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Front cover: The leaf-mine caused by the larva of Common Fruit-tree Pigmy moth *Stigmella oxyacanthella* in a Hawthorn *Crataegus monogyna* leaf. See p66. Photo: Andy D. Nunn

Back cover: Artwork by Dorothy Bramley, a member of the YNU for over 40 years. See p68.

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Note on scientific names

In the last excursion report for VC61 (*The Naturalist* 1087) a spider was named as *Lorinioides sericatus*. The latest national checklist from the British Arachnological Society (published 2014) names this species as *L. scolopetarius*. When checking scientific names, the Editorial Board uses the NBN (which gives the preferred name as *L. sericatus*) as the most comprehensive, authoritative and practicable list available. However, recognising that on occasions the NBN may not be wholly up to date with the latest developments in naming, the Editorial Board would be grateful if authors could check their scientific names against the NBN list and draw the Board's attention to any discrepancies.

Whitby whales: a review of whales, dolphins and porpoises of the Cleveland and North Yorkshire Coast.

Part 1: Historical Background

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Introduction

To mark the centenary of the Whitby Naturalists' Club (www.whitbynaturalists.co.uk) and the opening of the Whitby Whale Watching Centre (www.whitbywhalewatching.net), this review provides a historical background and catalogue of source material. The recording area closely equates with the combined coastal boundaries of North Yorkshire and Watsonian Vice-county 62, extending from the Tees estuary (NZ5528) in the north to Speeton (TA1675) in the south and includes the towns of Redcar, Whitby, Scarborough and Filey.

Archaeological evidence: Excavations undertaken at Whitby Abbey in 1920-25 unearthed a whale's vertebra beneath paving supposedly of Saxon date (Cramp, 1976). Whalebone objects possibly traded from the Yorkshire coast have been found in York. In medieval deposits in Fishergate, which included the site of the Priory of St Andrew, a waste off-cut from the neural spine or transverse process of a whale vertebra was found in a layer dated c.1195 to the 13th century. Waste whalebone was also recovered from a Dissolution context dated c.1538. The excavation at 16-22 Coppergate found a composite double-sided comb made from whalebone and dated to the late 10th or early 11th century and a sword pommel of cetacean bone which, although found in a 12th century context, was probably residual and could date from the 9th or 10th centuries (Gardiner, 1997).

Rights to stranded whales: Evidence of the occasional strandings of cetaceans on the Whitby, Cleveland and North Yorkshire coastline from the 12th to the 18th centuries is indicated by the immemorial rights held by noble families, ecclesiastical and civil jurisdictions to lay claim to this potentially valuable bounty. Sensing widespread abuse of these claimed privileges, Edward I instituted Royal inquiries, undertaken from 1274 to 1294, into the legitimate origins of these rights. Transcripts of these enquiries, the *Quo Warranto Rolls*, show four local contested examples. Peter de Maulay of Mulgrave Castle claimed title to the wreck of the sea and whales except the head and tail, on his lands of Sandsend, Lythe, Goldsborough, Barnby, Mickelby, Ellerby and Newton [Mulgrave]. In 1274 it was claimed that the Burgesses of Scarborough stole a 'great whale' from the port of Filey and that they and the bailiffs of Scarborough Castle kept it for their own use. In 1280 Gilbert de Gaunt and Richard Malebyse claimed to have from the time of the conquest the right to take those 'whales of the sea' which landed in the port of Filey, saving for the king the head and tail and that Gilbert de Gaunt also claimed whales at Hunmanby (English, 1996). A 1647 survey of the manor of Stockton states that the Bishop of Durham had royalties of the Tees, whales and porpoises, within the manor (Page, 1928). Seigniorial rights to the "wreck of the sea" were again claimed in 1722 when "a whale of considerable value" was stranded at Bran Sands (NZ5526) in the mouth of the Tees and claimed by Chomley Turner of Kirkleatham Hall, a claim unsuccessfully contested by Sir Stephen Fox who held the Lordship of adjacent Wilton and West Coatham. After the lucrative oil was extracted from this whale, its jawbones were erected at the free-school, Kirkleatham, as evidence of the supremacy of Turner's rights (Graves, 1808). In July 1795 the carcass of a 50ft "spermaceti whale that was driven ashore at Redcar" (NZ62) was claimed on behalf of Thomas Dundas Bt. of Marske Hall (*Doncaster Journal & Yorkshire Advertiser* 25 July 1795).

During the 19th and 20th centuries, museums and academic institutions regularly acquired these stranded cetaceans for research, educational and public display purposes. Nowadays, after scientific sampling in accordance with government programmes of marine-life monitoring, Local Authorities are left with the costly duty of disposing of these leviathans-of-the-deep, usually to landfill.

Whitby Whaling: The commercial whaling industry in Whitby generally ignored the locally occurring cetacean fauna, focussing primarily on hunting the larger baleen whales off Greenland, the Davis Straits, Baffin Island and the Labrador coast. These recklessly dangerous and often fruitless exploits to arctic waters commenced in 1753 and lasted until 1837. The industry peaked in the three years 1786, 87 and 88 with up to 20 boats sailing from the port.

Through the history of the industry 58 whaling ships sailed from Whitby each with a crew of between 25 and 50 men and boys, embarking on a total of 577 arctic voyages which produced 2,761 whales, 25,000 seals and 55 Polar Bears *Ursus maritimus*. Many Whitby ships and large numbers of crew were lost and many that survived returned home ill, crippled, starved and destitute (Adamson, undated; Dykes, 1980; Barrow, 2001; www.whitby-yorkshire/whaling/). Exploitation of whale stocks in the North Atlantic by the British, Danish, Dutch, German, Norwegian and American whalers proved unsustainable; most of the target species were driven to the brink of extinction and the industry became unprofitable. A visible legacy of this relatively short-lived enterprise which brought wealth to some but destitution and death to many can be seen in some of the grand 18th century properties of the Whitby area, with their whalebone arch gateways and more subtly in the use of whalebone as a structural material in local vernacular architecture. Nick Redman's encyclopaedic studies on these follies and curiosities (Redman, 1984, 2003, 2004) provide evidence of over 30 whalebone arches and other monuments within this limited area; their distribution is shown in Fig.1. Sadly at least ten of these have deteriorated and been disposed of. The whalebone shed featured in Fig.2 is perhaps one of the more utilitarian uses to which the larger baleen whale jaw bones were put. The photographer, Frank Meadow Sutcliffe, sent a copy of this photograph to Thomas Sheppard for publication in *The Naturalist*, giving the following description "Framework of a canvas-covered shed after stripping, showing the whales' jaw bones, of which there were seven pairs. The shed was near 'Mortimer's Lodgings', a house on the north bank of the harbour at Whitby near the present gasworks and was demolished by the L&N.E.R. Co. April 1930 ..." (Sheppard 1930).

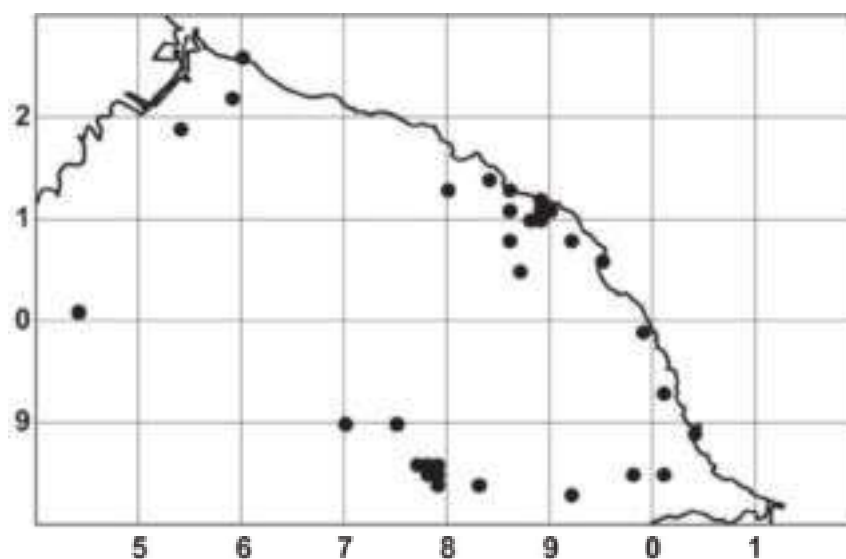


Figure 1. Locations of whalebone monuments and architectural structures in the Whitby, North York Moors and Cleveland region (based on Redman, 2004).



Figure 2. Storage shed in the process of being dismantled, revealing its construction consisting of the paired jawbones of seven large baleen whales. It was situated close to the railway viaduct (N28909) in Whitby (Photo by Frank Meadow Sutcliffe. This image is reproduced from a print in the C.I. Massey archive.)

Species review

Sixteen species of whales, dolphins and porpoises (cetaceans) have been recorded along the Cleveland and North Yorkshire coastline, representing 59% of those recorded in UK waters. The majority of records have been collated from the national reviews of stranded cetaceans (Harmer, 1927; Fraser, 1934, 1946, 1953 & 1974), the Yorkshire cetacean reviews by Clark & Roebuck (1881), Spalding (1966), Delany (1985), Howes (1991), Howes & Phillips (1993), the Scarborough Field Naturalists' Society regional review by Fraser (1956) and the archive of press cuttings, correspondence and photographs accumulated by C.I. Massey. Preliminary historical reviews are available for the following individual species: Minke Whale *Balaenoptera acutorostrata* (Howes et al., 1987), Beluga *Delphinapterus leucas* (Howes, 1990), Killer Whale *Orcinus orca* (Howes, 1998), Humpback Whale *Megaptera novaeanglia* (Howes, 2005), Harbour Porpoise *Phocoena phocoena* (Howes, 2008), White-sided Dolphin *Lagenorhynchus acutus* (Massey, 1973), Sperm Whale *Physeter macrocephalus* (Howes, 2010), Northern Bottlenose Whale *Hyperoodon ampullatus* (Howes & Crowther, 2010), Long-finned Pilot Whale *Globicephala melana* (Howes, 2012) and Sowerby's Beaked Whale *Mesoplodon bidens* (Whittaker, 2013).

Occurrences north of the Tees on the Durham and Northumberland coasts are reviewed by Chris Bielby and Martin Kitching in Bond (2012) and those to the south of Flamborough, the Holderness coast and the Humber are reviewed in Howes (2000). Monitoring Yorkshire coastal cetacean records by traditional reportage from local natural history societies and the local

printed press is now entirely overwhelmed by the websites of a range of media, wildlife conservation, animal welfare, tourist, specialist sea-life and cetacean studies organisations. A list of the most useful sources has been gathered in Appendix 1.

Acknowledgements

This study is dedicated to the memory of Charles Ian Massey, curator of Wood End Natural History Museum, Scarborough, 1961-1994. Thanks are due to Mrs Sheila Massey for donating Ian's cetacean files to the YNU Archives and to Frank J. Thompson for useful discussions on this project.

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Appendix 1: Websites which collect/publish Cleveland/North Yorkshire Cetacean Records

Organisation/Newspaper/Project	Website
Birding Frontiers	http://birdingfrontiers.com/
British Divers Marine Life Rescue	http://www.bdmlr.org.uk/
British Marine Life Study Society	http://www.glaucus.org.uk/
Darlington & Stockton Times	http://www.darlingtonandstocktontimes.co.uk/
Dolphinspotter	http://www.dolphinspotter.co.uk/
International Dolphin Watch	http://www.idw.org
Natural History Museum	http://www.nhm.ac.uk/
Cetacean Strandings Project	
North East Cetacean Project	http://www.northeastcetaceans.org.uk/
North Sea Wildlife	http://www.northseawildlife.org.uk/
Sea Watch Foundation	http://www.seawatchfoundation.org.uk/sightings/
Sea Mammals Research Unit	http://www.smru.st-andrews.ac.uk/
Scarborough Evening News & Mercury	http://www.thescarboroughnews.co.uk/
The Northern Echo	http://www.thenorthernecho.co.uk/

Whitby Gazette	http://www.whitbygazette.co.uk/
Whitby Whale Watching	http://whitbywhalewatching.net/gallery.html
Yorkshire Coast Nature	http://yorkshirecoastnature.com/
Yorkshire Coast Sealife, Fisheries & Maritime Archive & Museum	http://yorkshirecoastmaritimearchive.co.uk/
Yorkshire Naturalists' Union	http://www.ynu.org.uk/

Great Crested Newt translocation for conservation purposes in Ilkley, West Yorkshire

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Background

England has an internationally important population of Great Crested Newt *Triturus cristatus* which is a priority species on the UK Biodiversity Action Plan and protected by UK legislation. The conservation plan includes an aspiration to undertake introduction of Great Crested Newts to areas within its home range where there is no extant population.

Lower Wharfedale has had an active recording community since 1947, when Wharfedale Naturalists' Society (WNS) was formed. During this time there have been no records of Great Crested Newts in Lower Wharfedale despite the presence of seemingly suitable habitat. Records of this amphibian exist to the south (Leeds City) and north (Harrogate District). Consequently, after some consideration, introduction of Great Crested Newts has been undertaken at Nell Bank Centre, Ilkley, in order to support nature conservation efforts for this newt nationally.

Rationale for introduction

In considering the suitability of the proposed translocation of Great Crested Newt to Nell Bank Centre, reference was made to The Great Crested Newt Conservation Handbook (Langton *et al.*, 2001) and the JNCC (2003) policy for conservation translocations in Britain Annex 1. These documents give guidelines and criteria which should be met if a proposal for a species re-introduction is to take place in the UK.

