiness. The Peppermint observed appears to have intermediate morphology and ecological niche, halfway between the Water Mint and Spearmint present at the site (Fig. 1, p192). Table 1 gives an overview of the three Mint taxa observed at the site and previous record thereof.

Table 1: Overview of the three Mint taxa observed at the site and previous record thereof.

	Grid ref	Characteristics	Previous record at the location
<i>M. × piperita</i>	NZ58602540	Hairy, with intermediate characteristics	none
<i>M. aquatica</i>	NZ58592539 and grid squares adjacent in pond	Hairy, rounded leaf apex, short, wide and rounded inflorescences	Observed in this pond in 2018, Ambroise Baker.
<i>M. spicata</i>	NZ58642541 and adjacent grid squares on bank	Glabrous, pointed leaf apex, long and narrow inflorescences	In NZ58692543 in 2014, Vincent Jones.
<i>M. spicata</i>	NZ52X		Maybe referring to the same population in 2007, 2014 and 1994, V. Jones and M. Yates; V. Jones; and I.C. Lawrence, respectively.

Evidence for *in situ* hybridisation

M. × piperita had never been recorded in hectad NZ52 (BSBI map consulted on 09/10/2024; Stroh *et al.* 2023). This record is therefore new for the area despite a long tradition of botanising both historically (Baines 1840) and more recently (Barlow 2021) in the Coatham and South Gare area, a well-known hotspot of plant diversity. In addition, the exact location



Figure 1: Representative specimen collected at the site on 21/09/2024. Left *M. spicata*, centre *M. x piperita*, right *M. aquatica*. Note that the branching pattern in the inflorescence is environmentally induced, not an identification character for any of the three taxa. Photo: A. Baker.

was visited in 2014 and 2018 by botanists (Table 1) providing evidence of continuity at the site for Spearmint and Water Mint, but also the likely absence, or low detectability for the Peppermint on these occasions. The above suggests a relatively recent arrival at the site. The location is away from roads, excluding the possibility of direct fly tipping, a practice known to have been widespread in the past and in the area and resulting in a large number of established non-native species (Barlow 2021; Baker 2020). In addition, the hairiness of the plant and its mild Peppermint fragrance does not indicate a clone that has been selected for cultivation. Altogether the Peppermint encountered is unlikely to be a garden throw-out. Importantly, the plant is truly intermediate in morphology between the Water Mint population and the Spearmint clone present on site. It is to be noted that Spearmint is highly polymorphic (Heylen *et al.* 2021) and can give rise to a wide range of offspring through hybridisation (e.g. Tucker & Fairbrothers 1990). Therefore, the intermediate characters observed are fully congruent with the hypothesis that the Peppermint observed is a first generation (F1) descendent from the two Mint species present at the site.

Conservation status

There is no ambiguity about the native status of Water Mint and the archeophyte status of Spearmint in Britain (Stroh *et al.* 2023). Hybrids between native and introduced horticultural plants are often regarded as a threat to the integrity of the native flora. For example, there are concerns that the charismatic English Bluebell could be outcompeted by garden escape hybrids (between the English Bluebell and Spanish Bluebell). However, this threat proved

unfounded in recent research, despite the potential for introgression (Kohn *et al.* 2019). Recent work (Olofsson *et al.* 2024) has shown that there was some gene flow between alien and native Mint species, but in this study and with the wild Peppermint described here, there is no evidence of threat to native biodiversity. On the contrary, I would argue that the Coatham Peppermint constitutes valuable novel biodiversity enhancing the local flora, to which the term neonative applies, i.e. “a plant that has originated in the area without direct human involvement but has arisen as the result of hybridization either between a native and an alien taxon or between two alien taxa” (Stace & Crawley 2015).

Conclusion

To sum up, there appear to be enough evidence to postulate that the Peppermint observed is a spontaneous hybrid progeny of the Water Mint and the Spearmint present at the site. The status of this novel plant of hybrid origin can be recorded as neonative.

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YNU Conference 2025

The State of Yorkshire's Nature

Date: Saturday 1 March

Arrival and Registration: 09:30 – 10:00

Conference 10:00 – 17:00

Place: The Priory Street Centre, 15 Priory Street, York, YO1 6ET

The conference fee, which includes lunch, is £30 for YNU members, £40 for non-members and £15 for students. For booking and payment visit the YNU website (<https://www.ynu.org.uk> →Join-the-YNU→YNU shop→categories-listing) or contact: The YNU Membership Secretary, c/o NEYEDC, Unit 7, Hassacarr Close, Dunnington, York, YO19 5SN (Tel.: 01904 641631; Email: membership@ynu.org.uk).

YNU Excursion Reports 2024

VC63: Anston Stones Wood, 19 May 2024.

INTRODUCTION (Joyce Simmons)

An excellent gathering of 35 YNU members joined the meeting to Anston Stones Wood. The day promised to be fair, though not particularly sunny, reducing the chances of seeing sun-loving invertebrates. Some members dispersed to look at the river, well below the meeting point in a very shaded gorge. I have not received a report on this, but I suspect that the river was not very productive for invertebrates.

The rest of the party set off on the upper path into the woodland and towards the meadows. The group gradually spread out as features of interest were encountered, such as the meadow with Adder's Tongue fern *Ophioglossum vulgatum*. Lunch was beside a sunny Magnesian Limestone outcrop with typical flora. As we passed through meadows more limestone flora were noted, and in the woodland gorge Fingered Sedge *Carex digitata* and Mountain Melick *Melica nutans* were found. Descending the steep gorge by steps led us to a railway bridge covered in Great Scented Liverwort *Conocephalum conicum*, which certainly earns its name.

The tea meeting in the Anston Stones Village Hall was attended by 18 members including members of eight affiliated societies. We discussed the management of the area, for which

one of our members (Louise Hill) had written the management plan. This has not been adhered to; in practice the owner, North Anston Council, considers local access and amenity value before its natural history needs. Such considerations as dog disturbance are low on the priority list.

BOTANY (Louise Hill)

The Botanical Section set off as a large group to meander through the eastern part of Turner's Field, the lower slopes of which lead down to Anston Brook. Here we found Barren Strawberry *Potentilla sterilis*, a large colony of Adder's-tongue *Ophioglossum vulgatum* and frequent Betony *Betonica officinalis* with scattered Heath Wood-rush *Luzula multiflora* and patches of Pignut *Conopodium majus*, Zigzag Clover *Trifolium medium* and Bush Vetch *Vicia sepium* as we neared the narrow, wooded path to Stones' End Field. On entering this narrow strip of grassland, situated below the reedbeds of the Severn Trent Wastewater Treatment Works, we found that the woodland beside the path had a herb layer of Yellow Archangel *Lamium galeobdolon* with scattered Soft Shield-fern *Polystichum setiferum* and Hard Shield-fern *Polystichum aculeatum* beneath the trees on the steep slope above Anston Brook.

A small party was diverted into Sykes' Plantation to locate a population of Moschatel *Adoxa moschatellina*, a colony that one member had been aware of for many years but which had not been recorded here formally since 2002!

A splinter group of botanists then decided to reach Little Stones Grassland via the steep slope below the limestone crags, finding Common Twayblade *Neottia ovata*, Bitter-vetch *Lathyrus linifolius*, Buckthorn *Rhamnus cathartica*, Hedge Bedstraw *Galium album*, Thyme *Thymus praecox* and *Festuca ovina* (Sheep's-fescue) on the way. Sandwiches were consumed on the limestone crags overlooking the densely wooded Brook. During lunch a close inspection was made of the stones in search of Rue-leaved Saxifrage *Saxifraga tridactylites* but only a rather unconvincing shrivelled potential specimen could be found. A brief walk along the trampled paths that criss-cross the middle of the Little Stones Grassland found plentiful Lesser Stitchwort *Stellaria graminea* in the sward.

After lunch the group split into two parties. I led one group for a longer 'off-piste' walk on the southern side of the Brook with the enticement of searching for a rare sedge, a species that one member of the party (Alastair Fitter) had not seen for years. To reach the bridge over the Brook our group went under the Railway through the stone-built underpass and found Wall Lettuce *Mycelis muralis* growing on the damp mossy wall. After crossing the bridge over Anston Brook we traversed the north-facing slopes below Long Crag on an off-camber, slippery mud path. We headed in an upstream direction over moss covered rocks with Giant Bellflower *Campanula latifolia* growing at the base, and around fallen trees through a primeval woodland with Wood-sorrel *Oxalis acetosella*, Wood Melick *Melica uniflora* and Yellow Pimpernel *Lysimachia nemorum* growing by the path. Eventually we located our goal, a wooded limestone flush just downstream of the railway culvert, to find the colony of Thin-spiked Wood-sedge *Carex strigosa* that grows there. We retraced our route back to the bridge at which point the party split. A small group continued on the main path downstream pausing to puzzle at an odd-looking Selfheal *Prunella* plant, which later

inspection of photographs suggests was Large-flowered Selfheal *Prunella grandiflora*. Our paths crossed with the other group of botanists returning towards the refreshments at the Village Hall. A few of their party diverted to see the *Carex* site and on the way Toothwort *Lathraea squamaria* was noted, which our group had overlooked!

Our depleted party of botanists then climbed the sloping path to reach Anston Stones Grassland where, on thin soil over a bedrock outcrop, we located one or two plants of Hairy Rock-cress *Arabis hirsuta*. By fighting our way through a thicket of young birch and oaks we made it to a small clearing in the south-western corner of this former grassland, beside the railway fence. Here we were able to find small numbers of Fingered Sedge *Carex digitata*, Mountain Melick *Melica nutans*, Oval Sedge *Carex leporina*, and Common Rock-rose *Helianthemum nummularium*. Our group then made a swift return westwards to the Village Hall.

Over tea and biscuits the need for urgent management attention on the eastern SSSI grassland compartment was a topic of discussion and several members present expressed willingness to help undertake physical management of the area if this could be organised.

MOSES (Paul Hughes)

The mosses found are described below:

- Lesser Featherwort, *Plagiochila porelloides*. A small Liverwort not very common throughout the wood, but probably under recorded.
- Wall Scalewort, *Porella platyphylla*. Another small Liverwort more commonly found on shady Magnesian Limestone rocks; we found a colony in the Little Stones area where we had lunch.
- Silky Wall Feathermoss, *Homalothecium sericeum*. Very common moss found throughout the wood.
- Cypress Leaved Plait Moss, *Hypnum cupressiforme*. Again very common moss, mainly found on the tree branches and trunks.
- Neat Feathermoss, *Pseudoscleropodium purum*. Prim-looking Moss found more on the open grassland areas, very common.
- Twisted Moss complex *Tortella tortuosa*. A narrow-leaved moss occasionally found on the Railway bridges.
- MacKay's Pouncewort, *Marchesinia mackaii*. Nationally a western species, this Liverwort reaches its most easterly location in the UK at Anston; sporadic locations through the wood, preferring a lower position on the rock faces.
- Endive Peltia, *Apopellia endiviifolia*. Very small Liverwort found throughout the area, preferring tree trunks and railway bridges.
- Springy Turf Moss, *Rhytidiadelphus squarrosus*. Another common grassland moss, beloved by Waxcaps in autumn.
- Forked Veilwort, *Metzgeria furcata*. Common Liverwort in the wood, mostly found on tree trunks and cliff facings.
- Rambling Tail Moss, *Anomodon viticulosus*. Uncommon Moss liking open cliff ledges, can be found throughout suitable habitats in the wood.

Common Pocket Moss, *Fissidens taxifolius*. Frequently found throughout the wood on bare soil.

Great Scented Liverwort, *Conocephalum conicum*. Large leaved Liverwort found in damper areas and railway bridges, smell of citrus when crushed.

Comb Moss, *Ctenidium molluscum*. The most numerous moss found at Anston, covering all habitats.

PLANT GALLS (Ian Farmer and Tom Higginbottom)

Anston Stones Wood is a special place for naturalists interested in plant galls because the British Plant Gall Society was founded here in 1985 by the late Fred Stubbs, an active member in those days of the YNU. It was fascinating to explore the wood earlier in the year. Late summer is often the time we might normally choose. Highlights of the meeting were finding over fifty species with two uncommon galls discovered on the Oak catkins, the agamic generations of *Andricus quadrilineatus* and *A. seminationis*.

Despite the early season, 53 galls were found on a variety of trees, most caused by mites and wasps.

CONCHOLOGY (Terry Crawford and Vicky Wilkins)

A total of 21 species (12 snails and 9 slugs) was recorded, and this was distributed as 29 species x 1 km grid-square combinations with the majority in SK5823. Dry conditions in the grassland, and the areas of woodland on both sides of the valley with a thick ground cover of Ivy *Hedera helix* and Ramsons *Allium ursinum*, were very difficult habitats in which to locate molluscs. However, where the Magnesian Limestone outcrops on the northern slope (around SK529834/529833) the woodland floor was only thinly vegetated with plenty of fallen branches. Although light was poor, two pairs of eyes were better than one, and we recorded 13 species (five snails and eight slugs) in this small patch. None of these species is rare but the well-known Leopard Slug *Limax maximus* was unusually common, as also was the Rusty False-keeled Slug *Arion fasciatus*, which is mainly distributed in northern England and lowland Scotland and rarely occurs in the numbers found here. The upper footpath on the southern slope emerges onto the A57 road at SK525833 and the Kentish Snail *Monacha cantiana* was frequent on the upright dried stems of last year's Fennel *Foeniculum vulgare* along the verge towards South Anston; it had not been found elsewhere. Its Yorkshire distribution is mainly to the east and in this area it is thinly distributed (NBN Atlas). It may be naturally spreading westwards, or it might have been introduced along this busy transport route. Regarding the large *Arion* "round-backed" slugs, black, reddish and intermediate individuals were found at this meeting. Recent mitochondrial DNA sequencing suggests that the black and red forms should now be relegated to subspecies *Arion ater ater* and *Arion ater rufus* and all have been treated as one species, *Arion ater*, for this report.

MAMMALS (Colin Howes)

No small mammal trapping or bat detecting was undertaken. Field signs only revealed evidence of Mole hills, fresh and old in woodland and grassland. Rabbit droppings and scrapes were in grassland adjacent to woods.

Anthropoid primates and associated mammals: networks of woodland and meadowland paths are well used by members of the public (including walkers, cyclists and a child on a pony). Dog walkers with a total of eight dogs (all shapes and sizes and all friendly) passed me in 1hr 40 minutes.

BIRDS (Colin Howes, Paul Simmons)

Typical birds of woodland, grassland and urban fringe were recorded including Blackbird, Blue Tit, Long-tailed Tit, Robin, House Sparrow, Woodpigeon, Chaffinch, Starling, Corvids (Carrion Crow, Jackdaw, Rook, Magpie), Warblers (Blackcap, Whitethroat, Willow Warbler). Green Woodpecker, Mallard, Buzzard, Swift and Pheasant were also noted.