The site chosen as receptor site was Nell Bank Environment Centre, Ilkley, West Yorkshire (SE126486). The Centre is owned by Bradford Metropolitan District Council and was established in 1977 in a rural location on the northern edge of Ilkley. It is a private facility with access only to Environment Centre staff, local naturalists by appointment and people on supervised courses. The site includes 44ha of ancient, semi-natural broad-leaved woodland, 4ha of built environment and wildlife gardens and 7ha of land which was previously permanent pasture. Of this latter, 1.2ha is recent broad-leaved plantation and here hedgerows, log piles, rough grassland and other wildlife features have also been created. Four ponds exist on the site. The following factors were considered:

1. Great Crested Newt not present at the site

Nell Bank Centre is visited by 16,000 school children and adults per year. Many of these groups use three of the ponds for pond-dipping. Consequently, Centre staff are aware of the amphibians present. No Great Crested Newt has ever been caught on this site though Palmate Newt *Lissotriton helveticus*, Common Frog *Rana temporaria* and Common Toad *Bufo bufo* are all frequently encountered. West Yorkshire Ecology (WYE), the local biological records centre, confirmed in 2008 that there were no records of Great Crested Newt in Bradford District.

2. Great Crested Newt unlikely to colonise naturally

The distribution of Great Crested Newt in the locality is relatively well known through the activities of WNS, and reference has also been made to NBN and WYE. At present the nearest known populations to the site are c.1km distant. WNS records indicate that no Great Crested Newt population has been recorded in the dale since 1977. It is considered that colonisation of the receptor site is unlikely due to a lack of connectivity between extant sites and the Centre.

Whilst it is considered that Lower Wharfedale is within the natural range of Great Crested Newt in England, and apparently suitable terrestrial habitat exists, ponds have not been an historic feature of land use in the valley and most of the ponds that existed in the early 20th century have been lost in the locality in line with trends throughout England.

Great Crested Newt is not currently recorded at the site. Prior to its development as an environment centre, the site was a large house with grounds adjoining open countryside with no suitable breeding habitat for the species. The site now has suitable habitat but lack of connectivity to other populations in the area has meant that colonisation has not taken place. It is considered unlikely that natural colonisation will take place in the foreseeable future.

3. Newt habitat is safe from threat of unfavourable land use change

Nell Bank Centre is a registered charity managed specifically for nature conservation, resourced by Bradford Metropolitan District Council and donations. Bradford MDC owns the site and the Centre's future is assured.

4. Receptor site should have suitable ponds

The site is an environment centre in a rural location. The Centre and its extensive grounds are specifically managed for nature conservation and wildlife. The site has four ponds, three (P1-P3) are used for pond dipping and are located near the Centre buildings (see Fig.1). The fourth pond (P4) was created in 2006 in former pasture and is being allowed to vegetate naturally (see Plate 1, centre pages). P4 is the largest and has no pond-dipping. There are no fish in any of the ponds and the introduction of fish will not be undertaken, though there is a possibility that they will



Figure 1. Nell Bank pond P3

G. Haycock

arrive by natural means,

Whilst pond dipping takes place in ponds P1 to P3, disturbance due to pond dipping is minimised by the close supervision of children and the equipment used. The majority of the pond is always undisturbed and all animals caught are treated with respect and returned to the aquatic environment carefully and unharmed. Habitat Suitability Index (Oldham *et al.*, 2000) data were recorded for these ponds in March 2009 to indicate suitability for Great Crested Newt; these data are presented in Table 1.

5. Terrestrial habitat

Within 500m radius of the receptor pond is c.64ha of high quality terrestrial habitat for Great Crested Newts with connectivity to the pond, of which 51ha is within the boundary of the Centre. The area is surrounded by open countryside with predominantly pastoral usage, hedgerows and broad-leaved woodland. This represents good habitat for Great Crested Newt and capacity for Great Crested Newt to colonise surrounding suitable habitat in due course.

Table 1 – Habitat Suitability Index data for ponds at receptor site.

Pond	Date of creation	Habitat Suitability Index	Comments
P1	< 2006	0.71 (Good)	Pond dipping takes place. Pond area 40.5m ² . Permanent. Water quality moderate. No shading, 40% macrophytes.
P2	< 2006	0.76 (Good)	Pond dipping takes place. Pond area 21m ² . Permanent. Water quality good. No shading, 80% macrophytes.
P3	2008	0.75 (Good)	Pond dipping takes place. Pond area 36m ² . Permanent. Water quality good, 20% shaded perimeter, 60% macrophytes. See Fig. 1.
P4	2006	0.81 (Excellent)	No pond dipping takes place. Release site. Pond area 286m ² . Permanent. Water quality good, 10% shading, 10% macrophytes. See Plate I, centre pages.

Further considerations

The spread of Chytridiomycosis (a disease of amphibians caused by the fungus *Batrachochytrium dendrobatidis*) in Britain is a major concern, so precautions were taken in line with standard biosecurity protocol (ARG-UK 2008) to minimise the possibility of transferring this disease between populations of amphibians. In particular, it was important to ensure that donor populations were not infected, as live material was transferred from the donor site to Nell Bank Centre. The donor site was tested for *B. dendrobatidis* in 2009 prior to egg transfer, with swabs taken from 30 animals and submitted for DNA analysis at the Zoological Society of London.

Policy background - Biodiversity Action Plans (UK BAP)

Great Crested Newt is a Priority Species on the UK BAP. The Species Action Plan records that it is likely to be in decline, with data from the 1980s suggesting a national rate of colony loss of approximately 2% annually (UK Biodiversity Steering Group, 1995). Loss of pond habitat in

England and fragmentation of terrestrial habitat are probably causing a continuing decline (Jehle *et al.*, 2011). The result is that colonisation of new ponds is becoming less likely.

The Action Plan objectives and targets listed on the UK BAP website include:

"Establish populations in 100 appropriate unoccupied sites each year from 1995 to 2005, ensuring that the species is found in sites that are representative of the range of habitats used and the geographic distribution. Maintain the geographical range of the great crested newt."

To date, no establishment of new populations is known to have taken place in West Yorkshire.

Donor Site

Donor site selection took place through discussion with local authority staff responsible for nature conservation at Bradford MDC, Leeds City Council and Harrogate District Council. No Great Crested Newt populations are known in Bradford MDC. Populations at all known sites in Leeds were regarded as being too small to sustain any removal of eggs. Harrogate District borders Ilkley and there are several sites with known good Great Crested Newt populations. The site selected was The Mar at Arkendale (SE384610).

The Mar is a village pond managed by Arkendale Parish Council. The site is 24.5km from the receptor site and was surveyed by the author and other Amphibian and Reptile Group (ARG) volunteers in 2005 and 2006. A large Great Crested Newt population was recorded at The Mar, with further records from several locations throughout the village indicating a robust metapopulation. Six hundred eggs represents the annual egg laying potential of 2 or 3 mature females (Griffiths, 1996), which was considered unlikely to impact negatively on the population.

The author was granted a series of Conservation Licences by Natural England under the Conservation of Habitats and Species Regulations 2010. This allowed the transfer of up to 600 Great Crested Newt eggs per year for three years (2009 – 2011).

The donor population was tested for *B. dendrobatidis* prior to commencement and found to be negative. The eggs were taken from The Mar by inserting bundles of "egg strips" made from black plastic dustbin liners attached to canes (see Plate 1 centre pages). Fifteen canes were introduced at the start of the mating season (typically mid-April) and checked regularly. Great Crested Newts readily utilise the egg strips as illustrated in Plate 1. Once sufficient eggs were estimated to be present (typically mid-May), the strips were lifted out, put in a container with pond water and taken immediately to the receptor pond. The eggs were introduced to the receptor pond (P4) at Nell Bank each spring for three years by immersing the strips in the pond amongst submerged pond weed (mainly Canadian Pondweed *Elodea canadensis*).

A quirk of Great Crested Newt genetics means that only 50% of eggs laid are viable (Horner & Macgregor, 1985); consequently a maximum of 300 eggs could be expected to hatch successfully each year. Great Crested Newt larvae were recorded in the pond at Nell Bank each summer indicating that eggs had hatched successfully. The newts are long-lived (up to c.15 years) and are predominantly terrestrial. Once the newt completes metamorphosis and emerges from the pond, it will typically take two to four years before it is mature and ready to breed.

Monitoring

Monitoring activity is described below with detail in Table 2.

Amphibian survey work has been undertaken at Neil Bank Centre regularly since 2007, and these data are useful for indicating amphibian species presence and population levels prior to the reintroduction. We began monitoring the ponds for returning Great Crested Newts in spring 2012 (three years after the first eggs were introduced). Intensive surveying was undertaken on two nights using 500,000 candlepower Clu-lite torches (flashlights) in the breeding season. We recorded an abundance of Palmate Newts, Common Frog tadpoles and Common Toad and a few non-native Alpine Newts *Ichthyosaura alpestris* each time, but no Great Crested Newts.

In 2013 two possible Great Crested Newts were spotted in the receptor pond but not confirmed. The following morning, however, Great Crested Newt eggs were recorded in aquatic vegetation on the periphery of the pond, leading to further efforts to confirm their presence. In early June two males were observed displaying in the receptor pond and in the morning one male was captured in a bottle trap there.

Bolstered by these early signs of successful survival and breeding of Great Crested Newts at the receptor site, a population survey meeting Natural England guidelines was undertaken in 2014. Six survey events using three methods took place during the breeding season. The methods used were: torch survey by night (using 500,000 candlepower Clu-lites); bottle-trapping; and egg searching. The results of this indicate that a small breeding population of Great Crested Newts is now established at the receptor site. Great Crested Newt breeding was also recorded at one of the pond-dipping ponds, indicating colonisation. The peak count in the receptor pond was 10 individuals (including observation of egg-laying females) on 14th May. Peak count in P1 was 2 individuals and Great Crested Newt eggs observed also on 14th May.

Table 2: Observations of translocated Great Crested Newts.

Date	Great Crested Newt observations
26/04/2012	None found
10/05/2012	None found
30/05/2013	Pond P4 - 2 males by torchlight. Eggs present
04/06/2013	Pond P4 - 2 males by torchlight, 1 male in bottle trap. Eggs present
07/04/2014	Pond P4 - 1 male by torchlight, 2 females in bottle traps
15/04/2014	Pond P4 - 5 males and 2 females by torchlight. Eggs present
06/05/2014	Pond P1 - 1 female. Pond P4 - 3 male and 5 female by torchlight. Eggs present
14/05/2014	Pond P1 - 1 female by torchlight, 1 male in bottle trap. Eggs present Pond P4 - 4 male and 6 female by torchlight
22/05/2014	Pond P1 - 1 male by torchlight Pond P4 - 1 female by torchlight
03/06/2014	Pond P4 - larvae recorded

Discussion

The introduction was undertaken utilising one life stage of Great Crested Newt. The egg phase was chosen partly because this is the easiest way of moving many individuals and partly to reduce impacts on the donor population, where loss of eggs and juveniles is a regular occurrence in the metapopulation, and longevity of established adults ensures continuity of the population.

Current monitoring allows us to be cautiously optimistic that the introduction has facilitated establishment of a Great Crested Newt population within its natural range which accords with the Conservation Action Plan for this species. The population was introduced to suitable habitat where colonisation from known populations was unlikely in the short to medium term.

It is hoped that this population will enhance the nature conservation status of the species through helping to address colony loss throughout the UK, and increase resilience through the establishment of a new metapopulation in Lower Wharfedale. The author would be very pleased to hear of other sites where introduction may be appropriate.

Acknowledgements

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A hidden ichthyosaur reveals its secrets: a 7 years' pursuit

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Ichthyosaurs are extinct marine reptiles that superficially resembled dolphins and sharks but are neither. They are most definitely not 'swimming dinosaurs'! They were fully aquatic marine tetrapods that lived in the seas whilst their more famous counterparts, the dinosaurs, roamed the land. Ichthyosaurs have been found on all continents and lived during the late Early Triassic to the early Late Cretaceous, 250 to 93 million years ago.

I began researching the collections of my home-town museum, Doncaster Museum & Art Gallery, in 2008. One specimen, the key ichthyosaur of this study, was shown to me as "an exceptional cast". However, I immediately recognised that it was an original specimen and that it might be important (see Plate III, centre pages). I further went on to describe stomach contents, comprising the tiny arm hooklets of squid, preserved with the specimen (Lomax, 2010). Little information was recorded with the specimen and the location was unknown. However, I discovered a single belemnite (a squid-like animal) preserved in the matrix next to the skull. The belemnite was identified and noted to have come from only one specific horizon in the world, exposed around Charmouth, Dorset. This rock layer dated to the Jurassic Period and to a time known as the Pliensbachian. Pliensbachian ichthyosaurs are rare and this specimen represents the world's most complete example. I determined that the specimen belonged to the genus *Ichthyosaurus* but was unable to identify the species and believed it to be something unusual. In 2010, after a couple of years of independent research, I teamed up with Professor Judy Massare (Brockport College, NY, USA), a renowned ichthyosaur expert, and together we began a scientific adventure that would take up much of the next four years of my academic research.

Ichthyosaur species possess many distinguishing features. One key feature is the humerus bone. It was determined that the humeri in the study specimen had to be removed in order to confidently distinguish it as something new. The two bones were removed and copies produced; they were CT-scanned at the Royal Veterinary College, London. The humeri assisted with the identification as *Ichthyosaurus* but other features were unusual and hinted at something new. These included a short, robust humerus with prominent processes and a femur whose proximal width was almost as large as its distal width and very small relative to the humerus (ratio >1.7). One of the most unusual features was a 'depression' in the humerus.

In order to test the hypothesis that the unusual features indicated a new species, countless research visits to museums in the UK, Europe and USA were undertaken. This included the examination and comparison of perhaps a thousand specimens; four possessed features of the new species, although there was a difference in the humerus morphology. Prof. Massare and I examined the reptile record (extinct and extant) of sexual difference in limbs and found that several groups display distinct differences. Applying these criteria enabled us to determine that the Doncaster specimen was probably an adult male. Thus, for the first time, it may be possible to differentiate between male and female ichthyosaurs, at least in this species.