ACULEATES (Andy Millard)

Common bumblebees were noted (*Bombus pascuorum*, *B. pratorum*, *B. hypnorum* and *B. terrestris*). *Andrena* mining bees recorded were *A. nitida* (at the northern edge of its range and the first record for VC63), *A. cineraria* and *A. chrysosceles* (widespread in England) and the mini-mining bee *A. semilaevis*. The other mining bee noted was the widespread *Lasioglossum calceatum*. Three species of Nomad bees were recorded: *Nomada lathburiana*, a cleptoparasite of *A. cineraria* and which has reached as far north as the Tyneside area; *N. panzeri*, a widespread nomad bee and cleptoparasite of several mining bees including *A. fulva*; *N. ruficornis*, another widespread nomad with *A. haemorrhoea* its host. No wasp species were noted.

MOTHS (Harry Beaumont)

It was an enjoyable meeting on Saturday. The moth list is small as the geometrid moths that are usually easily flushed from the vegetation were not in evidence. Sweeping was hindered by the damp vegetation in the morning, but it had dried out after mid-day. The list is as follows:

<i>Micropterix aruncella</i>	<i>Cauchas rufimitrella</i>
<i>Glyphipterix simplicella</i>	<i>Glyphipterix fuscoviridella</i>
<i>Dichrorampha plumbana</i>	<i>Grapholita lunulana</i>
<i>Cydia ulicetana</i> - a few disturbed from gorse	Grass Rivulet, six among Yellow Rattle
Silver Y	Chimney-sweeper

They are common moths except for the *G. lunulana* which is a local species.

BUTTERFLIES Paul Simmons

The butterfly list is what could have been expected for the date, but numbers were low. The Dingy Skipper, found in tall grassland at the top of the slope, is perhaps the most interesting species and reflects the reasonably high diversity of the site.

Orange-tip	Small White
Green-veined White	Large White
Brimstone	Speckled Wood
Small Tortoiseshell	Red Admiral
Holly Blue	Dingy Skipper

OTHER INVERTEBRATES (Dennis Giggall)

This is the collection of invertebrates identified by Dennis Giggall of Barnsley Naturalists.

Coleoptera:

<i>Coccinella 7-punctata</i> 7-spot Ladybird	<i>Harmonia axyridis</i> Harlequin Ladybird
<i>Adalia 10-punctata</i> Ten-spot Ladybird	<i>Pterostichus niger</i> A ground beetle
<i>Catharis rustica</i> Soldier beetle	<i>Phyllobius pomaceus</i> A weevil

Diptera:

<i>Eristalis tenax</i> Hoverfly	<i>Syrphus rebesii</i> Hoverfly
<i>Episyrphus balteatus</i> Hoverfly	<i>Myathropa florea</i> Hoverfly
<i>Helophilus pendulus.</i> Hoverfly	<i>Mesembrina meridiana</i> Muscid fly
<i>Tachina fera</i> Tachinid fly	<i>Leptogaster cylindrica</i> Robberfly
<i>Poecilobothrus nobilitatus</i> Dolichopid fly	<i>Chloromyia formosa</i> Soldier fly

Isopods:

Pill Millipede <i>Armadillidium vulgare</i> . Grassland.	Rough Woodlouse <i>Procellio scaber</i> . Dry stone walls
Shiny Woodlouse <i>Oniscus asellus</i> . Under damp bark.	Striped Woodlouse <i>Philoscia muscorum</i> . Grass tussocks

Other species reported by several participants were:

<i>Cercopsis vulnerata</i>	Froghopper
<i>Dicyphus errana</i>	Mirid bug
<i>Araniella cucurbitina/opisthographa</i>	Spider
<i>Xysticus cristatus</i>	Crab spider
<i>Tetragnatha montana</i>	Long-jawed orb-web spider

Isopoda (Woodlice): *Philoscia muscorum*, *Oniscus asellus*, *Armadillidium vulgare*

Chilopoda (Centipedes): *Lithobius variegatus*

Diplopoda (Millipedes): *Polydesmus angustus*

VC64: Lower Winskill Farm, Settle, North Yorkshire. 21st June 2024.

See also Circular No. 931 in Millard A Ed. (2024)

INTRODUCTION (Terry Whitaker TMW)

The YNU VC64 meeting to Lower Winskill Farm in Upper Ribblesdale took place during a brief interlude of drier, slightly warmer and less windy weather than that which characterised much of May and early June. It was well attended by over thirty people including several from Craven Conservation Group, the local natural history society. A slightly smaller number of 14 affiliated societies stayed on for the reporting meeting where self-catering refreshments, including home-made cakes, proved popular.

GEOLOGY

Steve Garland (SG) and Derek Whiteley (DW) spent the day exploring habitats along Stainforth Beck at the north-eastern limits of the farm where areas of tufa near Catrigg Force waterfall (SD831671) and flushes on the valley sides proved particularly interesting.

BIRDS (Penny & Steve Relf & TMW)

During the day 28 bird species were seen or heard at Lower Winskill. Most were common farmland birds but it's always good to hear Curlew calling and Meadow Pipit and Skylark singing, a sign of a good grassland. Three raptors were recorded with passing Buzzard and Kestrel and, as a treat for some, a pair of Peregrines nesting on the quarry face, were also seen. Great annoyance was caused by YNU visitors standing in the flight line of a pair of Wrens, feeding young in a nest in a hole underneath a door next to the visitors' centre. Swallows and Swifts were also nesting in the farm buildings.

MAMMALS (Compiled by TMW)

Grey Squirrel and Roe Deer were spotted. Mole hills were sparsely present on deeper soils.

OTHER VERTEBRATES (Compiled by TMW)

Only Common Frog and Common Lizard were reported.

LEPIDOPTERA (Charlie Fletcher CF)

Moths

The YNU Lepidoptera group was invited to trap on the Friday night and a combination of MV, actinic and LED traps were set up at various locations across the site. Catches in upland situations are never going to be huge, so the total of 88 species was considered quite good as it was not a particularly warm night.



Figure 1. Northern Brown Argus near larval food plant Rock-rose. Photo: P. Relf

The highlights amongst the macros were two Thyme Pugs and a Galium Carpet. Neither was new to this area but both are rare moths, which had not been seen by many of the people attending. Coronet, Alder Moth, Heart and Club and five Small Elephant Hawk-moths were good records. Fifteen Green Arches was a particularly high count, and it was good to record other upland species such as Purple Bar, Dark Brocade and Broom Moth.

Four micros were new for the 10K square SD86: *Coleophora striatipennella* and *Blastobasis lacticolella* were not unexpected, but

Isotrias rectifasciana and *Ptycholoma lecheana* were well outside their usual area, which lies to the east. A count of 46 *Metzneria metzneriella* was the largest ever recorded in Yorkshire. The previous largest was also from this site. This species feeds on knapweed, which is common in the pastures here. Other micros rarely reported in this area were *Monochroa tenebrella* and *Elachista apicipunctella*.

Butterflies (TMW)

Once the day had warmed up a little, the sunshine brought out small numbers of five species of butterfly: Green-veined White *Pieris napi*, Speckled Wood *Pararge aegeria*, Small Heath *Coenonympha pamphilus*, Meadow Brown *Maniola jurtina* and Northern Brown Argus *Aricia Artaxerxes* (Fig. 1). All these species are usually common on the site at this time of year, but they were still only just emerging in the very late season.

COLEOPTERA (DW)

The Orchid beetle *Dascillus cervinus* was fairly common on the short grassland and the snail-predating sylvphid *Phosphuga atrata* was also spotted. The Soldier Beetle *Cantharis pallida* was found in wet moss under the waterfall and some orange-spotted *Stenus* spp. (Staphylinidae) were very common.

DIPTERA (SG & DW)

The tufa and seeps on the sides of Stainforth Beck, yielded several crane flies. SG recorded three uncommon species associated with calcareous springs: *Pilaria scutellata*, a male of which was swept from open, calcareous spring-fed, peaty ground in the Catrigg Beck valley just above Catrigg Force. It was only previously recorded in VC 64 from Malham Tarn in 1959 by Alan Brindle. Stubbs says that it likes mildly acid areas with high nutrients, which perfectly describes this site. The Reddish Narrow-wing Crane fly *Orimarga virgo* was one of the highlights of the day; it and four males of *Dicranomyia aquosa* were swept from the wet rock-face just below Catrigg Force and one male and two females swept from a similar wet rock-face lower down the valley by Stainforth Beck. It is probably overlooked as it is very habitat-specific to vertical seepages and splash zones of waterfalls. There was only one previous record in VC64, from Hackfall Wood in 2004. It requires permanently-wet, shaded rock faces, like the localities near Winskill. One male and three females of *Orimarga juvenilis* were swept from vegetation around steep, exposed soil that was fed by calcareous springs in the lower valley, by Stainforth Beck. The only other records for VC64 are from the Ingleborough massif, Thieves Moss in 1935 and Norber in 1931.

The area downstream of the woodland was very productive. The Pygmy Soldierfly *Oxycera pygmaea* was swept in good numbers from calcareous flushes on a steep bank. This is a widely distributed but rare species in Britain (nationally scarce). There are several recent records from the Yorkshire Dales. The Giant Triangle crane fly *Pedicia rivosa* was another nice find. The hoverfly *Platycheirus granditarsus* was common in wet flushes. A vertical wet outcrop produced the 'Waterfall Fly' *Liancalus virens*, a metallic-green dolichopodid with a westerly distribution, and a good range of other small crane flies. Sciomyzid flies included the Net-winged Snailkiller *Pherbina coryleti*, with remarkably few records in the Dales. In the flower-rich grasslands the Primrose Tiger Crane fly *Nephrotoma flavescens* was very common and a single male Slender-footed Robberfly *Leptarthrus brevirostris* was swept. The picture-

wing fly *Herina frondescentiae*, known as the Scribbled Wingwaver, was abundant in damper rush-dominated habitats. Surprisingly, there are few records for the Yorkshire Dales. Once the day warmed up troublesome females of the Notch-horned Cleg *Haematopota pluvialis* appeared everywhere on the site.

OTHER INSECT ORDERS (SG, DW & Richard Wilson (RW) compiled by TMW)

31 species of beetle were taken by RW, one of which, a broad-nosed weevil, *Tropiphorus elevatus* (Curculionidae) is Nationally Scarce (Nb) and Bob Marsh indicated that it is the first record for VC64. Further, the rove-beetle *Amischa cavifrons* (Staphylinidae) of the ground layer/leaf litter etc. is also new for the vice-county.

A further sixteen species were collected, including nine bugs such as the common leafhoppers *Anoscopus albifrons* and *Eupteryx notata*, the latter associated with thyme and other low-growing plants on chalky soils. A sawfly identified by Andrew Halstead as *Tenthredo livida* was swept from butterbur *Petasites hybridus* by the beck. Nymphs of two grasshoppers, *Omocestus viridulus* and *Pseudochorthippus parallelus*, were common throughout the grassland. The Scorpion Fly *Panorpa germanica* was also recorded.

HYMENOPTERA, Aculeata (Andy Millard)

A strong cool breeze kept most aculeates off the wing and only the White-tailed Bumblebee *Bombus lucorum* agg. and Honey Bee *Apis mellifera* were seen relatively frequently. A Bilberry Bumblebee *B. monticola* and a female Common Furrow Bee *Lasioglossum calceatum* were recorded. Only two wasp species were noted, a male *Odynerus spinipes* identified by Mike Edwards, was swept by DW from Butterbur near the western part of Stainforth Beck and a large female ruby-tailed wasp taken by AM from a dry-stone wall. The latter was from the *Chrysis ignita* group, tentatively identified as *Chrysis impressa*, pending publication of a new Royal Entomological Society guide to UK Chrysid wasps.

SPIDERS (RW)

RW, the YNU and county recorder for the Spider & Harvestmen Recording Scheme, holds the national dataset for Vice-County 64 and so prior to the June visit, checked the database and identified just two spider records associated with Lower Winskill Farm: the common wolf-spider *Pardosa pullata* (Lycosidae) and the money-spider *Baryphyma trifrons* (Linyphiidae), collected by the lichenologist Nicola Bacciu and identified by the then national spider recorder, Matt Prince, in April 2017. The only other spider records were six species collected from Langcliffe by the late Jennifer Newton in June 2008 and a record of the cave-spider *Meta menardi* from Hoffman Lime Kiln in Langcliffe in February 1993.

It was decided to focus on the series of fields to the north, west and south of Lower Winskill Farm itself, all within the monad SD8266, with the intention of methodically recording in each of the separate fields within this area. Whilst spiders and harvestmen were of primary interest, RW retained a few bugs (Hemiptera) for identification and any beetles were passed on to Bob Marsh, the YNU recorder. At each location, a two-minute sample was taken using a battery-powered garden blow-vac (G-Vac), with a fine-mesh net fixed to the inlet nozzle,

with the ingested material subsequently sieved over a white tray. Spiders and insects were then collected in a pooter. This was then followed by a freeform short transect sweeping the field layer with a stout sweep-net. This approach was repeated across the various fields, primarily grasslands with some taller, ruderal vegetation in field corners.

During the day, seven samples were taken which resulted in 28 species of spider recorded, including the two previously recorded taxa mentioned above. Whilst no species with a conservation status was recorded, two new species were added to the hectad SD86, despite it being one of Yorkshire's best studied, owing to the presence of Malham Tarn and its surrounding habitats' close association with the Field Studies Centre. Surprisingly, the widespread jumping-spider *Heliophanus flavipes* (Salticidae) was a new addition. As a species associated with grassland, it is remarkable it was not previously taken elsewhere in the limestone country prevalent in this hectad. The second species was the ant-mimicking spider *Micaria pulicaria sensu stricto* (Gnaphosidae). This has relatively recently been recognised as a cryptic pair, *M. micans* being the other species. Whilst the aggregate is known from the hectad (although not since 2008), this is the first confirmed record of the species in the strict sense. No harvestmen were recorded.

MOLLUSCA (Terry O'Connor)

Lower Winskill is one of the few Yorkshire locations for the Heath Snail *Helicella itala* and mossy patches on walls have yielded both the door snails *Clausilia bidentata* and *C. dubia*. Two locations were searched by fingertip and all identifiable live and dead specimens recorded. Identifications were made in the field where possible. Uncertain or problematic specimens were retained for later microscopic examination and comparison with reference material. In both locations, the condition of dead shells was consistent with quite recent deposition, representing summer 2013 fauna at the oldest.

The following species were found alive at Caker Scar (SD827665): *Cochlicopa lubrica*, *Discus rotundatus*, *Arion ater*, *Deroceras reticulatum*, *Trochulus striolatus*, *T. hispidus*, *Arianta arbustorum*, *Cepea hortensis*, *C. nemoralis*.

The following were only found as dead shells: *Cochlicopa lubricella*, *Merdigera obscura*, *Oxychilus alliarius*, *O. cellarius*, *Aegopinella nitidula*, *Vitrea crystallina*, *Trochulus sericeus*, *Cornu aspersum*, *Helicella itala*.

Separation of the two *Cochlicopa* species on shell characters alone is difficult. In this case, the two dead shells attributed to *C. lubricella* were distinctly more slender than those attributed here to *C. lubrica* and the whorls appreciably less 'inflated'. Dead shells attributed to *Trochulus sericeus* showed the more globular form, narrow umbilicus and dense hair pits typical of this taxon. Overall, the collection showed quite a high diversity with no unexpected species, consistent with the mosaic of bare and vegetated patches of CG9 calcareous grassland with damp crevices. A repeat collection in late summer would probably be more species rich, with live *Helicella itala*.

About 150m West of Caker Scar, a plantation of mature sycamore trees is contained within a drystone wall that is draped with moss, most of it probably *Homalothecium sericeum*.



Figure 2. Grass identification workshop run by Judith Allinson. Photo: P. Relf

Snails were sought in and below moss clumps, which were particularly dry on the day, and in crevices within the wall. The following species were found alive on the plantation wall (c. SD825665): *Lauria cylindracea*, *Aegopinella pura*, *Clausilia bidentata*, *Cepaea nemoralis*. The following were only found as dead shells: *Pyramidula pusilla*, *Trochulus hispidus*, *T. striolatus*, *Arianta arbustorum*. The low species diversity can be attributed in part to the season and in part to several days of dry weather. *Lauria cylindracea* was by far the most abundant snail, as is often the case on dampish limestone walls, with numbers of juvenile specimens

indicating a population in good order. Only the more common *Clausilia* species could be located, with no trace of *Balea sarsii*, which has previously been recorded at Winskill, although D.W. recorded its relative *Balea heydeni*, in walls elsewhere. In addition DW recorded the Craven Door Snail, *Pyrimidula rupestris* and in wet areas, *Succinea putris*.

OTHER INVERTEBRATES (RW)

A few common and widespread woodlice (Isopoda) such as *Armadillidium vulgare* and *Porcelio scaber* were recorded.

FLOWERING PLANTS

Judith Allinson (JA), who knows the area well, ran an informal plant identification course attended by eight people (Fig. 2).

The flora of the farm is well recorded, but it was nice for the visitors to see some of the characteristic limestone plants such as Common Rockrose *Helianthemum nummularium* (Fig. 3) in full flower and the rarer Spring Cinquefoil *Potentilla tabernaemontani* still in bloom. Less welcome to observe was the invasive Herringbone *Cotoneaster horizontalis*, which has formed very large smothering patches on the limestone cliffs near SD825666.



Figure 3. Limestone flora at Lower Winskill Farm, including Rock-rose and Wild Thyme. Photo: P. Relf

MYCOLOGY

No fungi were noted, except the rust *Puccinia urticata*, forming its normal yellow stem distortions on nettle.

FUTURE MANAGEMENT

Historical perspective and comments on conservation and management. Edited by TMW from a presentation by Dr. Tom Lord.

The hay meadows at Lower Winskill are recorded in late sixteenth century documents, when they belonged to three smaller farms, and they still retain many of the wildflowers from that time. These were basically small dairy farms, each with a few cattle and a small flock of sheep kept to produce wool. Cattle and sheep were managed by an infield-outfield system with the rights to graze in the communal outfield strictly regulated.

By controlling when the pastures are grazed many different wildflowers are able to flower and set seed from the spring through to the early autumn. The annual cycle of upland hay meadow management begins in the spring when the meadows are grazed by lambing sheep so that the first flush of grass is eaten by the ewes and lambs. This is very important as it prevents the taller grasses shading out the wild flowers, which begin to grow a bit later. It also encourages the growth of clover *Trifolium* spp., which naturally promotes soil fertility by fixing nitrogen. In mid-May, after a few weeks of spring grazing, the ewes and lambs are taken out of the meadows which are then 'shut up' to let the grass grow to make into hay in July. This provides the vital window of opportunity for the wildflowers normally found in woodland to flower without being shaded out by grasses and gives them protection from grazing by livestock.

Small scale dairy farms became widespread in the Yorkshire Dales in the sixteenth and seventeenth centuries. Milk cows were kept all year round and their milk made into cheese and butter. The development of this upland dairying economy needed ever more hay meadow to produce food for the milk cattle, which were kept in barns from early November to early May each year. In the seventeenth century, stone-built barns and farmhouses replaced earlier timber cruck-framed buildings. Dendrochronology dating has identified re-used, late-medieval timbers in the barn in the yard at Lower Winskill. The farmhouses usually had a small room set aside as a dairy, where cheese or butter was made by the women of the household. Womens' contribution to the development of these upland dairying/wool producing landscapes was crucial.

Back to the future?

For many years the grassland at Lower Winskill has been managed partly as traditional hay meadows, or as limestone pasture, and up to 2021 it supported a flock of half-bred sheep producing finished lambs and provided grazing for pedigree Highland and Belted Galloway cattle in autumn and winter. Currently the grazing management has been changed entirely. The farm ceased using Belted Galloway cattle for conservation grazing in 2022, using instead the rare breed sheep, Whitefaced Woodland. This flies in the face of current conservation orthodoxy which considers sheep grazing to be detrimental to biodiversity. It is worth emphasising that in the first instance historically, sheep grazing would have been a key driver

in the creation of the species rich grassland. However, ecological and historical evidence supports restoring this habitat to wood pasture in the longer term. The farm has begun to trial wood pasture restoration using cactus tree guards to get trees established, together with grazing with Whitefaced Woodlands to maintain open ground habitat. The aim is to enhance the overall biodiversity at the same time as protecting the specialist calcareous grassland communities.

Initial observations indicate Whitefaced Woodlands' ability to forage on spiny shrubs makes them better suited to manage invasive blackthorn and bramble than Belted Galloways. Today the farm has a flock of Whitefaced Woodland ewes and plans to increase numbers to 100 breeding ewes this year.

Whitefaced Woodland sheep

The Whitefaced Woodland is one of four native UK breeds of sheep with 'Priority Status' on the Rare Breeds Survival Trust watch list. The breed originates from the Peak District and is the only surviving member of the white faced, horned hill breeds recorded in the late eighteenth century. These were distributed in an arc going north from the Peak District, through parts of south Yorkshire, Craven and into parts of the northern Dales and as far west as the limestone fells of the southern Lake District. Not only did these breeds share distinctive looks suggesting a common ancestry, they all produced wool suitable for carding, the crucial first stage in the production of common forms of woollen cloth. Carding wool was spun by hand to make woollen cloth in the pre-industrial domestic system of manufacture. The history and eventual demise of these sheep is closely tied to that of this industry in northern England.

In 1809 John Luccock, a Leeds wool stapler [dealer in wool], commented favourably about the white faced horned in the vicinity of Settle; Luccock wrote "In the country about Settle, however, we find a rather large sheep, with white face and legs, and which produces fine wool. It has been compared by some to the Dorset race" (and so horned in both sexes). The Leeds veterinarian William Youatt in his pioneering study of sheep published in 1837 believed that white faced, horned sheep had existed in Craven since 'time immemorial'. They finally went regionally extinct around 1900. Michael Ryder (Ryder 2007) suggested that the last record of them is a photograph taken around 1905 showing horned, white faced sheep near Kettlewell, in Upper Wharfedale.

By the eighteenth century, domestic cloth-making in Yorkshire centred around Halifax, Huddersfield, Wakefield and Leeds, where the finished products were more often low value everyday items rather than expensive fancy goods. Being part of supply chains making cheaper items meant keeping wool production costs to a minimum, hence the attraction of using low maintenance hill sheep as a source of carding wool. To increase fleece weights, flock managers selected for large individuals. These strategies gave rise to breed characteristics still present in Whitefaced Woodland sheep. Even today Whitefaced Woodlands are one of the largest UK native hill breeds. They have the ability to thrive on low quality forage, and manage in winter with only hay as a supplementary foodstuff. These

traits mean that the breed adapts well to modern, low input systems. Yet it is fascinating to think that today's Woodlands are essentially the product of historic flock management aimed at producing low-cost carding wool for hand spinning. Whitefaced Woodlands are also attracting interest as conservation grazers, especially where scrub encroachment is threatening open ground priority habitat. The proximity of much woodland edge habit on Lower Winskill is unusual in an upland context and invasive spiny scrub is a perennial problem. The western boundary of the farm butts up against woodland for around 1km. Blackthorn and bramble are forever spreading out from the woodland edge. They are quick growing, and if left unchecked shade out open ground species. The challenge is to ensure a level of grazing sufficient to prevent scrub encroachment, yet at the same time not to harm the biodiversity of the calcareous grassland. From 2007 to 2022 the farm tried conservation grazing using native breed cattle, first Highlands and then Belted Galloway. These attempts met with only limited success, with both species of cattle preferring to graze rather than browse wherever grassland forage was available. This necessitated having to check the invasive blackthorn and bramble by hand cutting, further straining an already full farming schedule. However, observations of Whitefaced Woodlands foraging suggest they are well suited for this role of reducing invasive scrub.

ACKNOWLEDGEMENTS & THANKS

The organiser (TMW) acknowledges the help given by Tom & Gabriel Lord for enabling this visit and providing the facilities and refreshments for the reporting meeting. Especial thanks to Tom for his fascinating and informative video presentation on the history and management of the farm and the information on Whitefaced Woodland sheep. Also thanks to JA for organising and taking charge of the informal botanical teaching initiative.

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VC65: Preston-under Scar Woods, Sat. 5th July 2024.

See also Circular No. 932; Millard, A. Ed. (2024)

INTRODUCTION (Terry Whitaker [TMW])

The YNU VC65 meeting to Preston-under-Scar Woods on the Bolton Estate was successful although sparsely attended by about sixteen people. They were mainly lepidopterists but a few individuals produced some interesting observations in other taxon groups. The weather was forecast to be mainly cloudy and cool with occasional showers, but after a cold start it became sunny but quite windy. The YNU Lepidoptera Group were lucky to hit on a calm and relatively mild 'weather window' overnight, during a run of windy and cool nights. During the day most people concentrated their efforts in Cote Pasture Quarry and the upper parts of Condenser Wood.

There was no formal reporting meeting as few members remained later in the day. However, refreshments and cake were taken in the very pleasant Preston-under-Scar Village Hall by about eight people who shared their observations.

GEOLOGY

It was noted that the flat floor of Cote Pasture Quarry has been excavated to an erosion surface positioned near to the base of the main limestone. Where the bedrock is not covered by ruderal vegetation or debris it shows some areas with palaeokarst surface features, mainly several extensive kamenitzas, erosion depressions, just a few centimetres in depth, some of which have been filled by wet moss but others still form very shallow pools in wet weather (Fig. 1).



Figure 1. Shallow depressions of palaeokarst (Carboniferous erosion surface) at Cote Pasture Quarry Photo: T. Whitaker.

BIRDS (Compiled by Charlie Fletcher [CF]). 24 species of bird were recorded during the day. Most were common species and there were no major surprises. Buzzards were nesting in both Gillfield and Cote Pasture Wood.

OTHER VERTEBRATES (Compiled by TMW)

Few vertebrates were seen except for abundant European Rabbits in the Cote Pasture Quarry and the open areas of upper Condenser Wood. A few mole hills were present. A single Roe deer was spotted in the lower edge of Condenser Wood.

LEPIDOPTERA

Larger moths & Micro-moths (CF & TMW)

The YNU Lepidoptera Group was invited to trap on the Friday night and ran a combination of eight MV, actinic and LED moth traps across the whole area of Cote Pasture and Condenser Wood. It was not a particularly auspicious night for moth trapping with falling temperatures but the final total was better than expected. Including those seen by day, the final total was 102 species including 19 new for the 10K square SE09, 16 micros and three macros.

Amongst the macros, 22 Heart and Club *Agrotis clavis* was a very large count and included some interesting variations (Fig. 2). Nearly all were caught in the old quarry. Four species of Hawk-moth were trapped including Lime and Small Elephant Hawk Moths. May Highflyer was rather late, and it was good to record Coronet. Gold Swifts were lekking at dusk, and



Figure 2. A variety of Heart & Club *Agrotis clavis*. Photo: C. Fletcher

Butterflies (Paul Millard & TMW)

After opening the moth traps conditions had improved sufficiently for a few butterflies to be showing themselves out of the wind. We started in the sheltered area of the quarry at SE074915 where we were able to find Small Heath, Ringlet, Meadow Brown and, in one sheltered corner near a wet area, Common Blue and Red Admiral. A Green-veined White was seen later. Slightly further west towards Preston Springs Wood is an area of Hawthorn scrub with short grass and common rock rose *Helianthemum nummularium*. Here a Northern Brown Argus butterfly *Aricia artaxerxes* was spotted by Derek Whiteley [DW].

The group then moved to Condenser Wood SE072914 where a late Orange-tip was seen along with Meadow Brown, Speckled Wood, Red Admiral and a Green-veined White.

A total of eight species were seen. Red Admiral was the most abundant followed by Speckled Wood in the sheltered, sun-filled glades of Condenser Wood, where the butterflies were nectaring on the plentiful bramble flowers.

many large larvae of Mullein *Cucullia verbasci* were found on figwort *Scrophularia nodosa*. Large Twin-spot Carpet *Xanthorhoe quadrifasciata* was unusual, as this is the very western part of its range.

Amongst the micros, the most interesting at light were *Denisia similella* and *Coleophora lusciniapennella*. The nationally notable pyraloid moth *Pyrausta cingulata* was netted by day in the Quarry (Fig. 3) and *Epinotia abbreviata* was seen resting on Wych Elm. A larval mine of *Mompha langiella* on Enchanter's Nightshade *Circaea lutetiana* in Condenser Wood was the third record for VC65. Some interesting leaf-mining species were recorded including *Eriocrania sparmannella* and *Phylloporia bistrigella* on seedling birch.



Figure 3. *Pyrausta cingulata*. Photo: C. Fletcher.

ODONATA (DW)

Broad-bodied Chaser *Libellula depressa* and Common Hawker *Aeshna juncea* were feeding in the open woodland areas near Gillfield Wood.

COLEOPTERA

The red and black burying beetle *Nicrophorus investigator* was encountered in some moth traps, as was the dung beetle *Acrossus rufipes*.

DIPTERA (DW)

Cote Pasture Quarry produced a good list of common hoverflies and soldierflies. The Yellow-barred Peat Hoverfly, *Sericomyia silentis* was a nice find, presumably straying from its breeding ground on local moorland. The Four-spot Wingwaver *Herina lugubris*, a picture-wing fly in the family Ulidiidae, was quite common in its favoured habitat of dry calcareous semi-bare areas with sparse vegetation. Amongst the crane flies the pretty Primrose Tiger *Nephrotoma flavescens* was the most abundant. The Marsh Snipefly *Rhagio tringarius* was very common in the wetter areas of the quarry, together with the Six-spotted Snailkiller *Ilione albiseta* (Sciomyzidae).

HEMIPTERA

The Red & Black Froghopper *Cercopis vulnerata* was encountered by TMW in Upper Condenser Wood.