The last species of the genus *Ichthyosaurus* was described in 1888. Many ichthyosaurs were collected by a young woman called Mary Anning who lived at Lyme Regis and was the first person to bring the ichthyosaurs to the attention of the scientific world. It was Mary and her brother Joseph who, around 1811, discovered the first ichthyosaur to be scientifically recognised. In honour of Mary, we named the new species *Ichthyosaurus anningae*. One of the additional specimens referred to the new species, in the collections of London's Natural History Museum, was even collected by Mary herself. A touch of serendipity! Our extensive research was brought together and published this year in the high-profile *Journal of Vertebrate Paleontology* (Lomax & Massare, 2015). The specimen tells an exceptional story, from initially being mistaken for a copy to representing a new species named after Mary Anning.

A final thought: A discovery of this significance demonstrates the further importance of examining small, local museum collections. Who knows what you might find?

Acknowledgements

Firstly, thanks to my co-author, Professor Judy Massare, for constant help and support. I would like to thank Doncaster Museum for allowing the study of the specimen. The preparation (by Nigel Larkin) was funded by the Esmée Fairbairn Foundation, as part of a grant awarded to Doncaster Museum.

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Studying the Hymenopterous parasitoids of Lepidoptera in Yorkshire

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Introduction

Yorkshire's Parasitic Hymenoptera have been studied for at least 150 years and in recent times Bill Ely has made great progress validating existing records and adding to the list of species recorded. Ely (2011) stated that "You cannot apply a sweep net to a hedgerow between April and October without picking up Ichneumonids. They are everywhere in abundance." Collecting the specimens is one thing but then actually identifying the catch is quite another. There is

however an alternative approach and that is to rear the parasitoids directly from their known hosts.

Methods (See Plate IV, centre pages, for some of the species mentioned below.)

To rear a parasitoid you first need to be able to find its host and this will inevitably require some knowledge of caterpillar food-plants and their habitats. This is where the recently publicised Yorkshire plant atlases come into their own. For example, one of my recent ambitions was to obtain specimens of *Glypta fronticornis*, a parasitoid which is known to attack the tortricid moth Cowberry Marble *Sticta mygindiana*. The *Plant Atlas of Mid-west Yorkshire* (Abbott, 2005) and an Ordnance Survey map were instrumental in guiding me to Barden Moor (VC64), where the moth's food-plant Cowberry *Vaccinium vitis-idaea* grows in abundance. My subsequent annual pilgrimages to Barden have led me to believe that Cowberry Marble seems to suffer substantial mortality as a result of ichneumon attack whereas the more abundant Northern Bell *Rhopobota ustomaculana* seems to evade parasitoids completely. Both of these caterpillars construct similar tents from the Cowberry leaves and it remains unclear why one moth appears to be the more vulnerable.

Colin Hart's (2011) excellent *British Plume Moths* has helped me to find *Microgaster alebion*, a parasitoid of the Triangle Plume *Platyptilia gonadactyla* on Coltsfoot *Tussilago farfara* and also *Cotesia pilicornis*, which attacks Beautiful Plume *Amblyptilia acanthadactyla* on Hedge Woundwort *Stachys sylvatica*. Coltsfoot flowers become obvious in early spring and can be checked later for final instar caterpillars preparing to pupate within the fully developed seed-heads. Both *Microgaster* and *Cotesia* belong to the Braconidae and are endoparasitoids, their own larvae emerging from final instar caterpillars to spin cocoons.

Perhaps the best entry-level study species for the novice parasitologist is the leaf-mining Common Case-bearer *Coleophora serratella*. The larval/pupal cases of this micro-moth are easy to find in May and June on the leaves of birch. If these are kept fresh in suitable containers, the adults of either moths or parasitoids will appear in July and August. I am currently writing a key to the parasitoids of Common Case-bearer and would be happy to email a copy of this to anyone interested. I would also be grateful to receive specimens of these parasitoids, particularly *Campoplex punctipleuris*, which I suspect may have a distinctive wing venation character that could be used to distinguish it from other ichneumons in the genus.

Lotus Case-bearer *Coleophora discordella*, which can be found in colonies on suitable patches of Bird's-foot-trefoil *Lotus corniculatus* in May, also produces interesting parasitoids, including a braconid of the *Orgilus* genus, *Bracon osculator* and a couple of un-named *Diadegmas*. There is yet another *Diadegma* waiting to be described which can be obtained by collecting Gorse Case-bearer *Coleophora albicosta* cases from Gorse *Ulex europaeus* in November and keeping them in an unheated shed through the winter. The *Diadegma* that emerges in April/May is very small with orange hind femora and an upturned ovipositor. I have discovered to my cost that it has particularly delicate antennae and great care must be taken when preparing to post packages of the specimens to experts.

Some parasitoid complexes have been studied more extensively and that of the Nettle-tap moth *Anthophila fabriciana* is a good example. *Diadegma fabricianae* can easily be obtained by

collecting a few Nettle-tap caterpillars in April and rearing them in a Tupperware container. Other parasitoids which can be obtained from this host are the braconids *Glyptapanteles lateralis*, the thelytokous *G. fausta* and *Microgaster nixalebion*.

The White Satin Moth *Leucoma salicis* also provides an interesting array of parasitoids. Keith Smith (2011) alerted me to the existence of a colony of this moth residing in Queen's Gardens, Hull (VC61). The caterpillars are heavily parasitised by *Cotesia melanoscela*, a parasitoid of several species of Lymantriinae. This solitary braconid parasitises the larvae of White Satin at all stages; i.e. it has successive broods on a single host generation. *Cotesia melanoscela* itself is heavily hyperparasitised and it is interesting to compare empty braconid cocoons within the larval web. Where adult parasitoids have emerged from cocoons by cutting around the cap the presence of *Cotesia melanoscela* is likely but a chewed hole (usually sub-apical) betrays the presence of hyperparasitoids. It is worth keeping an eye out for half grown mummified caterpillars (inside quite dense spinings) in May and June as it would be nice to know if the host-specific *Aleiodes pallidator* is in the population. I haven't yet found the *Aleiodes* in the Hull colony.

The parasitoids of Psychidae have been intensively studied and it has been possible to identify *Diadegma naryciae* as the parasitoid attacking White-speckled Smoke *Narycia duplicella* on the 800-year old Laund Oak near Bolton Abbey (VC64). The same ichneumon can be reared from the same host in Baildon (VC64), where it also attacks Virgin Smoke *Luffia ferchaultella*. A more surprising discovery at the Baildon site is the presence of *Ascogaster grahami*, which again I have reared from both White-speckled Smoke and Virgin Smoke. A specimen of *Trachyarus corvinus* from the Baildon Virgin Smoke was determined by Erich Diller when he visited the National Museum of Scotland.

Ben Rhydding Gravel Pits (VC64) has proved to be a fruitful hunting ground. Teasel *Dipsacus fullanum* grows there in abundance and living within its seed-heads are larvae of the tortricid moth Teasel Marble *Endothenia gentianaeana*. *Ascogaster dispar* is a well known parasitoid of this moth and I was able to rear two females and a male of this braconid in 2013 simply by keeping a few seed-heads in transparent plastic containers. Common Rush Case-bearer *Coleophora alticolella* lives in great numbers on the Compact Rush *Juncus conglomeratus* at Ben Rhydding and hosts the chalcid *Hyssopus olivaceus* Thomson, 1878.

The caterpillars of Common Footman *Eilema lurideola* feed on the lichens which grow on trees, bushes, walls, rocks and fences. They overwinter whilst still quite small before recommencing feeding in April. In the last week of May caterpillars are in their final instar and can be found feeding by day as well as night. At this stage they can be gathered up and reared in a vivarium half-filled with lichen-covered twigs until cocoons are formed several centimetres below the surface. Ten caterpillars from Timble Ings (VC64) kept in this way during 2013 produced three identical ichneumons which were unfortunately all males of a *Casinaria* species. This was "unfortunate" only in the sense that it is the female of the majority of ichneumons that is the easier sex to identify. I hope to rear a female using the same technique in 2014 at which point I will be calling upon the expertise of Bill Ely to help ascertain its identity.

The acquisition of a beating tray has helped me find caterpillars that have produced interesting parasitoids. The larva of Green-brindled Crescent *Allophyas oxyacanthae* beaten from Blackthorn *Prunus spinosa* at Esholt (VC64) produced 37 males of *Glyptapanteles fulvipes*. A caterpillar of Mottled Umber *Erannis defoliaria* found on a cultivar of apple in Baildon brought me *Protopanteles immunis*. It is worth pointing out that the number and appearance of the parasitoids' cocoons will often reveal the identity of the hymenopteran concerned before the adult insect even emerges. A photograph of the cocoon adjacent to its host's remains can be emailed to Dr Mark Shaw in Edinburgh and will often be sufficient for him to provide a provisional diagnosis. Good examples of hosts with distinctive parasitoid cocoons include Timothy Tortrix *Aphelia paleana* attacked by *Microgaster meridiana* and also when caterpillars of Sweet-grass Dwarf *Elachista poae* mining Reed Sweet-grass *Glyceria maxima* give rise to *Pholetesor viminetorum*. In the latter case the silhouette of the parasitoid cocoon can be seen lying adjacent and parallel to the host remains when the leaf is held up to the sunlight. A grey-banded, brown, oval cocoon attached by a silk thread to the remains of a Dun-bar *Cosmia trapezina* caterpillar will belong to the ichneumon *Scirtetes robustus* (Parkinson, 2011).

The Chalcidoidea are a notoriously difficult group but there is an opportunity to study these at close quarters now that the Horse-chestnut Leaf-miner *Cameraria ohridella* has arrived in the county and recruited the usual suspects in its parasitoid complex. Collecting a few leaves in July will usually produce examples of *Pnigalia mediterraneus*, *Sympiesis sericeicornis* and *Minotetrastichus frontalis*. There is an excellent key to the parasitoids of the Horse-chestnut Leaf-miner which was made available online as part of the *Conker Tree Science* project (Pocock *et al.*, 2011).

Shaw *et al.* (2009) is an excellent paper describing the parasitoids of European butterflies and Mark Shaw has an extensive collection of reared parasitoids at the National Museum of Scotland. The 1993 record of the chalcid *Pteromalus apum* emerging from caterpillars of Brimstone *Gonepteryx rhamni* in Saltaire (VC63) is the event which first sparked my interest in the study of parasitoids. I remember Dr Shaw being amused that the first batch of specimens I sent him were pickled in vinegar! In 2013, both common parasitoids of Small Copper *Lycaena phlaeas* were found on Baildon Bank (VC64) when specimens of *Cotesia cuprea* were required for DNA studies. *C. cuprea* is gregarious, killing the host as a final instar larva and is sometimes reasonably common from this host though its other parasitoid, *Hyposoter placidus* which mummifies the larva, is often commoner. Only two Small Copper caterpillars were found but one of these produced a brood of seven *C. cuprea* and the other a male *H. placidus*. Fortunately for Dr Shaw, I have become more sophisticated and now send him specimens that are required for DNA analysis in 70% alcohol rather than vinegar!

Even the humble cabbage whites on the garden vegetable patch can produce surprises. In Withernsea (VC61) Howard and Christine Frost (2013) found the characteristic braconid cocoons of *Cotesia glomerata* on their Brussels Sprouts but the 23 adult parasitoids which emerged were all examples of the ichneumon *Lysibia nanus*. This is a solitary pseudo-hyperparasitoid that attacks newly cocooned pre-pupae and pupae of braconid wasps in the subfamily Microgastrinae.

Help is out there!

The host associations of parasitoids are so poorly understood that, like it or not, when you rear and preserve parasitoids you are at the frontiers of knowledge. There is therefore an inherent scientific responsibility to ensure that the data contributed are accurate so that they can be trusted and used by others. This is particularly important in relation to identification of hosts and the advent of digital photography has been of immense value here. Many eminent entomologists are now happy to communicate via email and through social media, though it will often be necessary to send them the actual physical specimen at a later date for a definitive opinion on its identity.

Some of the larger, more colourful ichneumons are able to be identified by posting their images onto the iSpot website. I was able to make use of this facility with a specimen of *Lyncus exhortator* that emerged from a caterpillar of Silver-ground Carpet *Xanthorhoe montanata* found feeding on Tansy *Tanacetum vulgare* near Strid Wood (VC64).

Even Twitter can be helpful. Gavin Broad (Senior Curator of Hymenoptera at The National History Museum) helped me to differentiate between *Diadegma* and *Campoplex* (despite being restricted to 140 characters!) with the concise "*Easiest way is the hind wing nervellus: angulate/intercepted in Campoplex, straight in Diadegma.*" However, a follow-up tweet from him highlights some of the ambiguities commonly encountered in ichneumon identification: "*And Campoplex shouldn't have a glymma, though they sometimes have a sort of glymma...*"

I am eternally grateful for the help and encouragement provided by correspondence with, amongst others, Dick Askew, Gavin Broad, Jim Bröck, Bill Ely, Klaus Horstmann, Andrew Polaszek, Mark Schwarz and Mark Shaw.

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Appendix 1

Hosts and parasites mentioned in the text. Lepidoptera names are from Agassiz et al. (2013) and the Hymenoptera names from Broad (2009) and Broad et al. (2012).