HYMENOPTERA

Despite the cold strong winds, occasional white-tailed bumblebees *Bombus lucorum* agg. were seen in most areas but the honey bee *Apis mellifera* was abundant on the bramble blossom of sheltered woodland clearings. CF encountered mines of the sawfly *Kaliofenusa ulmi* on Wych Elm. Parasitic wasps collected by DW were sent to Bill Ely for identification

OTHER ORDERS (DW)

Arthropods

The Limestone Woodlouse *Porcellio spinicornis* is always worth a mention although it seems to be unusually common in Wensleydale.

MOLLUSCA (DW)

Lapidary Snails *Helicigona lapicida* were common in scree in the quarry; the door snail *Clausilia bidentata* was also recorded and lots of tiny Rock Snails *Pyramidula umbilicata*.

FLOWERING PLANTS

The central area of Cote Pasture Quarry (SE073915) floor was found to be mainly covered by short ruderal vegetation dominated by the invasive Lady's Mantle *Alchemilla mollis* but in the peripheral areas with more soil cover there was a taller vegetation including Rosebay Willowherb *Chamaenerion angustifolium*, coarse grasses such as Tufted Hairgrass *Deschampsia cespitosa*, False Oat-grass *Arrhenatherum elatius* and Cocksfoot grass *Dactylis glomerata* with Common Nettle *Urtica dioica* and Bramble *Rubus fruticosus* agg. In other

areas there was a limited growth of Creeping Cinquefoil *Potentilla reptans*, and small patches of Common Thyme *Thymus vulgaris* and Common Birds-foot-trefoil *Lotus corniculatus*.

The calcicolous grassland above the quarry faces was of a much higher vegetational quality, presumably because the overburden soil had been partly stripped in preparation for quarrying. Parts heavily grazed by the abundant rabbits approached typical CG10 grassland but most, where the overburden had been heaped up, was rather rank, dominated by the taller tussocky grasses Tufted Hair Grass, and Cocksfoot.

As well as common plants such as Common Birds-foot-trefoil and Black Knapweed *Centaurea nigra* there were less common species such as Musk Thistle *Carduus nutans* (Fig. 4) and Carlina Thistle *Carlina vulgaris*. A small whitebeam tree on the cliff of Cote Pasture Quarry proved to be just the Common Whitebeam *Sorbus aria* (although probably of native origin), determined by the fruit and vegetational features.



Figure 4. Musk thistle. Photo: T. Whitaker

The small pond in the wet area of the quarry was not investigated but the Reed Mace *Typha latifolia* in the fringing wetland was found to be supporting the micro-moth *Limnaecia phragmitella* in its seed heads. Judith Allinson compiled a list of flowering plants seen in the quarry area.

ACKNOWLEDGEMENTS and THANKS

Thanks to The Bolton Estate for allowing access to the woodland.

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VC61: Priory Meadows, Cottingham, 20th July 2024 (joint excursion with Hull Natural History Society)

INTRODUCTION (Africa Gómez [AG])

Twelve people, all but one members of the Hull Natural History Society, gathered on a warm and humid day with light cloud cover and sunny spells. Altogether a good day for invertebrates, although we had to shelter in the shade of the hedges for our picnic lunch. We were kindly hosted by Nick Ballard, from Butterfly Conservation, who carries out Butterfly Transects on the site and knows it well. The group mainly surveyed the fields on

the east side of Priory Road, whilst, unbeknown to us, Colin Howes (CH) carried out a hedgerow survey along Priory Road and Wood Lane. Richard Shillaker (RS) visited the nearby Setting Dyke Community Greenspace, which has a range of habitats including an orchard and a plant-rich watercourse created in 2016 by uncovering the culvert. At the end of the day, we agreed that members would collate and submit the records electronically to AG, as is customary in Hull Nats, rather than move onto the University for a reporting meeting.

BOTANY AND ECOLOGICAL NOTES (Richard Middleton [RM])

The fields here have been on the radar of local naturalists for well over three decades. During this period, various plans and initiatives have been enacted but, for various reasons, none has been radical or sustained enough to stem a degradation of the only substantial relic of the grasslands, which were once common in the lower Hull valley. Our visit showed that many of the significant plants seem to be still present. It was too late in the season to see many of the specialities but there was no reason to suppose that most of these were not still hanging-on. Among the more interesting plants reported were Water-violet *Hottonia palustris* (Fig. 1), Great Burnet *Sanguisorba officinalis*, Betony *Betonica officinalis*, Pepper-saxifrage *Silaum silaus*, Corky-fruited Water-dropwort *Oenanthe pimpinelloides*, Devil's-bit Scabious *Succisa pratensis*, and the graceful grass, Meadow Barley *Hordeum secalinum*.



The necessary grazing and mowing are not being strongly managed, with some of the fields showing signs of overgrazing (by fly-grazing horses, as we had the chance to observe ourselves) and others becoming somewhat rank.

Recent deterrents to fly grazing have been installed at the entrances to some of the fields. Another major problem encountered was that the hedges have become much overgrown, shading ditches, and in many places impenetrable scrub made it impossible to assess the status of some of the more interesting aquatic plants. Despite this, the site still supports colonies of interesting and locally scarce plants with the micro-topography and winter flooding producing an interesting mosaic of habitats. The sheer size of this block of grassland makes it important that a robust and realistic management plan should be implemented before its botanical interest is lost.

Figure 1. Leaves of Water Violet at Priory Meadows.
Photo: A. Gómez.

MAMMALS and AMPHIBIANS (CH and RS)

Resident Barn, Tawny and Little Owls indicate the presence of small mammal populations though these are yet to be studied. Mole hills were the only field evidence of a small mammal on this occasion. A local dog-walker exercising his rather impressive blue Bedlington/Whippet cross, reported that his dog regularly 'puts up' local Roe Deer. Indeed, some Roe Deer slots indicating a point where they cross the Willerby Carr Dyke were observed. Predominant grazing pressure in the surrounding pasture-land is by a population

of ponies, at least 19 counted in fields adjacent to Priory Road. A single Common Frog represented amphibians

BIRDS

Although we were more focused on invertebrates and plants, the bird list was of 32 species seen or heard, with Sparrowhawk, Kestrel, Buzzard, Song Thrush and Bullfinch being some species to highlight.

ODONATA (AG and RS)

An unidentified hawk was seen hunting along the hedgerows. Along the dyke the Odonata fauna was less diverse than had been expected, with only three species recorded: Blue-tailed Damselfly *Ischnura elegans*, Azure Damselfly *Coenagrion puella* (ovipositing) and Common Darter *Sympetrum striolatum* (ovipositing).

ORTHOPTERA



Figure 2. Roesel's Bush-cricket nymph at Priory Fields. Photo: A. Gómez.

Five Orthoptera species were recorded. Meadow Grasshoppers *Pseudochorthippus parallelus* and Lesser Marsh Grasshoppers *Chorthippus albomarginatus* were plentiful. We found four Roesel's Bush-crickets *Roeseliana roeselii*, three of them rather small nymphs (Fig. 2), and the fourth a large mature long-winged form female, probably arrived from southern locales. Two female late-stage nymphs of Long-winged Conehead *Conocephalus fuscus* and a nymph of *Tetrix* sp. too small to identify complete the list.

DIPTERA

Diptera included some common hoverflies like *Eristalis tenax*, *Syrphus ribesii*, *Helophilus pendulus* and *H. trivittatus*. We also recorded Yellow dung fly *Scathophaga stercoraria*, Thistle stem gall fly, *Dasineura pustulans* and *D. ulmaria*.

LEPIDOPTERA (AG and CH)

The area is very well recorded with weekly butterfly transects but an effort was made to check all the skippers in search for Essex Skippers, ultimately unsuccessfully. The butterfly list, with 10 species, comprised: Red Admiral *Vanessa atalanta*; Small Tortoiseshell *Aglais urticae*; Comma *Polygonia c-album*; Large White *Pieris brassicae*; Small White *Pieris rapae*; Small Skipper *Thymelicus sylvestris*; Gatekeeper *Pyronia tithonus*; Meadow Brown *Maniola jurtina*; Ringlet *Anthopus hyperantus*; and Speckled Wood *Pararge aegeria*. No moth traps were set, but we found Cinnabar Moth caterpillars *Tyria jacobaeae*, Apple Leafminer *Lyonetia clerkella*, Dusty Apple Pigmy *Bohemannia pulverosella* and a longhorn moth cf. *Nemophora cupriacella*. A footman *Eilema* sp. was swept from hedgerows; flying silver Y *Autographa gamma* and Narrow Bordered Five-spot burnet moth *Zygaena lonicerae* were

observed. A late instar larval case of a Brown China Mark *Elophila nymphaeata* was found under *Potamogeton natans* leaf by Richard Shillaker.

OTHER INSECTS and INVERTEBRATES (Bill Dolling [BD] and RS)

The most striking feature of the insect fauna of the site was the great abundance of the capsid bug *Oncotylus viridiflavus* on its host plant Hardheads or Black Knapweed *Centaurea nigra*. Most of the bugs were immature but there were a few adults among them. This is a British native whose northern limit in the mid-twentieth century was Pembrokeshire and Suffolk. It was first found in Yorkshire at Ickles by Bill Ely in 2006 and is now well established in the southern half of the county. Some plants in a big patch of Meadow-rue *Thalictrum flavum* had begun to fruit and a high proportion of the achenes were hypertrophied into globular galls containing the pale-yellow larvae of the gall-midge *Ametrodiplosis thalicticola*. Galls of the gall-wasp *Xestophanes brevitorsis* on the lower parts of the stems of Tormentil *Potentilla erecta* were demonstrated by Andy Donegan and subsequently found nearby by BD.

At the Setting Dyke Community Greenspace, a variety of common terrestrial invertebrates and plant galls were recorded, including Viburnum Leaf Beetles *Pyrrhalta viburni*, a female Black Slip Wasp *Pimpla rufipes* and the ornate egg-sac of a Tetragnathid spider. However, on examining the underside of floating leaves of *Potamogeton natans*, RS was pleased to find egg cocoons of Erpobdellid leeches.

PRIORY MEADOWS HEDGEROW SURVEY (CH)

Two hedgerow systems with very contrasting ages were each surveyed by listing the woody taxa (trees, shrubs and climbers) within twenty 30m sample sections. The hedgerows were a) the stock-proof boundary along the east side of Priory Road (all within TA0531), a road that was laid across fields in the early 1930s, and b) the meandering tree-lined margins on either side of Wood Lane (all within TA0431), which is an ancient hedge, possibly incorporating woodland elements.

The survey along the Wood Lane transects revealed a total of 16 woody taxa present (range 4-11 per transect), compared with just 10 for the Priory Road roadside hedge transects (range 4 to 7) (see Table 1). The mean range of woody taxa encountered per 30m sample along Wood Lane was also greater than for the samples along Priory Road (6.65 compared with 5.65). This statistic reflects the different ages of sites, with species progressively colonising over time (Pollard, Hooper & Moore 1974).

It is likely that the roadside hedge along Priory Road was simply created as a stock-proof barrier along the new road, hence the preponderance of Hawthorn. Additional species will have been recruited over the last century, such as bird-sown Bramble, Ivy and Rose, all present in 100% of samples, followed by smaller proportions of Blackthorn, Elder, Holly, Crab Apple and wind-blown Ash and Sycamore.

Table 1: Relative frequency of woody taxa (presence in 30m samples) in the two survey plots

	Priory Road (Roadside hedgerow within TA0531)	Bridleway to Willerby Carr Farm (within TA0431)
Ash <i>Fraxinus excelsior</i>	6 (30%)	14 (70%)
Alder <i>Alnus</i> sp.		1 (5%)
Birch <i>Betula pendula</i>		1 (5%)
Blackthorn <i>Prunus spinosa</i>	8 (40%)	14 (70%)
Bramble <i>Rubus fruticosus</i>	20 (100%)	18 (90%)
Crab Apple <i>Malus sylvestris</i>	1 (5%)	
Dogwood <i>Cornus sanguinea</i>		5 (25%)
Elder <i>Sambucus nigra</i>	14 (70%)	12 (60%)
Field Maple <i>Acer campestre</i>		13 (65%)
Guelder Rose <i>Viburnum opulus</i>		3 (15%)
Hawthorn <i>Crataegus monogyna</i>	20 (100%)	13 (65%)
Hazel <i>Corylus avellana</i>		6 (30%)
Holly <i>Ilex aquifolium</i>	2 (10%)	2 (10%)
Ivy <i>Hedera helix</i>	20 (100%)	15 (75%)
Osier <i>Salix viminalis</i>		2 (10%)
Oak <i>Quercus robur</i>		3 (15%)
Rose (?Dog) <i>Rosa canina</i>	20 (100%)	11 (55%)
Sycamore <i>Acer pseudoplatanus</i>	2 (10%)	

The relative diversity of tree/shrub taxa in hedgerows is also likely to be indicative of landscape management history and the proximity of adjacent habitats. Wood Lane samples with a higher mean species diversity (one 30m section including 11 woody taxa and the mean diversity for the sample being 6.65) confirms that it is an older hedge, possibly influenced by an earlier woodland. Indeed, the lane name refers to the now cleared Southwood, and the presence of a range of forest trees/shrubs in the species mix including Oak, Ash, Field Maple, Hazel, Holly and Dogwood supports the theory that the current feature has been developed on the site of a historic woodland. This is also supported by the presence of a ground flora containing old woodland indicators such as Lesser Celandine, Wood Anemone, Bluebell, Wood Melic, Greater Stitchwort and Red Campion. The presence of Osier, Alder and Guelder Rose indicates the traditionally waterlogged nature of the site.

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VC62: Castle Howard 10/11 August 2024

INTRODUCTION Sarah White

The opportunity to explore a part of the estate not usually open to the public, plus a fine weekend, attracted record numbers of members to attend. The excursion took place over two days with the option of attending either or both days and around 25 people came on the Saturday and over 40 on the Sunday, with many attending both. This report amalgamates the observations from both days.



Figure 1. Part of the Bog Hall Rewilding area. *Photo: J. Childs*

The main aim of the meeting was to record baseline data on an area of regenerative farming (or 'rewilding') in which no artificial fertilisers or pesticides are now used (Fig. 1). Other adjacent habitats included in the survey area were ancient woodlands such as Pretty Wood, the valley of the Mill Hills Beck, the ornamental New River, the Great Lake and the site of a disused limestone quarry with a small area of limestone grassland. The afternoon tea and meeting, held in the cool and elegant surroundings of the Castle Howard Gatehouse, was also very well attended on both days; a total of 16 affiliated societies were represented. The meetings,

chaired by Terry Crawford, offered an opportunity to share observations across the range of taxa recorded. A new training initiative, which proved very successful, was to offer guided walks by specialists. Geoff Oxford led a group to look at spiders, Roger Key dealt with general invertebrates and Alastair Fitter, Gill Smith and Wendy English covered botany.

The YNU is extremely grateful to the Castle Howard Estate for allowing us access for this excursion and for all the help we received on the day from estate staff.

GEOLOGY/PALAEONTOLOGY Ken White

Rising from the flat agricultural plains of the Vale of Pickering and the Vale of York, the Howardian Hills form a distinctive, undulating area designated as a National Landscape (formerly an Area of Outstanding Natural Beauty) in recognition of its attractive landscape. Jurassic (Bajocian) Limestone dominates the higher ridges, which are more resistant to erosion, with the less resistant mix of sandstone and mudstones creating the valleys in between. However, the area is criss-crossed with a maze of fault lines and it is the differential movement of the resulting blocks, and their subsequent erosion, that has produced the mixed and varied topography.

Exploitation of the varied soils and relief has resulted in a richly varied countryside of wooded ridges and valleys, a rolling landscape of productive pasture and arable farmland,

and attractive villages built of the local stone. Not surprisingly, the area has a long heritage of human occupation and land use, and the eventual establishment of large estates, including that of the Howard family. Castle Howard itself is built on Gristhorpe Sandstone formed in shallow seas around 170 million years ago when the UK enjoyed latitudes of about 40°N. Younger deposits, including Oxford, Ampthill and Kimmeridge Clays, provide some of the valley bottoms. Coralline Oolite Limestone forms the ridge to the north of Castle Howard and the Coneysthorpe to Malton road runs along this.

BIRDS Ken White

Many members contributed to the total of 61 bird species recorded, which for mid-August is a very good tally. During the two-day excursion an impressive number of Hirundines were observed foraging around the regenerative arable and grazing fields, and the lake, attracting the attention of a passing Hobby. Graham and Sam Phillips, who were camping on site for the weekend, and contributed so many records, were the lucky observers of this spectacle.

Other highlights included half a dozen juvenile Yellow Wagtails that were actively foraging on the Gaterley Road track, along with a family of recently fledged Reed Buntings. Other notable species were Marsh Tit, Nuthatch, Tree Sparrows, Green Woodpecker, Kingfisher, Grey Heron, Tawny and Barn Owls. There were some notable absentees, which subsequent visits early next year should rectify. A couple of visits in the winter season would also indicate the value of the rewilding area for winter foraging.

A follow-up visit next May for a BTO-BBS method of surveying the estate breeding birds is desirable, with the transects designed in such a way that they can be replicated in subsequent years to provide data comparison.

The final highlight was spotted by a member during the afternoon tea and meeting. A parent Song Thrush was feeding a newly fledged juvenile on the doorstep right outside the open door of the Gatehouse meeting room.

MAMMALS Graham Phillips

The star mammal of the Excursion was undoubtedly Badger (*Meles meles*). There was a large, impressive sett near to the New River area, dug in very sandy soil. Dung-pits were observed and a live badger wandered through the estate campsite at 3am on the 11th. Up to four Brown Hares (*Lepus europaeus*) were seen in the arable fields and a single Rabbit (*Oryctolagus cuniculus*), appropriately enough in Coneysthorpe Village. A Common Shrew (*Sorex araneus*) meandered along the lakeside path on the first evening and European Moles (*Talpa europaea*) had clearly left their diggings across the estate. Several Grey Squirrels (*Sciurus carolinensis*) were seen and Brown Rat (*Rattus norvegicus*) footprints observed. Finally, to Chiropterans: a visit to the Great Lake at dusk on the second evening produced several Daubenton's Bats (*Myotis daubentonii*) skimming the lake surface and half a dozen small bats, which produced readings at 55 HZ, likely Soprano Pipistrelle (*Pipistrellus pygmaeus*).

REPTILES AND AMPHIBIANS

Both Frog and Toad were seen.

CONCHOLOGY Tony Wardhaugh

Five members went in search of molluscs, mainly on the first day of the meeting. The areas searched were the immediate surroundings of Bog Hall, from here along the track passing north-east to Spring Wood, Horse Close Rush, Mill Hill Beck and beneath the lime trees next to the gatehouse. Records were collected from monads SE7169, SE7270, SE7271 and SE7371. Seventeen species were found (five slugs and 12 snails) with 28 records in total from the four monads visited. All species found are nationally widespread and common. More are likely to be present, notably slugs, but the ground and leaf litter were dry at the time of the meeting, making molluscs difficult to find.

LEPIDOPTERA: MOTHS Alastair Fitter

A good group of moth trappers attended the meeting; 10 people operating 20 traps in both Pretty Wood and the area around Bog Hall. Pretty Wood is an ancient woodland, which has already been found to host a number of remarkable rarities, one of which was Oak lutestring *Cymatophorina diluta* (Fig. 2), first recorded there in August 2023. Although occasionally found in the far north-west of Yorkshire (there is a population over the border in northern Lancashire), it was last seen elsewhere in Yorkshire in 1938, not far from Castle Howard at Buttercrambe. An astonishing 44 individuals of Oak lutestring were recorded on 10th August, probably more than the sum total that have ever been recorded in Yorkshire. Even more remarkably, the moths were only seen in the traps placed where they were found in 2023, and not in traps even 100m away. It seems to be a very localised, if healthy, population and the species appears to be very sedentary. Given that, it is likely that other localised populations wait to be discovered in undisturbed ancient oak woodland. In total, 81 species were recorded from Pretty Wood, seven of which were new to the site list, which now stands at 313.



Figure 2. Oak Lutestring from Pretty Wood. Photo: P.Relf

The other traps were scattered around the Bog Hall area, including woods at Nova Scotia plantation and Horse Close Rush, which is to be rewilded. In total, the traps recorded 111 species. There were no great rarities, but several records were new for the 10km square, including Lesser treble-bar *Aplocera efformata* and the gelechiid *Acompsia cinerella*. The woodland sites produced no less than five species of Prominent and four Thorns, including both August (*Ennomos quercinaria*) and September (*E. erosaria*) thorns, which bodes well for the development of the moth fauna as the management regime on the site is relaxed. These data provide a valuable baseline for measuring the recovery of nature in the area to be rewilded.

LEPIDOPTERA: BUTTERFLIES Terry Crawford

Given the reasonable weather conditions over the weekend, butterflies were in short supply as has been regularly commented on during this summer. Only the three whites, Large White, Small White and Green-veined White, were seen regularly but still infrequently.

A small clump of Spear Mint *Mentha spicata* in the old garden at Bog Hall was being visited by small numbers of Peacock, Comma (Fig. 3), Gatekeeper and Meadow Brown, and very briefly by a male Silver-washed Fritillary. In addition to the species already mentioned there were reports of Brimstone, Brown Argus, Holly Blue, Red Admiral, Small Tortoiseshell, Speckled Wood, Wall Brown and Ringlet, giving for the time of year a respectable tally of 16 species.



Figure 3. Comma. Photo: J. Childs

ODONATA Keith Gittens

The weather was good for Odonata recording being warm and sunny. In total, across the two days, 12 species were recorded (Table 1, p220). Several individuals were seen away from water within the rewilding area and elsewhere, including a few late Black-tailed Skimmers, *Orthetrum cancellatum* (Fig. 4) in some of the fields.



Figure 4. Black-tailed Skimmer.
Photo: K. Gittens

The focus of recording at water bodies took place on the Sunday and included a fenced pond at SE72488 70310, New River Pond and the Great Lake's eastern shore. The fenced pond was difficult to access and had little open water due to a dense covering of Marestalk *Hippuris vulgaris*. From where we could gain a view, Odonata were disappointing with only three species recorded, Common Darter *Sympetrum striolatum* being the most numerous and seen ovipositing. New River Pond is also difficult to achieve good vantage points, but from where we could, a total of eight species was recorded, although only in low numbers. The pond has a good mix of marginal and aquatic vegetation making it potentially suitable for a wide variety of species. Of the eight common ones recorded the most notable were

Ruddy Darter *Sympetrum sanguineum* and Brown Hawker *Aeshna grandis*. An afternoon visit to the eastern shore of the Great Lake, via the campsite, found Small Red-eyed Damselfly making use of the extensive algal mats that were present on the lake.

Table 1. List of Odonata recorded at Castle Howard, 10/11 August 2024.

Damselflies (Zygoptera)	
<i>Calopteryx splendens</i>	Banded Demoiselle
<i>Coenagrion puella</i>	Azure Damselfly
<i>Enallagma cyathigerum</i>	Common Blue Damselfly
<i>Ischnura elegans</i>	Blue-tailed Damselfly
<i>Erythromma viridulum</i>	Small Red-eyed Damselfly
Dragonflies (Anisoptera)	
<i>Aeshna cyanea</i>	Southern Hawker
<i>Aeshna grandis</i>	Brown Hawker
<i>Aeshna mixta</i>	Migrant Hawker
<i>Anax imperator</i>	Emperor Dragonfly
<i>Orthetrum cancellatum</i>	Black-tailed Skimmer (Fig. 4)
<i>Sympetrum striolatum</i>	Common Darter
<i>Sympetrum sanguineum</i>	Ruddy Darter

ORTHOPTERA compiled by Roger Key

Long-winged Conehead *Conocephalus fuscus* was recorded by several observers along the field margin in the rewilded field near Nova Scotia as well as Roesel's Bush crickets *Roeseliana roeselii*. Both of these rapidly spreading species are currently at about their limit here on their way north.

COLEOPTERA Roger and Rosy Key

August seldom produces a good list of Coleoptera – many species are present only as unidentifiable young larvae and the very hot dry weather probably kept most species' adults in hiding. In total just 28 species of beetle were found, only one of them especially noteworthy. This was the net winged beetle *Platycis minutus* (Fig. 5), found by Tony & Moira Wardhaugh at Horse Close Rush. This is a deadwood-feeding species and is quite scarce in Yorkshire, more or less at its northernmost limit in the UK (excluding a single, rather bizarre record at Dundreggan in the Scottish Highlands), this being only the 31st Yorks record.



Figure 5. *Platycis minutus*. Photo: T. Wardhaugh

The moth trappers turned up two sexton beetles, the all black *Nicrophorus humator* and the red banded *N. investigator*, plus the ochre and black 'darkling' beetle *Lagria hirta* and the snail-hunting ground beetle *Cychrus caraboides*. Eleven species of leaf beetles included the Thistle Tortoise beetle *Casida rubiginosa*, two willow beetles *Phratoria vitellinae* and *P. vulgatissima* and the pretty little metallic red and gold flea beetle *Crepidodera aurata*. Amongst the few weevils found, only *Zaclarus geranii*, on Meadow Cranesbill *Geranium pratense*, was other than very common. Of interest was an unusual purple variety of the usually dull green common Thick-legged Flower Beetle *Oedemera lurida*.

NEUROPTERA Roger and Rosy Key

Rather surprisingly, no adult lacewings were found, but a star of the day for us was a tiny (just 1.2mm long) insect larva which no-one, us included, could initially put even to an insect Order. Submitting a photograph to Google Lens, it became clear that it was the larva of a 'wax-fly' (Neuroptera: Coniopterygiidae), relative of the lacewings. With no identification guide to larvae available, we had to resort to playing 'species snap' (always very dangerous!) with the few other photos of these larvae online and came to the very tentative 'identification' as *Coniopteryx tineiformis*, one of only three species of wax-fly ever recorded in Yorkshire, though with very few records. Unless adults are found, however, this must be regarded as an unconfirmed record. Wax-flies are rarely spotted. They resemble small (about 3mm long), grey, dusty winged bark-lice (Psocoptera) rather than other lacewing families.

HYMENOPTERA: SAWFLIES Sam Buckton

There was evidence of Elm Zigzag Sawfly *Aproceros leucopoda* on Wych Elm *Ulmus glabra* near Four Faces. This is the first Yorkshire record of this invasive non-native species outside of VC61. It is considered a threat to other elm-feeding species such as White-letter Hairstreak *Satyrrium w-album*. Evidence was also found of two leaf-mining sawfly species: Bright-eyed Mining Sawfly *Fenusa nana* on Silver Birch, and Oak Mining Sawfly *Profenusa pygmaea*. In addition, a caterpillar of the sawfly Banded Sawyer *Pristiphora cincta* was found on Downy Birch in a recently felled and replanted area in East Moor Banks, which is understood from Ian Andrews to be a significant record for Yorkshire.

HYMENOPTERA: ACULEATES compiled by Andy Millard

On the 10th the mixed weather was not ideal for aculeates with some cloudy periods and a significant breeze at times. Common bumblebee species (*Bombus terrestris*, *B. lucorum* agg., *B. hortorum*, *B. lapidarius*, *B. pascuorum*) were observed in the vicinity of Bog Hall buildings. Two individuals of the common, Yellow-faced bee *Hylaeus communis* were recorded on Meadowsweet *Filipendula ulmaria* by Mill Hills Beck in a sheltered corner of the field, just south of Bog Hall buildings. The most productive area for solitary wasps was an area of fallen dead oak timber about 300m SW of the buildings, where three Crabronid species were noted, *Crossocerus annulipes*, *C. cetratus* (both widespread in Yorkshire) and *Mimumesa dahlbomi*, the sixth record for VC62 and with fewer records than this in each of the other four Yorkshire vice-counties. The spider-hunter *Anoplius nigerrimus*, a relatively widespread species in Yorkshire, was also recorded here.

On the 11th Andy Grayson, recording in the area of Bog Hall buildings, added to the bumblebee species list with *B. hypnorum*, as well as a Hornet *Vespa crabro* (also recorded

on 10th August by Tony and Moira Wardhaugh in the Mill Beck area and by several of the moth trappers) and the ruby-tailed wasp *Chrysis impressa*. In Ray Wood he also observed the social wasp *Vespula germanica*. Roger Key recorded the very narrow Crabronid solitary wasp *Trypoxylon attenuatum*, which stocks its burrows (often in beetle exit holes in dead wood) with small spiders, near to one of the old oaks.

Sam Buckton returned to the site on 31 August when he found several Field Digger Wasps (aka Fly Wolf) *Mellinus arvensis* along a sandy ride in East Moor Banks, and a Hornet *Vespa crabro* in the same wood.

HYMENOPTERA: PARASITICA Roger Key & Steve Compton

A small collection of wasps in the rarely recorded Chalcidoidea were collected by Roger and Rosy Key in the Bog Hall area and identified by Steve Compton: as *Chrysocharis viridis*, *Diglyphus isaea*, *Hemiptarsenus unguicellus* and *Hyssopus nigrutilus* (Eulophidae); *Eupelmus vesicularis* (Eupelmidae); and *Asaphes vulgaris*, *Cyrtogaster vulgaris*, *Homoporus luniger* and *Mesopolobus graminum* (Pteromalidae). All are common parasitoids, mainly of leaf miners or gall causers. A similar collection of other Parasitica has been passed to the YNU Recorder, Bill Ely, for identification.

DIPTERA Andy Grayson

This well-attended meeting produced a good list of Diptera which included four additions to the VC62 list. In addition to the writer, adult dipterans were recorded by Sam Buckton, Joan Childs, Graham Featherstone, and Roger and Rosy Key. Sam Buckton's Plant Galls report for this meeting includes a number of galls that are caused by Diptera.

In terms of regional and national rarity, the most interesting flies found by the writer were *Mydaea anicula* (Muscidae) and the greenbottle *Lucilia bufonivora* (Calliphoridae). These Nationally Scarce flies were taken in the vicinity of the north-eastern part of Ray Wood (NGR centrum SE7214670525). *Mydaea anicula* was recorded previously from just three Yorkshire sites. *Lucilia bufonivora* has been recorded only twice previously in Yorkshire. It is an addition to the VC62 list.