Lepidoptera

Gracillariidae	Horse-chestnut Leaf-miner <i>Cameraria ohridella</i> Descha & Dimić 1986
Choreutidae	Nettle-tap moth <i>Anthophila fabriciana</i> (Linnaeus, 1767)
Psychidae	White-speckled Smoke <i>Narycia duplicella</i> (Goeze, 1783)
	Virgin Smoke <i>Luffia ferchaultella</i> (Stephens, 1850)
Elachistidae	Sweet-grass Dwarf <i>Elachista pae</i> Stainton, 1855
Tortricidae	Cowberry Marble <i>Stictea mygindiana</i> (Denis & Schiffermüller, 1775)
	Northern Bell <i>Rhopobota ustomaculana</i> (Curtis, 1831)
	Teasel Marble <i>Endothenia gentianaeana</i> (Hübner, 1799)
	Timothy Tortrix <i>Aphelia paleana</i> (Hübner 1793)
Coleophoridae	Gorse Case-bearer <i>Coleophora albicosta</i> (Haworth, 1828)
	Common Rush Case-bearer <i>C. alticolella</i> Zeller, 1849
	Lotus Case-bearer <i>C. discordella</i> Zeller, 1849
	Common Case-bearer <i>C. serratella</i> (Linnaeus, 1761)
Pterophoridae	Triangle Plume <i>Platyptilia gonodactyla</i> (Denis & Schiffermüller, 1775)
	Beautiful Plume <i>Amblyptilia acanthodactyla</i> (Hübner, 1813)
Pieridae	Brimstone <i>Gonepteryx rhamni</i> (Linnaeus, 1758)
Lycaenidae	Small Copper <i>Lycaena phlaeas</i> (Linnaeus, 1761)
Arctiidae	Common Footman <i>Eilema lurideola</i> (Zincken, 1817)
Geometridae	Silver-ground Carpet <i>Xanthorhoe montanata</i> (Denis & Schiffermüller, 1775)
	Mottled Umber <i>Erannis defoliaria</i> (Clerck, 1759)
Noctuidae	Green-brindled Crescent <i>Allophyas oxyacanthae</i> (Linnaeus, 1758)
	Dun-bar <i>Cosmia trapezina</i> (Linnaeus, 1758)
Erebidae	White Satin Moth <i>Leucania salicis</i> (Linnaeus, 1758)

Hymenoptera

Ichneumonidae	
Cryptinae	<i>Lysibia nanus</i> (Gravenhorst, 1829)
Banchinae	<i>Glypta fronticornis</i> Gravenhorst, 1829
Campopleginae	<i>Casinaria</i> sp
	<i>Campoplex punctipleuris</i> Horstmann, 1980
	<i>Diadegma fabricianae</i> Horstmann & Shaw, 1984
	<i>D. naryciae</i> Horstman, 2008
	<i>Hyposoter placidus</i> (Desvignes 1856)
	<i>Scirtetes robustus</i> (Waldstedt, 1874)
Ichneumoninae	<i>Linycus exhortator</i> (Fabricius, 1787)
	<i>Trachyarus corvinus</i> Thomson, 1891
Braconidae	
Rogadinae	<i>Aleiodes pallidator</i> (Thunberg, 1822)
Braconinae	<i>Bracon osculator</i> Nees, 1811
Microgasterinae	<i>Glyptapanteles fausta</i> (Nixon, 1973)
	<i>G. fulvipes</i> (Haliday, 1834)
	<i>G. lateralis</i> (Haliday, 1834)
	<i>Cotesia cuprea</i> (Lyle, 1925)

	<i>C. glomerata</i> (Linnaeus, 1758)
	<i>C. melanoscela</i> (Ratzeburg 1844)
	<i>C. pilicornis</i> (Thompson, 1895)
	<i>Pholetesor viminetorum</i> (Wesmael 1837)
	<i>Protopanteles immunis</i> (Haliday, 1834)
	<i>Microgaster aiebion</i> Nixon, 1968
	<i>M. meridiana</i> Haliday, 1834
	<i>M. nixalebion</i> Shaw, 2004
Cheloninae	<i>Ascogaster dispar</i> Fahringer, 1934
	<i>A. grahami</i> Huddleston, 1984
Orgilidae	<i>Orgilus</i> sp.
Chalcidoidea	
Pteromalidae	<i>Pteromalus apum</i> (Retzius, 1783)
Eulophidae	<i>Hyssopus olivaceus</i> Thomson, 1878
	<i>Phigalia mediterraneus</i> Ferrière & Delucchi, 1957
	<i>Sympiesis sericeicornis</i> (Nees, 1834)
	<i>Minotetrasticus frontalis</i> (Nees, 1834)

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YNU notice

MapMate Users' Group

The YNU and Butterfly Conservation (Yorkshire Branch) have started a MapMate users group. The intention is to enable users to renew or join at a much reduced subscription rate (we need a minimum of 25 users but are aiming for 50 plus). The scheme will be administered by BC (Yorkshire Branch) and it will be open to members of both societies, affiliated groups and individuals. Penny Relf (penny.relf@yorkshirebutterflies.org.uk) will help in organising this.

We would like to compile a list of names, email addresses and the MapMate unique identifiers (CUKs) of existing MapMate users who are interested in renewing their licences via this scheme. Potential users should also register their interest. If you wish to start using MapMate you should contact the group to obtain an installation disk and be allocated a unique CUK. Note: although the initiative is via the Lepidoptera Group we know there are many others who use MapMate for recording a wide range of species including plants and dragonflies and we would encourage them to join in with us.

Terry Whitaker

Yorkshire Ichneumons: Part 3

W.A.Ely

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Introduction

The collection of additional specimens and the continuing identification of both old and new ones is leading to a considerable improvement in our knowledge of the ichneumons of the county. The annotated list prepared for the website ([www.ynu.org.uk/insects/parasitic wasps](http://www.ynu.org.uk/insects/parasitic%20wasps)) shows that almost one thousand species are confidently reported from Yorkshire and the number grows every month.

The first two parts of this list (Ely, 2013a; 2014) dealt with insects included in the RES Pimpline Handbook and, as a direct result of the accessibility which that provided, there is recently published information on these ichneumons in East, North and South Yorkshire. In contrast, those included in this present list have no such comprehensive coverage and identification depends on gathering a wide range of guides and keys, so there is much less published information on these insects in Yorkshire. Most of the species and most of the records are published here for the first time.

Yorkshire statuses are taken from the chart shown on the YNU website.

† = new county record

* = new vice-county record

Subfamily PIMPLINAE

Tribe Ephialtini

Additions to Ely (2013a):

Clistopyga rufator Holmgren, 1856. Rare in Yorkshire.

*VC63: Thorne Moors SSSI reedbed 22.8.2014 W.A.Ely

Polysphincta vexator Fitton, Shaw & Gauld, 1988. Rare in Yorkshire.

*VC64: Lawkland Moss 12.7.2014 W.A.Ely.

Acrodactyla quadrisculpta (Gravenhorst, 1820). Uncommon in Yorkshire.

*VC62: Strensall Common 15.7.2014 R.Crossley.

Tribe Pimplini

Addition to Ely (2014):

Apechthis compunctor (Linnaeus, 1758). Uncommon in Yorkshire.

*VC65: High Batts NR 14.7.2002 unknown.

Subfamily POEMINIINAE

Addition to Ely (2014):

Deuteroxorides elevator (Panzer, 1799). Scarce in Yorkshire.

*VC62: Pexton Bank 6.2013 P.J.Mayhew.

Subfamily TRYPHONINAE

These are parasitoids of the larvae of Lepidoptera and Symphyta. All species of *Netelia* are yellow-orange and fly at night, seeking out larvae which emerge to feed after dark. Information on the identification works which are available for this subfamily can be found on the YNU website:

[www.ynu.org.uk/insects/parasitic wasps](http://www.ynu.org.uk/insects/parasitic_wasps)

Tribe *Phytodietini*

Phytodietus (Phytodietus) astutus Gravenhorst, 1829. Rare in Yorkshire.

*VC63: Slack's Pond, Wickersley 15.6.1978 M.Crittenden, D.W.Twigg.

†VC64: Neville Hill, Leeds 9.6.1974 W.A.Ely

*VC65: Hardings 2.7.1983 W.A.Ely.

Phytodietus (Phytodietus) basalis Kasparyan, 1993. Rare in Yorkshire.

†VC63: Whitcliffe Wood, Sheffield 7.6.2001 A.Brackenbury.

Phytodietus (Phytodietus) gelitorius (Thunberg, 1822). Rare in Yorkshire.

Unconfirmed report from VC62 by Walsh & Rimington (1956 p287).

*VC63: High Moor, Dobcross 1.10.2011 W.A.Ely.

†VC64: Malham Tarn 16.6.1954 W.D.Hincks.

Phytodietus (Phytodietus) geniculatus (Thomson, 1877). Rare in Yorkshire.

†VC61: Allerthorpe 8.1925 W.J.Fordham.

Phytodietus (Phytodietus) montanus Tolkaitz, 1979. Rare in Yorkshire.

†VC61: Allerthorpe 23.6.1951 J.H.Elliott.

*VC62: Caydale 24.6.1984 W.A.Ely.

*VC63: Tinsley SF 7.8.1984 G.Cartwright.

*VC65: Cogden Gill, Grinton 26.7.2014 W.A.Ely.

Phytodietus (Phytodietus) polyzonias (Förster, 1771). Rare in Yorkshire.

*VC63: Birkin Royd 27.9.2008 D.Whiteley.

†VC64: Bingley 18.5.1935 J.Wood.

Phytodietus (Phytodietus) variegatus (Fonscolombe, 1854). Rare in Yorkshire.

*VC62: Skinningrove 3.9.2014 W.A.Ely.

*VC63: Potteric Carr 9.9.2001 unknown.

†VC64: Ash Wood, Drax 27.7.1987 W.A.Ely.

Netelia (Paropheltes) inedita (Kokujev, 1899). Common in Yorkshire.

Reported from VC61 (as *N. (P.) tarsata*) by Hincks (1953a p38; 1953b p136) and from VC65 by Ely (2011a p69).

*VC62: Haxby 22.5 + 23 + 24.6 + 8 + 3 + 9 + 23.9 + 3.10.2010 T.J.Crawford.

*VC63: Carlyle Road, Maltby 1.7 + 3.9.1973 W.A.Ely.

*VC64: Malham Tarn 30.7.1958 W.D.Hincks.

Netelia (Paropheltes) tarsata (Brischke, 1880). Scarce in Yorkshire.

Unconfirmed reports from VC64 by Hincks (1953a p38) but many species were missing from the checklist at that time and those studied recently have proved to be *inedita*.

*VC61: West End Farm, Muston 12-15.10.1984 P.Q.Winter.

*VC62: Haxby 17.7.2012 + 27.6.2013 T.J.Crawford.

†VC63: Crookhill 26.6.1974 P.Skidmore.

*VC64: Colton 13.7.1983 J.Payne.

*VC65: Hutton Conyers 2004 C.H.Fletcher.

Netelia (Netelia) dilatata (Thomson, 1888). Rare in Yorkshire.

Reported from VC61 by Hincks (1953a p38; 1953b p136).

Netelia (Netelia) fuscicarpus (Kokujev, 1899). Scarce in Yorkshire.
Unconfirmed report from VC63 by Skidmore (2006 p148).

†VC61: Hessle 7.1942 D.H.Smith.

*VC63: St Ives 8.7.1946 J.Wood.

Netelia (Netelia) fuscicornis (Holmgren, 1858). Uncommon in Yorkshire.

Unconfirmed reports from VC63 and perhaps (the sites are Leeds and York) VC64 by Morley (1915) p297. Reported from VC61 (as *N. (N). testacea*) by Hincks (1953b p136).

*VC63: Hill Top, Rotherham 17.8.1977 E.Dransfield.

*VC64: SE Leeds 21.8.1974 W.A.Ely.

Netelia (Netelia) infractor Delrio, 1971. Frequent in Yorkshire.

*VC61: Kilnsea 16 + 19 + 29 + 30.8 + 2.9.2011 P.A.Crowther.

*VC62: Haxby 13 + 15 + 31.5 + 1 + 6 + 7.6 + 19.7 + 4 + 6 + 9 + 10 + 19 + 28.9.2010
T.J.Crawford.

TVC63: Blacktoft Sands 8.1976 A.Grieve.

*VC64: Colton, York 9.1983 + 9.1984 J.Payne.

*VC65: Hutton Conyers 7.5 + 2.10.2011 C.H.Fletcher.

Netelia (Netelia) melanura (Thomson, 1888). Uncommon in Yorkshire.

Unconfirmed report from VC63 by Carr (1914 p94). Reported from VC61 (as *N. (N). testacea*) by Hincks (1943b p123; 1944b p38; 1953b p137) and Walsh & Rimington (1956 p279), from VC62 (also as *N. (N). testacea*) by Hincks (1953a p38; 1956b p149) and Key (1987a p152) and from VC65 (also as *N. (N). testacea*) by Hincks (1953a) p38.

*VC63: Whin Covert 3.7.1973 P.Skidmore.

*VC64: Askham Bog 16.7.1950 J.H.Elliott.

Netelia (Netelia) ocellaris (Thomson, 1888). Rare in Yorkshire.

TVC63: Wharfedale Wood 2.8.1978 A.Brackenbury.

Netelia (Netelia) opocula (Thomson, 1888). Rare in Yorkshire.

Unconfirmed reports from VC61 and VC62 by Morley (1915 p295), from VC63 by Roebuck (1907 p214) and from VC64 by Wilson (1881 p153), Bairstow *et al.* (1882 p105) and Roebuck (1907 p214) but the name has been widely misapplied.

TVC63: Elland 24.6.1936 M.D.Barnes.

Netelia (Netelia) valvator Aubert, 1969. Rare in Yorkshire.

TVC63: Mickletown Ings 14.7.1976 R.Brook.

Netelia (Netelia) vinulae (Scopoli, 1763). Rare in Yorkshire.

Unconfirmed report from VC63 by Butterfield (1937 p47) and Coldwell (1999 p61). Reported from VC61 by Hincks (1953b p136), from VC63 by Morley (1915 p301-3) and from VC64 by Wilson (1881 p153), Bairstow *et al.* (1882 p105), Roebuck (1907 p214) and Morley (1915 p301-3).

*VC62: Haxby 4.7.2014 T.J.Crawford.

Netelia (Bessobates) cristata (Thomson, 1888). Common in Yorkshire.

Unconfirmed reports from VC62 by Walsh & Rimington (1956 p276), from VC63 by Carr (1914 p94) and Morley (1915 p301-3) and from VC64 by Hincks (1953a p38). Reported (as *N. (B.) latungula*) from VC63 by Hincks (1953a p38) and from VC65 by Ely (2011a p69).