Other additions to the VC62 list came when the writer identified material collected by Roger and Rosy Key from the general Bog Hall area. These additions were: *Aphanotrigonum trilineatum* (Chloropidae), and *Limnelliia surturi* and *Philygria picta* (Ephydriidae). These small flies are easily overlooked, especially the tiny shore fly *P. picta*, which is a little less than 1.5mm long. It was previously recorded in Yorkshire from just two localities in VC63.

Other distinctly local and noteworthy flies collected by Roger and Rosy Key were the dance fly *Platypalpus ruficornis* (Hybotidae) and the hoverfly *Neoascia obliqua* (Syrphidae). Another hoverfly, *Lejogaster metallina*, which was found by the writer in the vicinity of Bog Hall (NGR centrum SE7258570763), would not formerly have been considered noteworthy, as it was common in wetland localities generally; however, it has declined greatly since the 1980s, and is currently distinctly local in occurrence.

HEMIPTERA

Several gall-causing bugs were found (see plant galls report). Sam Buckton also found a Tree Damsel Bug *Himacerus apterus* near Four Faces and the rhopalid bug *Stictopleurus punctatonervosus* in a rewilded field margin, a rapidly spreading species currently at about its limit here on its journey north. The very similar *Rhopalus subrufus* was found by Roger and Rosy Key near Bog Hall.

SPIDERS Jim Pewtress and Geoff Oxford

Twenty three species of spider and four species of harvestman were found. The morning was spent in and around the woodland of Horse Close Rush with hand searching, vacuum sampling and sweeping. Twelve species were found including new spider species for the estate, *Larinioides cornutus*, *Gongylidiellum vivum*, *Tenuiphantes zimmermanni* and *Metellina menzei*. On the return to Bog Hall *Trochosa ruricola* was found on an old fallen tree. Of the four harvestmen, three *Dicranopalpus ramosus sens.str.*, *Leiobunum rotundum* and *Paroligolophus agrestis* were also new records.

In the afternoon, time was spent on Hepton Hill mostly in the tall grass areas just south of the road. *Pachygnatha degeeri* and *Pardosa hortensis* were added to the site with the latter being only the fourth record for VC62. *Enoplognatha latimana*, previously recorded at the Yorkshire Arboretum, was, when first documented in Britain, largely restricted to hot and dry coastal locations but now has spread inland and is increasingly found in the same habitats as the much more widespread *E. ovata*. It has only been recorded in N. Yorkshire since about 2018. Both *Enoplognatha* species co-occurred on Hepton Hill. The now almost ubiquitous *Pholcus phalangoides* was spotted on the ceiling of the gatehouse during the concluding meeting.

FLOWERING PLANTS Sarah White

The botanical recording concentrated on the rewilding area (SE7370 and SE7371) with observations also made in parts of SE7269. The main recorders were Alastair Fitter, Wendy English, Gill Smith and Sarah White together with accompanying YNU members. All records will be forwarded to the estate and submitted to the BSBI VC62 Recorder.

Wendy and Gill recorded 128 species in SE7371, walking a loop from Bog Hall up to the road and back along public footpaths. They commented that the most interesting area they found was a small rectangular field north of the track (SE733713) which had been previously planted, probably with a wild bird seed mix. This contained an extraordinary amount of Corn Spurrey *Spergula arvensis*, together with Corn Mint *Mentha arvensis* and Flax *Linum usitatissimum*. The track up to the road at Park House had Betony *Betonica officinalis* and Harebell *Campanula rotundifolia* and there were Common-spotted Orchids *Dactylorhiza fuchsii* on the top field margin on Hepton Hill, including a very large plant that was very likely a hybrid but too far past flowering to be certain. The side margin of the footpath back down the hill had both Tares growing together: Smooth *Erythraea tetraspermum* and Hairy *E. hirsuta*, while the arable field to the west had Field Pansy *Viola arvensis*, Long-headed Poppy

Papaver dubium, Parsley Piert *Aphanes arvensis* agg., Bristly Oxtongue *Helminthotheca echinoides*, and Alsike Clover *Trifolium hybridum*.

Alastair covered the main arable rewilding area of SE7370 and recorded 95 species with his group including five species of sedge, some of which were abundant. Sedges cannot tolerate high nutrient conditions which suggests that the area has excellent rewilding potential without extensive intervention to reduce fertility. This group also found Bearded Couch *Elymus caninus*, an indicator of established woodland, in Nova Scotia plantation which supports the notion that the plantation may have ancient origins.

Ken and Sarah recorded at New River Bridge where Ken spotted at least eight well-established plants of Maidenhair Fern *Adiantum capillus-veneris* (Fig. 6) on the east side of the bridge. This is a new and remarkable site for this fern, which is rare in VC62 and believed to be known from only one other site. It is considered to be very frost-sensitive, and it is possible that the recent run of mild winters (and its sheltered location) may have allowed it to establish, although the source of the spores is unknown.

Sarah also visited the old limestone quarry at Mount Sion where there are still some good short-turf areas on the steeper banks with Quaking Grass *Briza media*, Upright Brome *Bromus erecta*, Yellow Oat-grass *Trisetum flavescens*, Rough Hawkbit *Leontodon hispidus*, Hairy Violet *Viola hirta*, Harebell *Campanula rotundifolia*, Fairy Flax *Linum catharticum* and Glaucous Sedge *Carex flacca*. Limestone grassland is rare in the Howardian Hills and this site hosts a now scarce community.



Figure 6. Maidenhair Fern.
Photo: Ken White.

The total species for SE7269 was 133. A brief visit was made to the Great Lake to look for aquatic plants; Curled Pondweed *Potamogeton crispus* was abundant and Lesser Pondweed *Potamogeton pusillus* was also found.

In Pretty Wood near Four Faces, Sam Buckton found a distinctive-looking bramble, which has been provisionally identified as Moyle's Bramble *Rubus moylei* by John Norton and Dylan Peters, based on vegetative characters. Seeing the flowers would be ideal to clinch the identification but the elongate leaflet shape is typical of this species. It would be new to VC62 and only the third Yorkshire record, according to the BSBI database. It is thought to be the commonest bramble in Hampshire and has a scattered distribution elsewhere in Britain, probably reflecting the location of bramble recorders more than ecological preference.

PLANT GALLS Sam Buckton

I was pleased to be joined by David Savage in looking for plant galls on 10 August, primarily around one of the rewilded fields and Nova Scotia Wood, and I undertook a solo follow-up survey on 31 August focusing on East Moor Banks, around Four Faces and Pretty Wood. Evidence of 85 different gall-causing species was found across the two days: 42 on 10 August and a further 43 on 31 August that were not found on the first day. Overall, I found this to be a somewhat disappointing total. For comparison, 171 gall-causers have been recorded at the 10-ha St Nicholas Fields ('St Nicks') Local Nature Reserve in York over the last decade or so. In its favour, St Nicks has an exceptionally high diversity of host plants, probably more diverse than the areas surveyed on the Castle Howard estate, and recording has taken place intensively over many years. On the other hand, the Castle Howard estate is vastly bigger, and has much more semi-natural habitat and many more mature oaks *Quercus* spp., which tend to support a high diversity of gall-causers. I found galls to be eerily scarce on most of the oaks. Last year seems to have been an exceptionally poor year for oak cynipids around York and in many other places in Britain, with this year little better. There will be natural population fluctuations due to factors such as parasitoid abundance, but I wonder whether extreme weather linked to climate change may also be negatively impacting some gall-causers. Some supposedly common oak galls were conspicuous only by their absence. Where, for instance, were the Curved-leaf Galls of *Andricus curvator* f. sexual, or the Cherry Galls of *Cynips quercusfolii* f. agamic? Other common galls, such as the Common Spangle Galls of *Neuroterus quercusbaccarum* f. agamic and Silk Button Galls of *N. numismalis* f. agamic, were scarce and typically in small numbers on a given leaf if present at all. I even had to search for some time before finding the usually ubiquitous psyllid *Trioza remota* in its pit galls on the leaves. I was also surprised not to find a higher diversity of galls on the many mature or ancient Turkey Oaks *Q. cerris* – in the end the only gall we found on this host were old catkin galls of *Andricus grossulariae* f. sexual. It was also frustrating not to find any Little Black Pudding galls of *Dasineura pteridis* despite copious quantities of Bracken *Pteridium aquilinum*, and no Pocket Plums of *Taphrina padi*, despite an abundance of Blackthorn *Prunus spinosa*. More thankfully, I could find no evidence of Oriental Chestnut Gall Wasp *Dryocosmus kuriphilus* on the Sweet Chestnuts *Castanea sativa* that I investigated. No doubt many more galls would be found by further searching across the nearly 10,000-acre estate, however!

Despite this overall picture, a wide range of galls was found on trees, shrubs and herbaceous plants. 27 were caused by eriophyoid mites (including two distinct forms of the gall caused by *Eriophyes exilis* on Common Lime *Tilia × europaea*, one of which used to fall under the name *E. leiosoma*), 18 by cecidomyiid midges (plus two other non-galling cecidomyiids), 15 by fungi, 14 by cynipid wasps, three by sawflies, two each by tephritid flies, anthomyiid flies, and psyllids, and one each by an adelgid (an unidentified adelgid causing a pineapple gall on Sitka Spruce *Picea sitchensis*), a scale insect (*Asterodiaspis* sp. on Pedunculate Oak *Q. robur*), and an oomycete (*Albugo candida* on Shepherd's-purse *Capsella bursa-pastoris*). Oaks were by far the richest hosts for gall-causers, with 18 gall-causer species recorded.

Most of the galls found are common or ubiquitous in Britain and Yorkshire, although there were some relatively unusual finds that warrant special mention. Joan Childs spotted the choke fungus *Epichloë clarkii* on both Creeping Soft-grass *Holcus mollis* and Yorkshire Fog *H.*

lanatus. This appears to be only the third Yorkshire record and the first for VC62. I found erinea of *Phyllocoptes sorbeus* on Rowan *Sorbus aucuparia* near Four Faces in Pretty Wood, the first VC62 record of this mite gall. The gall seems to be considerably scarcer than that of *Eriophyes pyri* on Rowan in Britain, and the latter is often mis-recorded as the former. In Four Faces I found both galls on the same tree.

In Nova Scotia a leaf margin roll was found on sapling Aspen *Populus tremula* containing a white non-jumping larva. This is likely to be *Dasineura populeti*, a gall midge not previously recorded in VC62. Rearing the causer to adulthood would be ideal to confirm the species. On Downy Birch *Betula pubescens* in East Moor Banks, I found blisters over the leaf veins likely caused by *Massalongia betulifolia*, another gall midge that would be new to VC62. At the northern end of Pretty Wood, I found the subtle blister gall of the midge *Polystepha malpighii* on a Pedunculate Oak leaf. This is a local species in Britain and would be the first Yorkshire record since 2000. However, it has been recorded



Figure 7. *Jaapiella veronicae* gall on Speedwell. Bog Hall Rewilding area. Photo J. Childs

only from its gall in Britain rather than the adult, so its identity is not definitively proven. In galls of *Jaapiella veronicae* on a speedwell *Veronica* sp. (Fig. 7) I found the inquiline cecidomyiid *Macrolabis incolens*, a species with very few British records, although it is probably severely under-recorded. In a Yarrow *Achillea millefolium* flowerhead near St Anne's Hill, I found an orange midge larva that is presumably *Lestodiplosis achilleae*, a predatory cecidomyiid that feeds on another (non-galling) cecidomyiid on Yarrow, *Macrolabis achilleae*. There are no previous *Lestodiplosis* records in Yorkshire. However, Hans Henrik Bruun has commented on this taxon: '*Lestodiplosis* is a mess. There is a host of old names based on very brief and uninformative descriptions. It seems as though, in the old days, a new species was erected every time a *Lestodiplosis* was found on a new plant. In reality, we have no clue as to host specificity in this genus. It may be a few generalist species or a lot of specialists. Hopefully, future barcoding will help establishing more robust species concepts in this genus.'

In a hedgerow near East Moor Banks, I found a slightly swollen willow bud filled with dark frass and showing an exit hole. Redfern, Shirley & Bloxham (2023) would suggest that the causer is the sawfly Willow Bud-galler *Euura mucronata*, although further evidence would be needed to rule out other possible suspects (Andrew Liston pers. comm.). Willow Bud-galler is a poorly known species in Yorkshire (Ian Andrews pers. comm.). There are 16 records across VCs 61-64, but seven of those are undated records by Reverend Fordham from many decades ago and 15 have no mention of whether the adult or gall was seen. There are only two records for the year 2000 onwards.

I will mention several other galls that I was pleased to see although they are not particularly unusual. David Savage pointed out to me the galls of *Urophora stylata* (a picture-winged fly) in flowerheads of Spear Thistle *Cirsium vulgare*, showing me the technique of feeling for the hardness of the galled heads by pressing them from the base upwards (taking care to avoid the spines!). It is the first time I have knowingly seen these galls, which were abundant along a rewilded field margin near Nova Scotia. Rearing is required for a firm identification, however, because *U. solstitialis* causes similar galls and is sometimes found on Spear Thistle, although it is more of a southern species in Britain and usually found on *Carduus*. It was also pleasing to see erineae of both *Aceria pseudoplatani* and cf. *A. pseudoplatanea* on the same Sycamore *Acer pseudoplatanus* leaf, the former away from the main veins and causing bulges on the leaf upperside, and the latter delimited by the veins and not causing bulging.

It is difficult to provide targeted conservation management advice for gall-causers, and gall-causers are likely to benefit from general good management practice. Encouraging a diversity of plant species is likely to support a higher diversity of gall-causers, and it might also be beneficial to ensure a diversity of microclimates.

MYCOLOGY

A very fine Dryad's Saddle *Polyporus squamosus* was found in the campsite by Graham and Sam Phillips. Sam Buckton recorded ten non-galling species of pathogenic microfungi attacking living plants, including several powdery mildews, Birch Rust *Melampsora betulinum* and the anther smut *Sphacelotheca hydropiperis* in flowers of Water-pepper *Persicaria hydropiper*. Ken White recorded Ergot *Claviceps purpurea* var. *purpurea* on Timothy *Phleum pratense*. The wet summer has provided ideal conditions and Ken has found it frequently in other locations too.

LICHENS Graham Featherstone

Whilst rambling around the Bog Hall area several common foliose lichens were noted: *Punctelia subrudecta*, *Melanelixia subaurifera*, *Xanthoria parietina* and *Physcia tenella*, all growing on branches of mature trees. Later in the day we called in to see the Maidenhair ferns growing on New River Bridge. Two very different lichens were noted on the stonework: a striking *Opegrapha* sp. (probably *O. calcorea*) and a *Variospora* sp. (probably *V. flavescens*).

CONSERVATION and MANAGEMENT ADVICE

Overall, the area that was recorded shows enormous habitat diversity including low-intensity arable land now farmed without artificial fertilizer or herbicide, neutral and limestone pasture, ancient woodland and freshwater habitats.

Moths are good indicators of habitat richness and judging from the results of the moth trapping that was carried out, the ancient woodlands such as Pretty Wood appear to be particularly valuable as wildlife habitats. These woodlands merit further detailed recording across a range of taxa and require appropriate sensitive management to maintain their interest. It is apparent that many of the rare and important species in Pretty Wood, in particular, have very low dispersal ability since their populations seem to be strongly restricted. They have presumably survived because those areas of the wood have not been

clear-felled in the past and a management plan for all the ancient woods in the area which recognizes the need to avoid large-scale forestry work would be highly desirable.

There are promising signs that the arable 'rewilding' area will yield some worthwhile results: the presence of five species of sedge *Carex* is especially encouraging since sedges are generally intolerant of a high nutrient status. This finding implies that a diverse community may develop relatively rapidly without expensive interventions such as topsoil inversion. Haycrop removal for a few years will help to reduce fertility further.

The limestone grassland in the old Mount Sion quarry is of high local value and will act as a source community from which colonization of surrounding fields may be possible. Consideration should be given to protecting this area from intensive grazing in the early part of the year and possibly using green hay from it to enhance diversity in some of the other areas. A survey of soil pH across the whole rewilding area would reveal where it may be possible to enhance limestone-loving plant communities.

Our records from the weekend provide a useful snapshot in time of species present, but it would be extremely valuable to gather more comprehensive baseline data against which to judge the long-term effects of the project. A more detailed botanical survey would be highly desirable. We also recommend that consideration is given to extending the project to include a larger area, especially given the encouraging diversity of the bird fauna that was noted. Birds and other mobile species often prosper when larger areas are made available to them.

There seemed to be less wildlife interest in the Mill Hills Beck than we might have hoped, possibly as a result of cattle trampling the edge. We also noted that the Great Lake had an extensive algal bloom, possibly caused by the large number of waterfowl, but perhaps worth further investigation by the estate.

The record for Maidenhair Fern on New River Bridge is very significant and care will be needed to avoid damage to this plant if any repairs are carried out to the bridge or the sluice.

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The strange case of the desiccated fox: an unusual discovery in the East Riding of Yorkshire

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Introduction

During the long, hot and dry summer of 2021, the author made an unusual discovery whilst bird-watching at the southern edge of Springhead Park golf-course on the western outskirts of Kingston upon Hull, Yorkshire. In an area of disturbed ground beneath mature pine trees close to the green of the eighteenth hole (TA 04182976), the remains described in this brief report were discovered (see online appendix at <https://www.ynu.org.uk/about-the-ynu/publications/download-page/category/9-appendices> for map of location). At first thought to be the body of a dead cub, closer examination revealed that it was the head, shoulders and left fore-limb of an adult Red Fox *Vulpes vulpes* (Linnaeus, 1758). The remains are shown in Figure 1A and B. They are preserved in a totally desiccated state and soil, similar to that of the location in which the specimen was found, was present in the ears and mouth (see Figures 2, p230, and 3, p232).

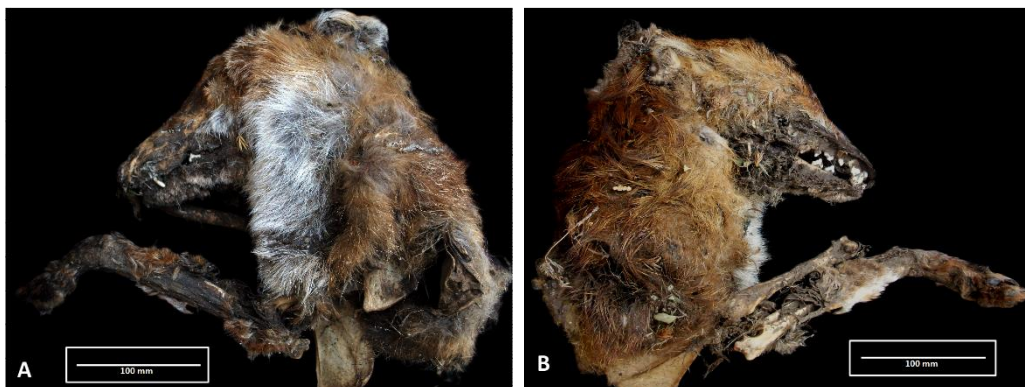


Figure 1. The Springhead Park golf-course Red Fox *Vulpes vulpes* (Linnaeus, 1758). A = left lateral view. B = right lateral view. Scale bar represents 100mm. Photo: K. Phipps

As shown in Figure 3, wear on the teeth, especially the canines, suggests that this was a mature individual. The claws on the remarkably well-preserved forepaw also show signs of wear (Fig. 4, p235). In contrast to the rest of the remains, the humeri, costae and scapulae are free from fur and skin. The remains were collected by the author and are currently stored in a lidded plastic box.

Details of the Springhead Red Fox

It seems appropriate to describe and comment upon the salient features of these remains before considering possible mechanisms by which they were produced.

Size

Records of the size of Red Foxes are usually given in terms of their weight or nose-tip to tail-tip dimensions. Clearly, both of these measures are not appropriate for this particular specimen. However, it is possible to obtain some useful indicators of size from these remains. The terms used in the following description are as defined by Csáni *et al.* (2023, figs 2 & 3, p15).

Head length (HL) from tip of nose-pad to back of skull: 280mm

Total skull length (TSL): 200mm

Zygomatic width (ZW): 110mm

Total mandible length (TML): at least 110mm. This value is approximate as the angular process is obscured by desiccated tissue.

Comparisons with the data for male Red Foxes presented by Hattingh (1956, table 2, p197) for England, Hartová-Nentvichová *et al.* (2010, table 4, p284) for the Czech Republic and Csáni *et al.* (*op. cit.*, table 1, p16) for Hungary show that this is a large adult:

England: TSL: 151.5; ZW: 86.0; TML: 117.5

Czech Republic: TSL: 163.3; ZW: 89.0; TML: 121.70

Hungary: HL: 200.00; TSL: 166.21; ZW: 87.32; TML: 119.74

These measurements are all maximum values and are given in millimetres.

It should be remembered that, with the exception of HL, the published data given above relate to clean skulls and that the measurements outlined in this paper are taken with soft tissues present. However, these are not considered to add more than 5mm to each measurement.



Figure 2. Detailed view to show soil within the ear cavity.

Red Foxes display clear sexual dimorphism: dogs are generally larger than vixens, have broader faces (see Unwin 2015, p12 for a clear illustration of this phenomenon) and show greater development of the sagittal crest on the skull (Baker & Harris 2008, p410). An assessment of the breadth of the face of this individual is clearly of limited value due to its total desiccation. The sagittal crest is not exposed on this specimen and it should be noted that the differentiation between the sexes using this criterion occurs in only seventy

percent of cases (Baker & Harris *loc. cit.*). However, from the examination of the head dimensions for this specimen there is a clear suggestion that it is likely to be male.

This interpretation is supported by the length of the humerus: the greatest length (GL) of the humeri of the Springhead Red Fox is 130mm. Monchot & Gendron (2010, table 3, p802) quote 126.6mm as the mean greatest length of the humeri for males in a sample of Canadian Red Foxes, compared to 118.9mm in females. In Poland, Red Fox males have a mean humerus length of 130.30mm whereas in females this measurement is 121.39mm (Felska-Błaszczak *et al.* 2013, table 2, p22). Although desiccated skin and the pelage are still present on most parts of this specimen, the humerus bones are clean and undamaged. Consequently, the measurements taken allow direct comparison with published data and show that it is clearly a large individual. In this respect, it is reminiscent of the large specimens of the Red Fox found in Highland Scotland and described by Tetley (1941), Harrison Matthews (1951; 1952, pp231 – 232) and Hattingh (1956). Tetley (*op. cit.*, Table II, p30) provides the following maximum measurements (in millimetres) within a sample of seventeen foxes:

TSL: 157; ZW: 85.5; TML: 124.5

The maximum value for the greatest length of the humerus within a sample of twelve individuals is 144mm (Tetley *op. cit.*, table IV, p33). A remarkably large male Red Fox from Perthshire, described by Harrison Matthews (*op. cit.*, table [not numbered], p680), displayed the measurements given below:

TSL: 160; ZW: 86; TML: 125; GL of humerus: 149. All measurements in millimetres.

Scotland has the largest Red Foxes in Great Britain (Kolb & Hewson 1974, fig.1, p253, p254; Cavallini 1995, table 1, p424) and until recently it was thought that they were a different subspecies, *Vulpes vulpes vulpes* (Linnaeus, 1758) compared to the smaller English Red Fox, *Vulpes vulpes crucigera* (Bechstein 1789). Further details of the differences between these subspecies are provided by Hattingh (1956) and an excellent photograph of an exceptionally large Scottish Red Fox is given by Unwin (2015, p14).

More recently, this view of British Red Fox nomenclature has been rejected by most authors (Baker & Harris 2008, p411). Differences shown by Red Foxes in the regions of the British Isles are thought to be variations within the nominal subspecies. However, genetic studies indicate that the British and Irish Red Foxes are different from those in Europe (Edwards *et al.* 2012, p100) and that they are two genetically distinct populations (Statham *et al.* 2018, pp264 – 265). In the opinion of the author, it could be advantageous to designate the Red Foxes of Great Britain as separate subspecies. Clearly, the variations in the Red Fox in Great Britain and Ireland would benefit from further investigation using modern genetic techniques.

It is evident that, on the basis of its size when compared with the published data, this specimen is a large mature adult and there is a strong suggestion that it is likely to be a male Red Fox.

Dentition

Sexual dimorphism is also evident in the dentition of Red Foxes: males generally have larger canines than females. The right maxillary canine of this specimen has a height of 25mm on its anterior edge and 21mm at the posterior. The difference between these measurements is due to the curvature of the tooth. Using data from 1,453 Polish Red Foxes, Szuma (2000) found that the strongest degree of sexual dimorphism in tooth size occurred in the canines.

Comparison of the minimum height of the right maxillary canine (C¹) of this specimen, 21mm (HC¹ as defined by Szuma *op. cit.*, p114, figure 1, p115), shows that this is a large individual. The male Polish Red Foxes examined by Szuma (*op. cit.*, table 2, p120) had a mean value of 17.43mm and a range between 14.87 and 20.20mm whereas females had mean heights of 16.51mm, ranging between 13.38 and 19.57mm. The length of the right maxillary canine in the Springhead specimen (LC¹ as defined by Szuma *op. cit.*, p114, figure 1, p115.) is 10mm. This compares with mean length values for males of 7.97mm (ranging between 6.23 and 9.77mm) and 7.54mm for females (with a range between 6.00 and 9.23mm) in the Polish specimens examined by Szuma (*op. cit.*, table 2, p120). Once again, the evidence suggests that the Springhead specimen is a male Red Fox.

Red Fox teeth may be used to establish the absolute age of an individual by examining the annual cementum structures around the roots of the canines. However, these laboratory techniques, as described by Grue & Jensen (1973), Roulichová & Anderá (2007) and reviewed by Harris (1978), have not been performed in this case.

The teeth of the Springhead Red Fox, especially C¹ on the right side, show signs of abrasion and there is some discoloration of the enamel on teeth such as P². However, there is the possibility that the teeth have been stained by soil and organic matter following burial.

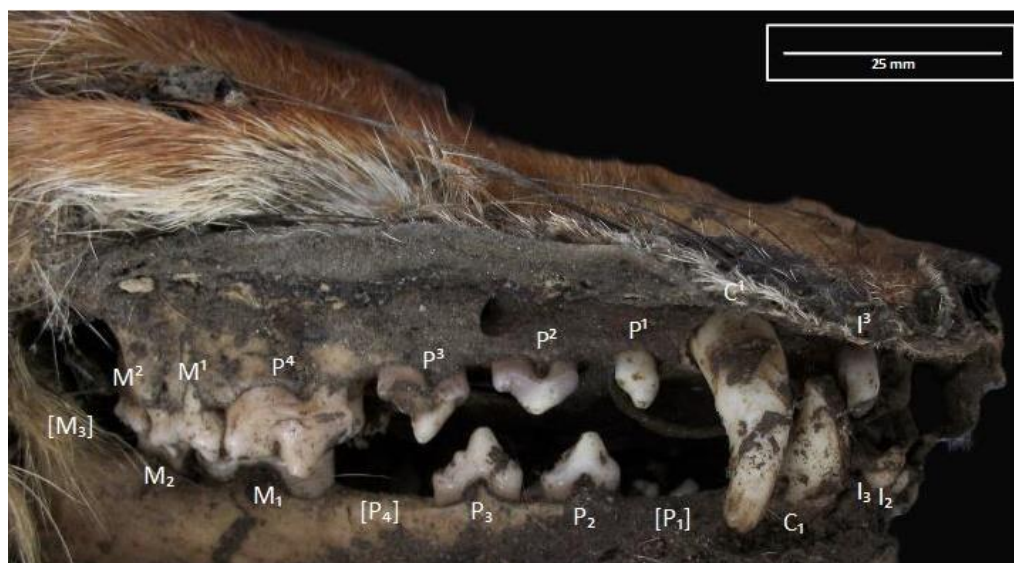


Figure 3. Right lateral view to show details of the dentition. I = incisor; C = canine; P = premolar; M = molar; [] = tooth absent due to congenital oligodonty. Superscript numbers refer to maxillary teeth and subscript numbers represent the mandibular teeth. Normal dental formula of Red Fox *Vulpes vulpes* (Linnaeus, 1758): I 3/3; C 1/1; P 4/4; M 2/3.

Careful examination of the dentition of this specimen has revealed the absence of certain teeth (see Figure 3 above and Table 1, p233). Some teeth, I² and I₁ on the right side, have been lost *post-mortem* and their absence is marked by clearly visible alveoli, or sockets, into

which the missing teeth were rooted during life. Other teeth (P_1 , P_4 and M_3 on the right side and P_4 on the left side) are absent completely; there is no alveolus or re-growth of bony tissue to indicate that these teeth had ever been present. Their absence is due to congenital oligodonty. In some other cases (I^1 on both sides), the presence of desiccated tissue prevented an accurate assessment of whether the absence of a tooth was due to *post-mortem* loss or congenital absence. Normal dentition in the Red Fox is shown very clearly by Atchley *et al.* (2023, fig. 1, p35) and illustrated in exquisite detail by Reynolds (1909, plate III).