*VC61: Hessle 7.1942 D.H.Smith.

*VC62: Kirbymoorside 2.9.1990 A.Grayson.

*VC64: Askham Bog 16.7.1950 J.H.Elliott.

Netelia (Bessobates) latungula (Thomson, 1888). Scarce in Yorkshire.

Unconfirmed report from VC62 by Fordham (1920 p182). Reported (as *N. (B.) nigricarpus*) from VC63 and (as *N. (B.) latungula*) from VC64 by Hincks (1953a p38).

*VC62: Maiden Greve Balk 19.5.1989 A.Grayson.

*VC65: High Batts NR 2004 C.H.Fletcher.

Netelia (Bessabates) pallescens (Schmiedeknecht, 1910). Rare in Yorkshire.

*VC61: Allerthorpe Common 30.6.1984 W.A.Ely.

†VC63: Hatfield Moors 11.6.1967 P.Skidmore.

*VC64: Austwick Moss 15.6.2013 T.M.Whitaker.

Netelia (Bessabates) virgata (Geoffroy in Fourcroy, 1785). Uncommon in Yorkshire.

Unconfirmed report from VC64 by Bairstow *et al.* (1882 p105) and Roebuck (1907 p214). Reported from VC63 (as *N. (B.) nigricarpus*) by Hincks (1953a p38) and from VC65 by Ely (2011a p69).

*VC61: Spaldington 10.12.1985 P.Kendall.

*VC62: Wykeham 5.6.1978 P.Q.Winter.

*VC64: Askham Bog 5.8.1950 J.H.Elliott.

Tribe *Eclytini*

Eclytus ornatus Holmgren, 1855

There is an unconfirmed report from VC64 by Wilson (1883 p109) and Roebuck (1907 p215).

Tribe *Oedemopsini*

Hercus fontinalis (Holmgren, 1857). Rare in Yorkshire.

†VC61: Buttercrambe Woods 10.6.1944 J.H.Elliott.

*VC63: Brecks Plantation, Listerdale 5.5.1985 W.A.Ely.

*VC64: Grass Wood 3.9.1988 W.A.Ely.

Neliopisthus elegans (Ruthe, 1855). Rare in Yorkshire.

*VC61: Allerthorpe 11.5.1952 J.H.Elliott.

†VC62: Stockton Hermitage 14.10.1951 J.H.Elliott.

Oedemopsis scabricula (Gravenhorst, 1829). Uncommon in Yorkshire.

Unconfirmed report from VC62 by Hincks (1951 p28). Reported from VC63 by Key (1986 p288).

*VC61: Ross Common 7.7.1951 J.H.Elliott.

*VC62: Malton Road, York 30.4.1945 J.H.Elliott.

*VC64: Askham Bog 16.7.1950 J.H.Elliott.

*VC65: Hutton Conyers 31.7.2011 C.H.Fletcher.

Tribe *Tryphonini*

Grypocentrus albipes Ruthe, 1855. Rare in Yorkshire.

†VC63: Lindrick Dale Quarry 27.6.1985 W.A.Ely.

*VC64: Ling Ghyll 8.8.1987 W.A.Ely.

*VC65: Langton Wood, Northallerton 9.6.2011 W.A.Ely, M.McKerchar.

Grypocentrus apicalis Thomson 1883. Rare in Yorkshire.

*VC61: North Cave Wetlands 21.7.2014 R.Crossley

*VC63: Barley Hole Springs 12.7.1980 W.A.Ely.

†VC64: Temple Newsam 13.7.1977 P.Skidmore.

Grypocentrus basalis Ruthe, 1855. Rare in Yorkshire.

*VC63: Maltby Common 29.5.1980 W.A.Ely.

*VC64: St Chad's, Headingley 5.5.2010 W.A.Ely.

†VC65: Leighton Reservoir 3.6.1979 W.A.Ely.

Grypocentrus cinctellus Ruthe, 1855. Rare in Yorkshire.

Reported from VC65 by Ely (2011a p69).

*VC64: Hollins Hill, Baildon 9.2013 H.N.Whiteley

Polyblastus (Polyblastus) cothurnatus (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC61 by Fordham (1929 p375).

*VC61: Allerthorpe Common 1.7.1984 W.A.Ely.

*VC62: Ellerthorpe 26.6.1951 J.H.Elliott.

†VC63: St Ives 3.7.1948 J.Wood.

Polyblastus (Polyblastus) tener Habermehl, 1909. Rare in Yorkshire.

*VC63: Honley 6.1984 D.Maude.

*VC64: Golden Acre Park, Black Hills edge 25.9.2010 W.A.Ely.

†VC65: Witton 27.5 + 9.7.1963 + 25.5 + 8.6.1964 [E.Broadhead may have been the collector].

Polyblastus (Polyblastus) varitarsus (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC61 by Fordham (1926 p118; 1940 pxi).

*VC62: Pexton Bank 6.2014 [P.J.Mayhew].

*VC63: Flanderwell Lane, Bramley 11.8.1978 M.Crittenden, D.W.Twigg.

Polyblastus (Polyblastus) wahlbergi Holmgren, 1855. Scarce in Yorkshire.

*VC62: Ashberry Pastures 15.6.1977 P.Skidmore.

†VC63: Askern 6.7.1976 P.Skidmore.

*VC64: River Nidd, Goldsborough 16.5.1982 W.A.Ely.

Polyblastus (Labroctonus) melanostigmus Holmgren, 1857. Rare in Yorkshire.

*VC62: Ellersburn Bank 4-8.7.2010 P.J.Mayhew.

*VC64: Ellington Banks 17.8.2012 + 4.9.2013 C.H.Fletcher.

†VC65: Rake Beck 4.10.1985 I.F.G.McLean.

Polyblastus (Labroctonus) stenocentrus Holmgren, 1855. Rare in Yorkshire.

†VC63: Brookhouse, Thurcroft 18.8.1988 W.A.Ely.

Polyblastus (Labroctonus) westringi Holmgren, 1855. Scarce in Yorkshire.

Unconfirmed report from VC61 by Morley (1911 p301).

*VC62: Ellersburn Bank 4-8.7.2010 P.J.Mayhew.

*VC63: Binn Green RSPB 24.6.2012 W.A.Ely.

†VC64: Harewood 29.6.1961 + 6.7 + 3.9.1963 + 24.6.1965 + 6.1980 [E.Broadhead].

*VC65: Witton Fell 15.7.1963 [E.Broadhead].

Polyblastus (Cophencus) macrocentrus Thomson, 1888. Uncommon in Yorkshire.

Reported from VC63 by Coldwell (1988 p155).

*VC61: Towthorpe 26.5.1990 W.A.Ely.

*VC64: Hell Wath 2.6.1990 W.A.Ely.

*VC65: Freeholders Wood, Aysgarth 15.6.1985 W.A.Ely.

Ctenochira genalis Holmgren, 1855. Rare in Yorkshire.

Reported from VC65 by Ely (1987 p30).

*VC62: Caydale 24.6.1984 W.A.Ely.

*VC63: Cuthbright Wood, Loscar Common 6.9.1984 W.A.Ely.

*VC64: Ellington Banks 17.8.2012 C.H.Fletcher.

Ctenochira gilvipes (Holmgren, 1855). Scarce in Yorkshire.

Reported from VC65 by Newbould et al. (2013 p57).

*VC61: Frog Hall 3.7.1928 W.J.Fordham.

*VC63: Nether Field, Ulley 21.6.1985 W.A.Ely.

*VC64: High Bentham 12.6.2014 W.A.Ely.

Ctenochira haemosterna (Haliday, 1838). Rare in Yorkshire.

†VC63: St Ives 14.8 + 9.10.1943 J.Wood.

*VC64: Malham Tarn Fen 22.7.1984 W.A.Ely.

Ctenochira marginata Holmgren, 1855. Scarce in Yorkshire.

*VC62: Scar Wood, Scarborough 7.9.1986 W.A.Ely.

†VC63: Honley 6.1984 D.Maude.

*VC64: South Pasture, Staveley NR 6.10.2013 W.A.Ely.

*VC65: Rake Beck Wood 4.10.1985 I.F.G.McLean.

Ctenochira pastoralis (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed report from VC64 by Wilson (1883 p109) and Roebuck (1907 p215).

†VC62: Ashberry Pastures NR 8.6.1980 W.A.Ely

Ctenochira propinqua (Gravenhorst, 1829). Rare in Yorkshire.

*VC61: Potter Brompton 21.6.1986 W.A.Ely.

*VC63: Woodall Pond, Norwood 5.7.2000 W.A.Ely.

†VC64: Malham Tarn Fen 22.7.1984 W.A.Ely.

*VC65: Thwaite, Swaledale 3.7.2013 W.A.Ely.

Ctenochira romani (Pfankuch, 1925). Rare in Yorkshire.

†VC63: Rockley Dyke Carr, Worsbrough 14.7.1985 W.A.Ely.

Ctenochira xanthopyga (Holmgren, 1855). Rare in Yorkshire.

*VC62: Deighton 30.9.2013 W.A.Ely.

†VC63: Maltby Low Common 26.6.1979 W.L. & D.Barringer, W.A.Ely.

*VC65: Nosterfield NR 3.9.2012 C.H.Fletcher.

Erromenus analis Brischke, 1871

There is an unconfirmed report from VC62 by Morley (1911 p310).

Erromenus bibulus Kasparyan, 1973. Scarce in Yorkshire.

†VC61: Barmby Moor 14 + 15.6.1930 W.J.Fordham.

*VC62: Stockton Hermitage 7.6.1944 J.H.Elliott.

*VC63: Parkgate 30.6.1982 W.A.Ely.

*VC64: Hollins Hill, Baildon 7.2013 H.N.Whiteley.

*VC65: Nosterfield NR 3.9.2012 C.H.Fletcher.

Erromenus brunnicans (Gravenhorst, 1829). Rare in Yorkshire.

Unconfirmed reports from VC61 by Fordham (1926 p118) and from VC63 by Butterfield (1909 p197).

*VC61: Cat Babbleton 27.6.1985 W.A.Ely.

†VC62: Malton Road, York 10.6.1945 J.H.Elliott.

*VC63: Barnby Dun station wood 14.7.1978 P.Skidmore.

*VC64: Bilton disused railway embankment 1.7.1989 W.A.Ely.

Erromenus calcator (Müller, 1776). Rare in Yorkshire.

Unconfirmed report from VC64 by Bairstow (1878 p69), Roebuck (1907 p215) and Morley (1911 p306).

†VC64: Oakwood, Leeds 13.6.1939 W.D.Hincks.

Erromenus junior (Thunberg, 1822). Rare in Yorkshire.

†VC61: Allerthorpe Common 12.9.1950 W.D.Hincks.

Erromenus plebejus (Woldstedt, 1977). Rare in Yorkshire.

*VC63: Don Canal, Holmes 11 + 20.8.1987 W.A.Ely.

†VC64: Pateley Bridge 22.8.1975 W.A.Ely.

Erromenus zonarius (Gravenhorst, 1820). Rare in Yorkshire.

*VC61: Skipwith Common 27.8.2013 R.Crossley.

*VC63: Slippery Stones 24.7.1993 D.Whiteley.

†VC64: Malham Tarn Fen 22.7.1984 W.A.Ely.

Otoblastus luteomarginatus (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC63 by Coldwell (1988 p155).

- *VC61: Reighton 4.6.2011 W.A.Ely.
 *VC64: Hollins Hill, Baildon 7.2013 H.N.Whiteley.
- Neleges proditor** (Gravenhorst, 1829). Rare in Yorkshire.
 †VC63: Lindrick Dale 30.6.1979 W.A.Ely.
- Dyspetes arrogator** Heinrich, 1949. Scarce in Yorkshire.
 Reported from VC63 by Butterfield (1908 p71) and Morley (1911 p172).
 *VC61: Brow Plantation, Potter Brompton 21.6.1986 W.A.Ely.
 *VC62: Keld Head (prey of *Dioctria rufipes*) 25.6.1986 G.King.
 *VC64: Cawood 7.6.2003 J.Payne.
- Dyspetes luteomarginatus** Habermehl, 1925. Common in Yorkshire.
 Unconfirmed reports (as *D. arrogator*) from VC62 and VC64 by Roebuck (1907 p215). Reported (also as *D. arrogator*) from VC61 by Fordham (1926 p118) and from VC63 by Coldwell (1999 p61).
 *VC62: Sandsend 9.9.1920 + 9.1921 W.J.Fordham.
 *VC64: Gill Beck, Barden 22.8.1918 R.Butterfield.
 *VC65: Gill Wood 4.10.1985 W.A.Ely.
- Cosmoconus ceratophorus** (Thomson, 1888). Scarce in Yorkshire.
 Reported from VC63 by Anon (1986 p17) and Coldwell (1999 p61).
 *VC61: Land of Nod 5.7.1981 W.A.Ely.
 *VC64: Austwick Moss 12.7.2014 W.A.Ely.
 *VC65: Bedale Hall 18.7.1982 W.A.Ely.
- Cosmoconus elongator** (Fabricius, 1793). Rare in Yorkshire.
 Unconfirmed reports from VC64 by Wilson (1883 p109), Bairstow et al. (1882 p107), Roebuck (1907 p215) and Morley (1911 p180).
 *VC61: Calley Heath 24.6.2011 R.Crossley.
 *VC62: Haugh Wood, Pickering 18.7.1989 A.Grayson.
 †VC64: Acomb brick ponds 18.7.1943 J.H.Elliott.
- Cosmoconus meridionator** Aubert, 1963. Scarce in Yorkshire.
 †VC61: Allerthorpe 16.9.1923 W.J.Fordham.
 *VC62: Maiden Greve Balk 4.10.1989 A.Grayson.
 *VC63: Lindrick Hill 21.9.1980 W.A.Ely.
 *VC64: Weardley, Harewood 19.9.2010 W.A.Ely.
 *VC65: Nosterfield NR 3.9.2012 C.H.Fletcher.
- Cosmoconus nigriventris** Kasparyan, 1971. Rare in Yorkshire.
 †VC62: Ellerburn Bank 3.8.1986 G.King.
- Tryphon (Tryphon) abditus** Kasparyan, 1969. Rare in Yorkshire.
 Reported from VC64 by Ely (2011b p215).
 *VC61: Tophill Low 7.7.2012 W.A.Ely.
- Tryphon (Tryphon) atriceps** Stephens, 1835. Rare in Yorkshire.
 Unconfirmed report from VC62 by Morley (1911 p183) and Fitton (1978 p161).
 *VC61: Everingham 10.7.1984 P.Kendall.
 †VC63: Burnt Wood 25.7.1982 W.A.Ely.
- Tryphon (Tryphon) bidentulus** Thomson, 1883. Rare in Yorkshire.
 †VC61: Allerthorpe Common 21.6.1930 J.Wood.
- Tryphon (Tryphon) latrator** (Fabricius, 1781). Frequent in Yorkshire.
 Reported from VC61 by Hincks (1953b p136) and from VC62 by Smith (1989 p74).
 *VC63: Holmehouse Wood 11.7.1937 J.Wood.
 *VC64: Monk Wood, Kirkstall 27.6.1983 W.A.Ely.
 *VC65: Hutton Conyers 2.6.2011 C.H.Fletcher.

Tryphon (Tryphon) nigripes Holmgren, 1857. Rare in Yorkshire.

†VC62: Caydale 24.6.1984 W.A.Ely.

Tryphon (Tryphon) relator (Thunberg, 1822). Rare in Yorkshire.

Reported from VC62 by Shaw & Kasparyan (2005).

Tryphon (Tryphon) rutilator (Linnaeus, 1761). Frequent in Yorkshire.

Unconfirmed report from VC64 by Bairstow *et al.* (1882 p107) and Roebuck (1907 p215). Reported from VC61 by Fitton (1978 p165), from VC63 by Skidmore (2006 p148) and from VC65 by Fitton (1978 p165).

*VC62: Malton 27.6.1963 E.F.Gilmour.

*VC64: Bilton Beck Wood 1.7.1989 W.A.Ely.

Tryphon (Tryphon) signator Gravenhorst, 1829. Common in Yorkshire.

Unconfirmed report from VC63 by Porritt (1882 p57), Roebuck (1907 p215) and Morley (1911 p186). Reported from VC61 by Hincks (1946 p160) and from VC64 by Hincks (1943a p91; 1944 p38) and Key (1987b p384).

*VC62: Seamer 17.6.1975 W.A.Ely.

*VC63: Bolton Woods 6.6.1936 + 5 + 12.6 + 5.7.1937 J.Wood.

*VC65: Middleton-in-Teesdale 21.6.1981 W.A.Ely.

Tryphon (Tryphon) thomsoni Roman, 1939. Scarce in Yorkshire.

Unconfirmed report from VC62 by Walsh & Rimington (1956 p279) and from VC63 by Butterfield (1908 p71) and Morley (1911 p185). Reported from VC61 by Hincks (1953b p136) and from VC63 by Coldwell (1999 p61).

*VC64: Little Ouseburn 3.7.2011 W.A.Ely.

Tryphon (Tryphon) trochanteratus Holmgren, 1855. Frequent in Yorkshire.

Unconfirmed report from VC63 by Anon (1915a p107-8; 1915b p44) and Fitton (1978 p161). Reported from VC61 by Hincks (1953b p136) and from VC63 by Frost & Beardsmore (1985 p15) and Ely (1986a p5; 1986b p107).

*VC62: Bank Top Farm, Northallerton 9.6.2011 W.A.Ely, M.McKerchar.

*VC64: Monk Wood, Kirkstall 17.6.1983 W.A.Ely.

*VC65: Reeth 18.7.1976 W.A.Ely.

Tryphon (Stenocrataphon) obtusator (Thunberg, 1822)

There is an unconfirmed report from VC61 by Fordham (1919 p15).

Tryphon (Stenocrataphon) subsulcatus Holmgren, 1857. Rare in Yorkshire.

†VC61: Bubwith 26.6.1923 W.J.Fordham.

Tryphon (Symboethus) bidentatus Stephens, 1835. Frequent in Yorkshire.

Reported from VC62 by Hincks (1956 p149), Fitton (1978 p165) and Key (1987a p152), from VC64 by Fitton (1978 p165) and from VC65 by Ely (2013b p 231).

*VC61: Bubwith 26.6.1923 + 30.6.1924 W.J.Fordham.

*VC63: Berry Lane, Morton 3.8.1940 J.Wood.

Tryphon (Symboethus) brunniventris Gravenhorst, 1829. Rare in Yorkshire.

Unconfirmed report from VC61 by Fordham (1919 p15). Reported from VC65 by Fitton (1978 p165).

*VC62: Lake Gormire 28.6.1976 W.A.Ely.

*VC64: Shipley Glen 12.6.1948 J.Wood.

Tryphon (Symboethus) duplicatus (Heinrich, 1953). Rare in Yorkshire.

Reported from VC62 by Shaw & Kasparyan (2005).

*VC63: Hey Wood 13.5.1984 D.Maude.

Tryphon (Symboethus) exclamationis Gravenhorst, 1829. Rare in Yorkshire.

†VC64: Shipley Glen 12.6.1948 J.Wood.

Tribe *Exenterini*

Kristotomus pumilio Holmgren, 1855. Rare in Yorkshire.

Reported from VC62 by Kerrich (1952 p333).

*VC63: Slippery Stones 11.7.2011 D.Whiteley.

*VC65: Birk Gill, Colsterdale 7.7.1984 W.A.Ely.

Kristotomus ridibundus (Gravenhorst, 1829). Rare in Yorkshire.

†VC62: Ellerburn Bank 4-8.7.2010 + 4-8.7.2011 P.J.Mayhew.

Kristotomus triangulatorius (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC62 and VC64 by Kerrich (1952 p327) and Hincks (1953a p37).

*VC61: Brow Plantation, Potter Brompton 21.6.1986 W.A.Ely.

*VC63: Little Matlock 16.6.1989 D.Whiteley.

Cycasis rubiginosa (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC64 by Kerrich (1952 p331) and Hincks (1953a p37).

Exyston calcaratus Thomson, 1883. Rare in Yorkshire.

*VC61: Bainton 2.6.2011 W.A.Ely.

*VC62: Ingleby Cross church 10.6.2012 W.A.Ely.

†VC63: Lindrick GC 27.5.2000 W.A.Ely.

Exyston pratorum (Woldstedt, 1874). Scarce in Yorkshire.

Reported from VC63 by Coldwell (1999 p61).

*VC61: Barmby Moor 1.7.1945 J.H.Elliott.

*VC62: Fen Bog 16.8.2013 G.Featherstone.

*VC64: Askham Bog NR 15.5.2011 R.Crossley.

*VC65: River Tees at Whorlton 18.7.2014 W.A.Ely.

Exyston sponsorius (Fabricius, 1781). Frequent in Yorkshire.

Reported from VC61 by Ely (1986c p103) and Key (1987a p221), from VC62 by Ely (1991a p146) and from VC63 by Coldwell (1999 p61).

*VC64: disused railway embankment, Drax 26.7.1987 W.A.Ely.

*VC65: Grains o' th' Beck Bridge, Teesdale 14.7.2013 W.A.Ely.

Smicroplectus bohemani (Holmgren, 1857). Rare in Yorkshire.

†VC61: Allerthorpe Common 18.6.1921 W.J.Fordham.

Smicroplectus heinrichi Kerrich, 1952. Rare in Yorkshire.

†VC64: Askham Bog 18.5.2011 R.Crossley.

Smicroplectus perkinsorum Kerrich, 1952. Rare in Yorkshire.

Reported from VC62 by Kerrich (1952 p407) and Hincks (1953a p37).

*VC65: Thorpe Perrow 17.7.1982 W.A.Ely.

Smicroplectus quinquecinctus (Gravenhorst, 1829). Rare in Yorkshire.

Reported from VC62 by Kerrich (1952 p397).

*VC63: Lindholme Hall 6.5.2011 H.R.Kirk.

*VC64: Malham Tarn 27.7.1956 W.D.Hincks.

Acrotomus lucidulus (Gravenhorst, 1829). Scarce in Yorkshire.

Reported from VC61 by Ely (1986c p103) and Key (1987a p221) and from VC64 by Ely (1991b p150).

*VC62: Allerton Court, Northallerton 24.7.2010 W.A.Ely.

*VC63: Wyke 24.6.1974 W.A.Ely.

Acrotomus succinctus (Gravenhorst, 1829). Frequent in Yorkshire.

Reported from VC65 by Newbould et al. (2013 p57).

*VC61: Ottringham 15.7.2011 P.A.Crowther.

*VC62: Ellerburn Bank 4-8.7.2010 P.J.Mayhew.

*VC63: Pot Riding Wood 23.5 + 23.8.1989 W.A.Ely.

- *VC64: Sharp Hill, Drax 21.7.1987 W.A.Ely.
Cteniscus pedatorius (Panzer, 1809). Rare in Yorkshire.
 †VC61: Hasholme Farm, Holme-on-Spalding Moor 5.7.1981 W.A.Ely.
Cteniscus scalaris (Gravenhorst, 1829)
 Unconfirmed reports from VC62 by Roebuck (1877 p38; 1907 p215) and Morley (1911 p202) and from VC64 by Bairstow *et al.* (1882 p107), Roebuck (1907 p215) and Morley (1911 p202).
Eridolius alacer (Gravenhorst, 1829). Rare in Yorkshire.
 *VC63: High Moor, Dobcross 1.10.2011 W.A.Ely.
 †VC64: Breary Marsh 29.9.2011 A.Griffiths.
Eridolius aurifluus (Haliday, 1838). Rare in Yorkshire.
 Reported from VC64 by Kerrich (1952 p44) and Hincks (1953a p37).
 *VC61: Bubwith 1920s-1930s W.J.Fordham.
 *VC62: Black Hills, Northallerton 29.6.2011 W.A.Ely.
Eridolius basalis (Stephens, 1835). Scarce in Yorkshire.
 Reported from VC61 by Fordham (1931 p356) and from VC64 by Shaw & Kasparyan (2005).
 *VC62: Westerdale 18.8.2012 W.A.Ely.
 *VC63: Lindrick GC 30.6.1979 W.A.Ely.
 *VC65: Dallowgill 7.7.1979 W.A.Ely.
Eridolius curtisii (Haliday, 1838). Rare in Yorkshire.
 †VC64: Askham Bog 15.7.1944 W.D.Hincks.
Eridolius flavomaculatus (Gravenhorst, 1829). Rare in Yorkshire.
 Unconfirmed report from VC64 by Fordham (1929 p375).
 †VC61: Allerthorpe 5.6.1922 W.J.Fordham.
 *VC62: Sleights 18.6.1978 W.A.Ely.
 *VC63: Maltby Dyke 25.7.1985 W.A.Ely.
 *VC64: Breary Marsh 14.5.2007 E.Jacovou.
Eridolius gnathoxanthus (Gravenhorst, 1829). Rare in Yorkshire.
 *VC61: Calley Heath 6.2012 R.Crossley.
 *VC62: Beast Cliff 6.9.1986 W.A.Ely.
 †VC63: Loscar Wood 21.8.1980 W.A.Ely.
Eridolius pictus (Gravenhorst, 1829). Rare in Yorkshire.
 There is an unconfirmed report from VC62 by Morley (1911 p209).
 *VC62: Haxby 6.10.2013 T.J.Crawford.
 †VC63: Fishlake 9.7.1976 W.A.Ely.
 *VC64: Halton Moor playing fields 27.5.2013 W.A.Ely.
Eridolius rufilabris (Holmgren, 1857). Rare in Yorkshire.
 †VC64: Old Field, High Bentham 12.6.2014 W.A.Ely.
Eridolius similis (Holmgren, 1857). Rare in Yorkshire.
 Added to the British list from VC63 by Ely (2010 p33).

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Michael Clegg DSc (Hon.), FMA, MBOU (1933 – 1995): a biography and bibliography

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Introduction

I have recently explored Thomas Michael Clegg's (1933–1995) role as a freelance newspaper journalist writing "Nature Notes" in Scottish (Dundee) and English regional (Yorkshire) newspapers while working in a variety of museum curatorial roles; and explained how he moved on to become a radio and television commentator, dealing with, and campaigning upon, environmental issues full time (Moore, in press).

Brief obituaries and death notices appeared a generation ago in various birding and natural history publications in Dundee and Yorkshire: for instance Mather (1995), Pounder (1995) and Standing (1995), as well as in the local newspapers (Anon 1995a,b). The following paper amplifies his biography and presents a bibliography of his academic contributions.

Biography

Born in Birdwell near Barnsley (South Yorkshire) on 19 February 1933, Michael Clegg's secondary schooling was at Ecclesfield Grammar School in Sheffield. His interest in natural history was kindled early. The 18 month-old Michael is reckoned to have become a naturalist by picking up a bee (Pickles, 1989). His parents later moved to Hoyland Common, home of Barry Hines (b.1939) of "Kes" fame (see Hines, 1968) and Hines went to school with Clegg's sister. The expectation for working-class children then was that they should go out to work after finishing schooling, so Clegg was never to access higher education.