Oligodonty is a common phenomenon in the Red Fox, accounting for 20.9% of all the dental anomalies affecting Polish individuals examined by Szuma (1999, p395) and the condition has been described in Czech (Nentvichová & Anderá 2008), Lithuanian (Jurgelėnas *et al.* 2020, Polish (Szuma 1999, 2000), Scottish (Ratcliffe 1970) and American populations (Gisburne & Feldhamer 2005; Atchley 2023). Most commonly, the third lower molar, M_3 , is affected; the first premolars are also frequently found to be absent (Gisburne & Feldhamer *op. cit.*, p516). Ratcliffe (1970, p36, table II, p37) considered that the third molar in the lower jaw appeared to be “vestigial in nature”. Congenital oligodonty is more common in the mandibular dentition than in the maxillary teeth (Nentvichová & Anderá 2008, tables 1 & 2, p219); Szuma (1999, p396) found six times more so in Polish specimens. Whether congenital oligodonty is influenced by sexual dimorphism is not clear. Nentvichová & Anderá (2008) found that the first premolar and the third lower molar teeth were missing more frequently in females than in males. However, a higher incidence of dental anomalies is found in males than females within the Polish samples studied by Szuma (1999) and a similar situation occurred in Lithuania, where 13.27% of males and 5.98% of females displayed oligodonty (excluding M_3) (Jurgelėnas *et al.* 2020, table 4, p7). Gisburne & Feldhamer (2005, p516) found no difference between the sexes in their examination of Red Fox dentition.

Table 1. Dentition of Red Fox *Vulpes vulpes* (Linnaeus, 1758) from Springhead Park golf-course, Kingston upon Hull, Yorkshire. Y = Tooth present; N = Tooth absent due to congenital loss. L = Tooth lost, but alveolus present. O = Tooth position obscured by desiccated tissue. * = Tooth present, but malformed. [Shaded areas provide a visual representation that the tooth is absent.]

Normal dental formula of Red Fox <i>Vulpes vulpes</i> (Linnaeus 1758): I 3/3; C 1/1; P 4/4; M 2/3.											
Maxillary teeth	I^1	I^2	I^3	C^1	P^1	P^2	P^3	P^4	M^1	M^2	-
Right	O	L	Y	Y	Y	Y	Y	Y	Y	Y	-
Left	O	Y	Y	Y	Y	Y	Y	Y	Y	Y	-
Mandibular teeth	I_1	I_2	I_3	C_1	P_1	P_2	P_3	P_4	M_1	M_2	M_3
Right	L	Y	Y	Y	N	Y	Y	N	Y	Y	N
Left	Y	Y	Y	Y	Y	Y*	Y	N	Y	Y	Y

Another dental anomaly shown by this specimen is the malformation of P_2 on the left side. This tooth is reduced in size compared to a normal second premolar and more closely resembles the form of a first premolar. Unfortunately, this abnormality cannot be photographed clearly due to the presence of desiccated tissue covering the dentition on the

left side of the head (see Figure 1A, p229). This malformation could be due to a variety of reasons such as mineral deficiencies or disease during development, but Szuma (1999, p407) suggested that the reduction in the size and shape of a left P² were probably due to a sudden mutation or “disturbances in the genetic control of the development”.

It is interesting to note that this specimen has three examples of congenital tooth loss on the right side of the mandible but only one on the left. This is an example of fluctuating asymmetry and is generally thought to be caused by environmental stress during development or genetic factors such as inbreeding. Indeed, Coda *et al.* (2017) found that in studies based on small mammal populations, fluctuating asymmetry was a useful indicator of environmental or genetic stress. Significantly, Gasilin & Nanova (2023) suggested that high levels of fluctuating asymmetry in the dentition of Arctic Foxes *Alopex lagopus* (Linnaeus 1758) on St George Island in the Pribilof Islands located in the Bering Sea were due to low genetic diversity caused by a dramatic decline in population size and a coastal diet consisting of food items rich in heavy metals. It is tempting to speculate on the causes of the oligodonty and tooth malformation shown by the Springhead specimen, such as inbreeding, road traffic pollution or a diet including rodents killed by poisoning and foods discarded by humans, but this is clearly beyond the scope of this paper.

Pelage

The coat of the Red Fox consists of three types of fur: a thick, short and soft underfur, which is grey in colour, an outer layer of longer, coarser guard hairs and also intermediate hairs which are shorter and thinner than the guard hairs (Maurel *et al.* 1986, fig. 2C, p1759). The thickness of the coat varies according to the season and the timing of the moults. Red Foxes have two moults, but only the major spring moult is clearly visible. The autumn moult results in the growth of fine hairs to thicken the coat in time for winter (Maurel *et al. op. cit.*, p1759; Baker & Harris 2008, p409). In addition, Red Foxes in colder climates than those experienced in the British Isles have thicker fur; Siberian Red Foxes have coats which are almost twice as long as those found here (Harris & Baker 2001, p22).

Male Red Foxes generally have longer fur than females and this is particularly noticeable in the neck region of adult males where a mane of longer hairs is usually present (Janiszewski *et al.* 2010, p356). The guard hairs at the mid-point of the rear of the neck of this specimen (measurement point 3 as described by Janiszewski *et al. op. cit.*, figure 1, p354) are 66 – 68mm in length. Comparison with the mean values obtained for Polish Red Foxes, 62.4mm for males and 53.5mm for females at point 3 (Janiszewski *et al. op. cit.*, table 2, p356), suggests that this specimen is likely to be a male. Caution must be exercised as hair length in Polish Red Foxes could be different from that of Yorkshire individuals. This is quite likely as variations exist even within Poland (Janiszewski *et al. op. cit.*, p357). Unfortunately, data on hair length in relation to sexual dimorphism in English Red Fox populations are not available. However, the hairs in the neck region of this individual do seem to be especially luxuriant and could be described as forming a mane, suggesting that this specimen is a dog Red Fox.

The Springhead Red Fox appears to be in its thick winter coat with a mane and this suggests that it died during the time period between gaining its full winter pelage in November and the final stages of the moult in the following July or August (Maurel *et al. op. cit.*, fig. 5, p1761). The coat of the Red Fox is at its best during the breeding season from December to February and starts to lose condition after this point (Harris & Baker 2001, pp22 -23). This appears to suggest that the Springhead specimen possibly died in full pelage during the breeding season. Interestingly, the highest mortality rates for dog Red Foxes occur during this time, whereas the mortality rates for vixens are highest when breeding and also when rearing cubs in April to June (Harris & Smith 1987, p79, fig. 1, p80; Harris & Lloyd 1991, p365).

The development of a thick coat in male Red Foxes is linked to testosterone levels (Baker & Harris 2008, p409). It is likely that the development of a mane makes an individual appear more impressive to a potential mate and more intimidating to rival males. The thick fur would also protect the vulnerable neck region during territorial fights between males. Vixens spend a considerable amount of the spring and early summer rearing cubs in underground earths. Here, a short coat would be advantageous as it is likely to reduce the chances of the vixen overheating and be easier to keep clean and free from parasites than thick fur.



Figure 4. Detailed view of left forepaw. Photo: K. Phipps.

It is interesting to note at this point that Harrison Matthews (1951, p680) remarked that the legs of Scottish hill-foxes were reddish in colour whereas those of English foxes (*Vulpes vulpes crucigera*) were darkish. Examination of modern photographs of live specimens from southern England reveals that many show very dark or

even blackish legs. This specimen, as can be seen in Figures 1 and 4, has the reddish coloration on the legs as described in Scottish specimens and dark hair is restricted to the feet. However, Red Foxes display a huge range of pelage variations even within local populations and these differences in leg colour are not thought to be indicative of a particular subspecies.

Taphonomy of the Springhead Red Fox

This most singular discovery requires some explanation of the taphonomic processes which could have taken place in the time between the death of this Red Fox and the subsequent discovery of its remains. Having consulted a number of experts (see Acknowledgements for details), the following alternative suggestions seem plausible.

Death on the road and *post-mortem* transportation

The mean life expectancy for urban Red Foxes is short: just twelve to eighteen months (Baker & Harris 2008, p420). Road traffic accidents are the main cause of death, with almost sixty per cent of a study population in Bristol dying in this way (Harris & White 1994, pp11 – 12).

It is possible that this Fox was killed by a vehicle on the nearby dual carriageway and the posterior portion of the body was then squashed to a pulp on the road surface or carried away on vehicle tyres. The remaining intact body-parts were then carried to the golf-course by a considerate householder or a scavenger such as another Fox. Alternatively, an intact road casualty could have been buried or simply left at the edge of the course by a local resident. The presence of soil in the ears and mouth might suggest that an attempt had been made to conceal the carcass, but it is possible that rainstorm events washed soil particles into these cavities. The remains were then scavenged by dogs *Canis lupus familiaris*, Red Foxes or corvids. Although there is a public footpath across the course, dogs seem unlikely to have played a rôle in this process. The location in which the remains were found is away from the public area and it is not frequented by dog-walkers. Hunting with dogs does not occur in this area and the golf-course is managed in a wildlife-friendly manner.

Death by natural causes and *post-mortem* scavenging

If the Springhead Red Fox died of natural causes on the golf-course, the body would then undergo the five stages of decay described by Battan Horenstein *et al.* (2012), culminating in the desiccated state shown by this specimen. The meteorological conditions at the time of discovery would have aided the drying of the soft tissues. Similar total desiccation has been reported in Pig *Sus scrofa domestica* carcasses (Cogswell & Cross 2021) and a Stoat *Mustela erminea* (D. C. Schreve pers. comm., 2024) found in the open air in the United Kingdom. Vertebrate scavengers such as Carrion Crows, Magpies *Pica pica* and Foxes would have dismembered the body of the Red Fox during this period of decomposition. Due to the unsuitable nature of the soils and landscape in the surrounding area, there are no Badgers *Meles meles* on the course.

Although not frequently reported, conspecific scavenging, also known as conspecific necrophagy, does occur in Red Fox populations (Reynolds & Tapper 1995, pp112-113; Baker *et al.* 2006, table 1, p43; Baker & Harris 2008, p215 and Muther *et al.* 2024). A recent study in the Spanish Pyrenees has provided the first direct observation and photographic evidence of this behaviour in a population of Red Foxes (Oliva-Vidal *et al.* 2021). Indeed, the discovery of just the anterior part of the body appears to match the scavenging patterns shown by Foxes feeding on deer *Cervus nippon* and *Capreolus capreolus* carcasses: hind limbs, front limbs and then the thorax. (Young *et al.* 2015a, p19). Caching of food remains, resulting in the soil found in the ears and mouth (Figures 2 and 3), is commonly exhibited by Foxes (Harris & White 1994, p22). Often the cached item is not completely buried and may protrude above the ground surface (Harris & Baker 2001, pp78 -79).

Scavenging carnivores generally leave diagnostic tooth-marks and those of the Red Fox can be distinguished from the indentations made by Badger and Dog (Young *et al.* 2015b). No such marks or any damage can be seen on any of the exposed bones, so loss of the soft tissue in these areas may have been brought about by the actions of other vertebrate scavengers such as corvids or Brown Rats *Rattus norvegicus* (Berkenhout 1769). Brown Rats are known to feed on mammal remains through all stages of decomposition (Indra *et al.* 2022, p13) and this species is common in the area. In addition, some soft tissues may well

have been removed by the actions of invertebrate decomposers, mainly blowfly (Calliphoridae) and fleshfly (Sarcophagidae) larvae, carrion beetles (Silphidae), slugs and worms, and bacterial and fungal decay processes.

Conclusion

There can be no definitive explanation of the sequence of events which produced these desiccated remains. However, the carcass has revealed some interesting information and it is possible to state that the Springhead Red Fox was a large individual, probably a mature male, and that it had congenital oligodonty and a malformed mandibular P₂ tooth on its left side. These dental abnormalities are evidence of fluctuating asymmetry and they suggest that this Red Fox probably suffered from some form of genetic or environmental stress during its development. Possible explanations of how these fragmentary remains came to be preserved have been proposed in this paper but this particular case does remain unsolved. This investigation has revealed unexpected details regarding aspects of the life, and death, of this adaptable and admirable mammal.

Acknowledgements

Thank you to Dr C. A. Howes, YNU Mammal Recorder, Balby, Doncaster, Professor D. W. Macdonald, University of Oxford, Dr P. Morris, formerly Royal Holloway, University of London, Egham and Professor H. J. O'Regan, University of Nottingham for sharing their views on this discovery. Special thanks are due to Professor D. C. Schreve, Royal Holloway, University of London, Egham for her helpful comments and observations. Professor A. M. Lister, Natural History Museum, London is thanked for his enthusiastic response to a draft copy of this report and for his supportive suggestions regarding additional material for inclusion. His involvement in this research is appreciated beyond measure. Ms D. Czerkaszyn, Oxford University Museum of Natural History and Mrs S. Yeo, University of Leeds Library, supplied excellent copies of documents in their care. Mr M. Carnall, Life Collections Manager, Oxford University Museum of Natural History provided helpful suggestions regarding useful resources. Dr M. J. Statham, University of California and Professor P. White, University of York generously supplied copies of relevant papers. Finally, thanks to Groundwork Yorkshire for granting permission to visit the peripheral regions of their golf-course.

This paper is dedicated to the memories of Mr A. J. Phipps (1931 – 2001) and Mrs P. I. Phipps (1934 – 2021).

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YNU Calendar 2025

For further details and updates visit the YNU Events Calendar website:
(<https://ynu.org.uk/news-events>).

February	8	YNU Executive. Meeting at St.Chads, Beckett Room, Headingley, 10.30 to 13.30.
	13	Evening Zoom presentation on Curlew Action by Mary Colwell. 7.30pm. Book via YNU website.
March	1	YNU Conference (see p194)
	16	Lepidoptera Group Annual Meeting: Bramham Village Hall. 11.00 – 15.30. Contact Lepidoptera Group Co-ordinators.
	22	Entomological Section Recorder's Reports and Conversazione: St. Chad's Meeting Rooms, Headingley, Leeds LS16 5JT. 10.30 - 15.30.
May	10	Bryological Section: Ganton Estate, VC 61. Meet 10:00 am in the estate farm yard just off the B1249 at TA00927593, (w3w: ///centuries.herb.solder).
	17/18	VC62 Excursion. Sleightholmedale. Meet at SE664890. Parking in field adjacent to Sleightholmedale Lodge. This is a 2-day meeting, not a residential, so members can attend either or both days.
June	21	VC63 Excursion Hatfield Moor.
July	5	VC64 Excursion Kingsdale Head Farm (north of Ingleton).
	19	VC65 Excursion Bolton Estate (Cobscar Rake & Redmire Quarry), Wensleydale.
August	9	VC61 Excursion Hotham Carrs SSSI (To be confirmed).
October	4	Bryological Section: Broughton Sanctuary, VC63. Meet 10:00 am in the car park at SD94155065, (w3w: ///rating.violinist.ladders).
	25	Entomological Section AGM at St. Chad's Meeting Rooms, Headingley LS16 5JT. 10:30 - 15:30.
November	8	YNU AGM Leyburn, Wensleydale.

Yorkshire Naturalists' Union

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The Naturalist

This publication is issued free to individual members of the Yorkshire Naturalists' Union and to Affiliated Societies. The Editorial Board of *The Naturalist* is currently:

A. Millard, A. Gómez, G. Oxford, P. Simmons
Assistant Proofreader: **S. Millard**

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- using any paragraph formatting and line spacings other than single.
- using tabs to tabulate information (please use MS Word table format).

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Copy Dates:

April issue - 14 February; August issue - 14 June; December issue - 14 October

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The Naturalist is printed by Swallowtail Print, Norwich
ISSN 0028-0771