Prior to embarking on his career in museums, the young Clegg worked as a laboratory technician under Professor Hans Adolf Krebs (1900–1981, discoverer of that most fundamental of biochemical processes, the Krebs cycle), at Sheffield University's biochemistry department. According to his wife Pat¹, Clegg "always held that Prof. Krebs's early mentoring and encouragement directed much of his later life and career, and helped channel his youthful enthusiasm." He had been charged with recording the daily meteorological data at the University, a skill which proved useful throughout his life as an ornithologist in recording field conditions. From December 1952 to November 1955 he was a Junior Assistant (Natural History) at Sheffield City Museum, leaving there to take up a post as Assistant Curator of Wood End Natural History Museum in Scarborough. He returned to Sheffield City Museum as Natural History Assistant in October 1959. From June 1963 until November 1966 he was Keeper of Natural Sciences at Doncaster Museum and Art Gallery, moving on in December 1966 to become Curator of the Bagshaw Museum and Art Gallery at Oakwell Hall, Batley (until July 1968). At 35 years of age, in the autumn of 1968, he moved to Scotland to become Depute Director of Dundee Museum, a post he held until November 1974 when he returned to Yorkshire to become Curator of the Yorkshire Museum in York for eight years.



Figure 1. A young Michael Clegg studying his collection of mouse skins while at Doncaster Museum (The National Archives, ref. COAL80, negative number 3464; reproduced with permission).

In 1982, after debating with himself for a twelvemonth, he quit his 29 year (and 274 days!) life as a salaried employee to become a freelance broadcaster, lecturer and writer. The lure of natural history had proved irresistible. He was reported as saying: "It is back to being a naturalist instead of a bureaucrat. I found you cannot run very fast with your leg tied to a desk" (Anon, 1982). He rapidly became a household name in Yorkshire. Regarded by some as the county's answer to David Bellamy (b.1933), Clegg had a natural gift for communication;² a relative even claimed he should have been a preacher, if one with an impish sense of humour. He would typically begin his lectures: "Ladies and gentlemen ... and Lancastrians!" According to Pat, he may have inherited his ebullience from his (maternal) grandfather Thomas Jordan, a garrulous wag whose claim to natural history lore rested solely on a fellowship application he sent to the Royal Horticultural Society, a 'thesis' about bastard trenching in celery growing (a topic that piqued his interest largely for its name): a 'masterpiece' which apparently accomplished the necessary.³

From 1956 to 1991 Clegg was an Extra-mural lecturer for various universities (Sheffield, Leeds, Dundee and Hull). With Anthony Cooke of Dundee University's Department of Continuing Education, he organized hugely popular Summer Schools across the United Kingdom (St Andrews, Norfolk, York, Ripon). From 1988 he was involved leading Steels [sic] Wildlife Tours of Addingham, operating coach trips to various European destinations: the Camargue (four times),

Spain, Austria and Poland; latterly as an Honorary Fellow in the Department of Adult Education in the University of Hull.

Clegg was a Fellow of the Museums Association since 1970 and a member of the British Ornithologists' Union. While in Dundee, with George Crichton the county bird recorder, he co-edited the first two *Angus & Kincardineshire Bird Reports* for 1970 and 1971 and continued to contribute records to subsequent bird reports every year until at least 1980.⁴ He contributed bird records to the annual Scottish bird reports (see Dennis, 1975 for example). 1973 witnessed him requesting wing samples from dead gulls for determining age and species, also records of albinism and melanism in seabirds (Clegg, 1973). After moving back to England, he was variously President of the Yorkshire Naturalists' Union (1979), President of the Yorkshire Wildlife Trust (1986–1989) and President of the Federation of Museums and Galleries in Yorkshire and Humberside. He held a number of honorary appointments reflective of the breadth of his interests: including Vice-Presidencies of the York Writers' Circle, Leeds Urban Wildlife Group, York Ornithologists' Club and Rossington Natural History Society. He was Patron of the Wakefield Badger Group. While in Scotland he became a member of the Scottish Wildlife Trust and was a member of the Scottish Committee of the Royal Society for the Protection of Birds (Clegg, 1975). He contributed data to the Yorkshire Naturalists' Union (Bunce *et al.*, 1966) and the British Trust for Ornithology and he published widely on birds and mammals (see Bibliography for list of his academic contributions; also Moore, in press). He was awarded the title Yorkshire Environmentalist of the Year, marked by the presentation of a rose bowl, in 1992.

Having begun as a fancier of pet white mice when a boy (for 9d (c.4p) each), he became well-known as an authority on mice and had a world-wide collection of c.600 skins and skulls (Figure 1). Prompted by the opportunities presented by their short life-span and population isolation, he researched the evolution of House Mouse *Mus musculus* in South Yorkshire coal mines.⁵ Mine-dwelling mice had smaller tails and longer bodies (Clegg, 1965a), with 7% showing tail-tip whitening to some extent (Clegg, 1965b). Utilizing his wide-ranging museum and small-mammal expertise, he co-operated with landscape archaeologist Professor John Coles (see Coles *et al.*, 1971) in examining the small-mammal finds⁶ of the Skara Brae excavations in Orkney (visiting four times in five years up to 1974), particularly the remains of the Orkney Vole *Microtus arvalis orcadensis* (see Pyrah, 1988). His interests in marine molluscs and archaeology resulted in a short report for Dundee Museum on the prehistoric shell-middens of Tentsmuir, a shortened version of which was published in the Museum's newsletter (Wedderburn and Clegg, 1972). Archaeologists, indeed, regard him as a malacologist (see Newell *et al.*, 1990 p101). An unpublished anonymous typescript in Dundee Museum entitled *Report on the marine molluscs from Tentsmuir Forest and Vicarsford Farm* is almost certainly by Clegg.⁷ At Dundee, he watched and noted birds from his holiday cottage (hut) at Westhaven with his first wife, Jean, and their spaniel (Pounder, *loc. cit.*).

Yorkshire, however, was indeed his pride and joy; he only ventured abroad for the first time in 1988 (aged 55 years). He was, however, fascinated by the exploits of more intrepid explorers, lecturing on Thomas Pennant, Celia Fiennes, Daniel Defoe and William Smith. In 1989 he undertook a lecture tour around the United Kingdom for the Royal Society for the Protection of Birds entitled "Strictly for the birds," leading to a four-part television series of that title for Yorkshire Television celebrating a century of bird protection. Because he was forever looking

skywards or into passing hedgerows, he never learned to drive;⁷ preferring to rely on his wife to chauffeur him to lecturing commitments (from Orkney to Southampton, Newcastle to Belfast).

He wrote the Foreword to the booklet *Wildlife in the Nidd Gorge*, produced by members of the Harrogate and District Naturalists' Society (Clegg, 1987). He was able to indulge his hobby as a keen coarse fisherman when he and his wife lived at Stamford Bridge, often gaining inspiration for an article by contemplating what was going on in front of him on the River Derwent (on two occasions after having fallen in; once live on television in Lincolnshire). He valued solitude but always had time for anyone who interrupted his meditations. His returning home from fishing the Derwent one evening transported in the water bailiff's Land Rover gave his wife momentary cause for concern until it materialized that the bailiff had been told to source some fishes for a display at the Malton Show and realised the quickest way was to borrow tanks from the Clegg's kitchen.⁸ He gave papers to at least two International River Conferences: at Lincoln Cathedral in the late 1980s and in 1991 at the University of York. At the former conference he strongly criticized American canalization of rivers, completely flustering the following (American) speaker. He was actively involved in the Tay Estuary Protection Committee between 1960 and 1970, under the chairmanship of local grandee Lord Thomson of Monifieth (1921–2008) and his links to the Tay remained after his return to Yorkshire. His interest in coastal wildlife was of long standing and he had begun a book (that he had intended to be his first) on seashore life that seems never to have materialized. He would cadge trips on commercial fishing boats (clearly inspiring Clegg (1977)) desirous of seeing what came up in their nets. He had an enviable ability to absorb, order and remember information.

His friends in the world of natural history were legion and all will have influenced his writings. Mention should be made of his links with Professor Sir John Lawton before Lawton moved from the biology department at York University to Imperial College, London. The travel writer and fellow Yorkshireman John Hillaby (1917–1996) was a close friend. Clegg had been inspired by the "New Naturalist" volume *Seabirds* by Lockley & Fisher (1954)⁹ and by the bird artist Eric Ennion (1900–1981), whose watercolour of displaying Hen Harriers *Circus cyaneus* remained a prized possession. Falconry remained an unrequited fascination and he held the necessary licence to hold and rehabilitate injured raptors.

In October 1994, anxious to facilitate ornithology for all, he opened a new bird-watching hide for the disabled at High Batts Nature Reserve, created beside the River Ure near Ripon, when he was learning to walk again after his career as a broadcaster was interrupted in 1991 when he broke five bones in his left foot (after tripping over while looking upwards at birds on Spurn Point, a bird-watching observatory created by the Yorkshire Wildlife Trust in 1959). Doctors then discovered that he was suffering from leukaemia and diabetes and, when the injured foot did not heal, it had to be amputated (Anon, 1994). He was to have led a tour to the Galapagos Islands and Amazonia just before he received these diagnoses. Possessed of typical 'Yorkshire grit' though, he was fitted with an artificial limb and got on with his filming commitments for "Clegg's People" (Anon, 1992). During his many sojourns in Harrogate District Hospital he had insisted on a bed next to a window so that he could watch birds in the grounds (Anon, 1995b). Even when he was in hospital he would dictate articles to Pat who would type them up and fax them through to the appropriate outlet.

He died on 12 July 1995 after a long illness. Friends from all over Yorkshire subsequently raised more than £1,000 from an auction of his photographic gear in an event held in his memory. A sponsored Michael Clegg Memorial Bird Race sighted 140 bird species around the county on one day and this is now repeated on the first Sunday of each New Year, the money raised going initially to the Michael Clegg Memorial Trust, which supported environmental projects including the Old Moor Wetland Centre in the Dearne valley near Wombwell (Anon, 1998).

Clegg was awarded an honorary Doctor of Science degree by the University of Hull in 1993, being presented for that honour by Professor Gwyn Harries-Jenkins and managing, despite being on powerful medication for his illness, to give an inspirational address to the assembly. A keen wildlife photographer (see illustrations in Clegg, 1991), he followed in the footsteps of another notable Yorkshire ornithologist and bird photographer, Rotherham's Ralph Chislett (1883–1964). Clegg's collection of over 10,000 35mm transparencies, which chart the South Yorkshire landscape and wildlife (birds especially), represent a precious and valuable research resource for future generations. It is currently lodged with the Brynmor Jones Library at that university, along with his bird-watching/weather notebooks (149 of them) and press-cutting files (1989–1995) of his output with the *Yorkshire Evening Post*. His marine specimens went to the Yorkshire Museum.

Perhaps Pounder's (*loc. cit.*) plangent characterization caught his bluff persona best: "a larger than life character, on a windswept coast or hillside, with binoculars and camera round the neck, cigarette¹⁰ and food firmly gripped in the hands, holding forth to a group of followers in a strong, clear Yorkshire voice, on the almost unbelievable variety of wildlife that seemed to parade before him."

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Notes

¹ Pat Clegg (hereafter PMC), personal communication, 12 May 2014.

² He was even in demand by Bass North Ltd for opening a public house, "The Oddbottle" in 1983; a sure sign of his local celebrity status. The "Old Moor Tavern," Broomhill was renamed and refurbished at the same time as the Wetlands Reserve opened to the public. One of its bars was named in Clegg's honour.

³ PMC, pers. comm., 11 May 2014.

⁴ Colin McLeod, pers. comm., 26 May 2014.

⁵ Mice are displaced by rats in coal mines. See 'Background information: mice, rats and cats'

(URL, accessed 8 June 2014, see:

<http://www.ncm.org.uk/docs/background-information/mice-rats-cats.pdf?sfursn=2>).

⁶ And not so small. An auroch's skull (still with hairs attached) from that dig is now in the National Museum of Scotland, Edinburgh.

⁷ His wife told me his great boast was that he had once washed a car.

⁸ PMC, pers. comm., 24 May 2014.

⁹ T. M. Clegg, personal communication to R.M. Lockley, 25 November 1974, stated of Lockley and Fisher's *Seabirds*: "as near perfection as a book on the subject could be" (copy held in personal scrapbook of Mrs Pat Clegg).

¹⁰ Clegg was a '100-a day' man; Charles Flynn, pers. comm., 9 June 2014.

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Swaledale and Beningbrough Hall survey dates

You are welcome to join us for our now annual few days in Swaledale, and for a new survey at Beningbrough Hall north of York. The proposed timetable is as follows:

- Mon June 29 Downholme Bridge.** Take the A6109 from either Leyburn or Richmond then take the turning for Marske over a narrow bridge. Park in a lay-by after 400m. Meet at 10:00 at SE109993. We will be surveying in the valley towards Marrick Park.
- Tues June 30 , Wed 1 July Muker.** Meet at 10:30 in the village car park SD972918 from where we will visit the Angram – Keld areas.
- Thurs July 2, Fri July 3 Braithwaite Hall.** Take the road from East Witton to Coverham. Meet at 10:00 at SE11758590, and park in the field just through the gate (bridleway) to the north. We will survey moorland, Braithwaite Wood (upland alder wood pasture) and riverside woodland in the company of Seb Mankelow (the NT Ranger).

Adrian Norris and I will be staying at The Barn Home Farm, Low Fremington. Mobile phone coverage is poor in the west part of the dale but we can be contacted on 01748 884878 around 8.00am and 6.00pm.

Thurs 13 and Fri 14 August Beningbrough Hall YO30 1DD

Meet at 10:00 in the National Trust car park SE516586. We plan to survey the garden, the parkland and the riverbank for the NT. If you are not a National Trust member, bring your YNU membership card and I will arrange free admission.

John Newbould



Plate I. Great Crested Newt *Triturus cristatus* translocation. See pp 7-12.

Top: Nell Bank pond P4 (a receptor pond).

Above left: Egg strips ready to be put in donor pond.

Above right: Egg strips with Great Crested Newt eggs (white). G. Haycock



Plate II. Green-flowered Helleborine *Epipactis phyllanthes* in Doncaster. See pp 48-56.

Two photographs of this unusual plant:

Left: A Cusworth specimen.

Chris Holmes

Right: A flowering spike at an earlier stage.

Neil Barrett





Plate III. New fossil ichthyosaur. See pp 13-14 .

Above: The studied holotype ichthyosaur (DONMG:1983.98), stored in the palaeontology collections of Doncaster Museum and Art Gallery. Left arrow points to a belemnite, right arrow points to stomach contents. © Journal of Vertebrate Paleontology/Doncaster Museum and Art Gallery.

D. Lomax

Below: Life restoration of *Ichthyosaurus anningae*. Artwork courtesy of James McKay
© <http://www.jamesmckay.info>





Plate IV. Hymenopterous parasites. See pp 14-20.



Top left: Female *Diadegma naryciae* is a parasitoid of *Narycia duplicella*. On the 800 year old Laund Oak near Bolton Abbey, VC64.

Top right: Female *Glypta fronticornis*, a parasitoid of the tortricid moth *Sticta mygindiana*. Barden Moor, VC64.

Left: When the leaf of Reed Sweet-grass *Glyceria maxima* is held up to the sun-light, the silhouette of a *Phaoletesor viminetorum* cocoon can be seen lying adjacent and parallel to the remains of its host caterpillar *Elachista poae*. Leeds-Liverpool Canal, VC64.

Below: Male *Hyposoter placidus*. This is a parasitoid of Small Copper *Lycaena phlaeas* that mummifies the caterpillar. Baildon Bank, VC64.

D. Parkinson





Plate V. Five species of leafmining moth and bagworm recorded in VC61 in 2014. See pp 64-68.

Top: Mine of Black-spot Sallow Pigmy *Ectoedemia intimella* (Nepticulidae) (on Common Sallow *Salix cinerea*).

Above: Larval case of Virgin Smoke Luffia *ferchaultella* (Psychidae).

Right: Larval case of Common Sweep *Psyche casta* (Psychidae).

Adult moths reared from leafmines or larval cases:

Below left: Large Midget *Phyllonorycter emberizaepennella*.

Below right: White-speckled Smoke *Narycia duplicella*.

Andy D. Nunn



John William Taylor and the founding of the Leeds Naturalists' Field Club

Brian Goodwin

email: impala44@btinternet.com

Having just read Peter Lerner's (2014) interesting account of the "Leeds Naturalists' Club 1870-2014", by a strange coincidence I came across another source dealing with the same topic. The document was written by the Leeds conchologist, John William Taylor, and was discovered in the J. Wilfrid Jackson archive at Buxton Museum and Art Gallery (BMAG) where I work as a volunteer. Details from the document show that Taylor played a major role in establishing natural history as the main focus of the LNFC.

There are a few links in this 'historical chain' so I will start with a few words regarding Jackson before moving on to the connection with Taylor and his role in the founding of the Leeds Naturalists' Field Club.

John Wilfrid Jackson (1880-1978)



Figure 1. Detail from the CSGBI Annual Meeting 1907 group photograph showing: John W. Taylor (sitting left); William Denison Roebuck (sitting right); and, J. Wilfrid Jackson (cross-legged, in front).

J. Wilfrid Jackson (as he preferred to be known) was born in Scarborough in 1880 and, although the family soon moved to Manchester, he retained an affection for, and links with, Yorkshire for the rest of his life. After a career mainly spent at Manchester Museum he was honoured with the Presidency of the YNU just before his retirement in 1945. Further biographical details can be found in Bishop (1982), Goodwin (2012) and on the BMAG website:

Jackson came into contact with John W. Taylor around 1900 through their mutual interest in conchology. Taylor was one of the four Leeds naturalists who had founded "The Conchological Club, Leeds", which later became the Conchological Society of Great Britain and Ireland (CSGBI), in 1876. Figure 1 shows Taylor and Jackson in 1907, together with William Denison Roebuck, another co-founder of the CSGBI and another past-President of the YNU.

How well Jackson knew Taylor is not clear. They had a shared interest in molluscs, both served as officers in the CSGBI and they went on field trips together, but there is no correspondence or other material in the Jackson archive at BMAG except a handwritten notebook (by Taylor) containing several pages of autobiographical material.

John William Taylor (1845-1931)

Taylor was one of a long line of eminent naturalists emanating from Leeds. His role in the foundation of the CSGBI was recorded in Jackson's account of the history of that Society (1927) and in Jackson's YNU presidential address (1945) on 'Martin Lister and Yorkshire Geology and Conchology'. Taylor's magnum opus was the 'Monograph of the Land and Freshwater Mollusca of the British Isles' (1894) and among the honours to come his way were the award of an honorary MSc from Leeds University and the Presidency of the YNU in 1912. These and other matters are dealt with in the handwritten autobiographical notes. Figure 2 shows an extract from his notebook while Figure 3, shows Taylor's signature from his 'Monograph'.

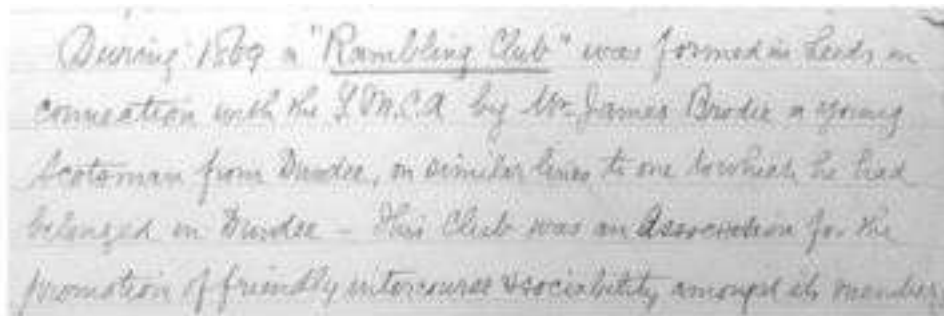
A photograph of a handwritten note on lined paper. The text is written in cursive and reads: "During 1869 a 'Rambling Club' was formed in Leeds in connection with the Y.M.C.A. by Mr. James Brodie a young Scotsman from Dundee, on similar lines to one to which he had belonged in Dundee - This Club was an Association for the promotion of friendly intercourse & sociability amongst its members."

Figure 2. Detail from John W. Taylor's handwritten notes in the Jackson archive at Buxton Museum and Art Gallery.

A photograph of a handwritten signature on a piece of paper. The signature is written in cursive and reads "Yours faithfully" followed by "J. W. Taylor" on a new line.

Figure 3. Taylor's signature from his 'Monograph of the Land and Freshwater Mollusca of the British Isles'.

Taylor starts the notebook with some basic details regarding parents and family and mentions two Leeds clubs he was involved in setting up – namely the East Ward Naturalists' Club (in 1861) and, shortly afterwards, the Working Men's Naturalists' Club, where he was secretary until he briefly left Leeds in 1867. After a short period working away, Taylor returned 'home' in 1868 and "found Leeds entirely without any Naturalists' Societies". With previous experience in promoting nature study and field work, Taylor was clearly not one to rest on his laurels and he began looking for an opportunity to rectify this situation, as the next paragraphs show:

"During 1869 a 'Rambling Club' was formed in Leeds in connection with the Y.M.C.A. by Mr. James Brodie a young Scotsman from Dundee, on similar lines to one which he had belonged to in Dundee. This Club was an Association for the promotion of friendly intercourse & sociability amongst its members by means of pleasant country walks or visits to places of interest and did not recognise Natural History as within its scope."

"Noting from the published reports of its rambles in the Daily Press that the meetings were well attended, [I] conceived the plan of capturing the organization in its entirety, and enlarging its aims to include Nature Study and observation, as well as altering the title so as

to express this extension of its objects & aims."

"After several interviews with Mr. Brodie the moving spirit of the Club and conferences with other members [1] was successful in convincing them of the advisability of the changes advocated and enlisted those persons as ardent supporters for the change."

"This change of title to that of "The Leeds Naturalists' Field Club" was officially made in April 1870 at a Public Meeting at which also regular evening meetings were instituted for the exhibition of specimens, the reading of papers & friendly intercourse."

"The Club's progress under the new regime was steady & encouraging and by dint of ceaseless endeavor continued to strengthen in influence and members and is now a powerful & flourishing institution in close association with the University."

Clearly, by Taylor's own account, it was his drive and initiative that led to the formation of the Leeds Naturalists' Field Club – at least in terms of the 'natural history and fieldwork' elements. Assuming the truth of his account, it is surely worth appending this information to Larner's record. Taylor notes that he was conferred "the distinction of Honorary Membership of the Club" in recognition of his "long & assiduous labours on its behalf", so it seems he must have played an important role.

Taylor's scientific reputation was somewhat tarnished by his proposal of a 'theory of evolutionary dispersal' – for details of this see Cameron (1995) – but his descriptive conchological writings and his role in the founding of CSGBI are both recognised as significant achievements. To these we may now add his role in the founding and development of the Leeds Naturalists' Club 1870-2015.

Acknowledgments

Documentary quotation and photograph by kind permission of Derbyshire County Council and Ros Westwood, Derbyshire Museums Manager.

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A flora of Aberford

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Introduction

Some years ago I bought a copy of Miall and Carrington's *Flora of the West Riding* (1862). Much to my delight the book was heavily annotated. The entries are mostly in ink and consist of localities, the majority of which are for Aberford and the surrounding area. The list of plants is headed by "B. Spencer, Aberford". This small volume has led to research into the flora of Aberford in the 1860s and the life of its recorder, Benjamin Spencer.



Figures 1 and 2 showing Benjamin Spencer's annotated copy of Miall and Carrington's *Flora of the West Riding*. Fig. 1 (left) shows his name at the top of the page. Fig. 2 (right) shows locations where he has recorded the various plants.

Benjamin Spencer

According to the parish register of St Peter's in Leeds, Benjamin Spencer was born on 14 April 1835 and was baptised on 24 May. His parents, Abraham and Ann, were living in Wortley with Abraham working as a clothier. By the 1841 census the family had moved to Pudsey and ten years later were living in School Street in Bradford. By this time the family consisted of seven children. Benjamin, the fourth child, was described as a pupil teacher at the national school and was aged 15 years.

By the 1861 census Benjamin Spencer was living as a lodger in the High Street in Aberford and was described as a school master. In September that year he married Alice Middleton in

Garforth and ten years later the couple had moved to 17 Paul Street in Manningham, Bradford. At this time they had six children ranging in age from 4 months to 8 years. By 1891 two further children had been born and the two eldest daughters had left home. Though the family was still living in Manningham they had moved to Carlisle Street. Benjamin had been widowed and had retired from teaching by 1901 and two daughters and a granddaughter were living with him. He died in 1913, aged 78 years, leaving an estate valued at £1,412 10s 6d. This is all that I have been able to discover about Benjamin Spencer. He was listed as one of the 109 subscribers printed on the final pages of the Miall and Carrington volume.

The Flora

Most of Spencer's entries were made in ink and were undated. There were two dated entries which are of particular interest. The first is for Autumn Lady's-tresses *Spiranthes spiralis*, "Bramham Park – gathered 6 specimens July 1863". The second is for Bird's-nest Orchid *Neottia nidus-avis* "Gathered 3 specimens in Bloom at B. Park August 26th 1865". This suggests that Spencer may have been collecting plants for a herbarium, but whether this still exists is not known. It seems that the Aberford entries date from 1862, when he would have received his copy of the book, to about 1867, when he was resident in Bradford.

Although the majority of entries refer to Aberford the area covered by Spencer was much wider. Localities range from Garforth in the south to Collingham in the north (about 12km) and from Parlington Hollins in the west to Cold Hill in the east (about 6km). All of these localities would have been within a day's walk from his base in Aberford. There are a few entries which were dated to 1876, mostly in pencil. These entries are not for Aberford plants and have been excluded from the following analysis.

Appendix 2 (available on the YNU website at <http://www.ynu.org.uk/node/503>), is a summary of all of the entries made by Benjamin Spencer. The binomials have been updated, where necessary, for ease of comparison with *The West Yorkshire Plant Atlas* (Lavin and Wilmore, 1994).

Analysis

The records were mostly for flowering plants with localities listed for just twelve ferns. There was no attempt to list lichens, mosses and liverworts although these were covered by the Miall and Carrington volume. Most of the records were of common plants. In other words Spencer seems to have listed all the plants he encountered and not just the rarer ones. It is also evident that he recorded both native and introduced plants.

There are some interesting comparisons with finds made by earlier botanists in the area. For example, Merrett (1666) recorded Betony *Stachys officinalis* "in the cow-pasture at Garforth, Yorkshire". Two centuries later Spencer recorded this plant in nearby Aberford. John Ray (1696) found Clustered Bellflower *Campanula glomerata* in "woodland juxta Bramham". Again Spencer listed it in nearby Aberford. Baines (1840) reported Burnet Rose *Rosa spinosissima* at "Roadside between Garforth and Aberford" and Spencer recorded the same plant in Aberford.

Some of Spencer's records pre-date those which appeared in Lees' flora (1888): Common Water-crowfoot *Ranunculus aquatilis*, Lesser Hawkbit *Leontodon saxatilis* and Greater Burdock *Arctium*

lappa. This suggests that Spencer was a careful and thorough botanist who did not rely on finds made by earlier naturalists. His records of Mistletoe *Viscum alba* and Spring Squill *Scilla verna*, as end paper notes, also show that Spencer was not totally reliant on Miall and Carrington, who did not list these plants.

With such a comprehensive flora for the Aberford area in the 1860s it would be of interest to see what, if any, changes have occurred in the intervening 150 years. Lavin & Wilmore (loc. cit.) contains details of records collected in the West Riding between 1974 and 1993. From this it is possible to assess whether there have been gains and losses in the flora of Aberford. However, this is very approximate as only the more common plants have distribution maps. According to Lavin & Wilmore (loc. cit.), some 36 plants out of 208 are no longer present in the Aberford area. These are indicated in Appendix 1. Consideration of individual cases suggests that there may be several reasons for these losses. For example, land drainage may explain the loss of such species as Common Butterwort *Pinguicula vulgaris*, Yellow Loosestrife *Lysimachia vulgaris* and Marsh Helleborine *Epipactis palustris*. Water pollution could be responsible for the disappearance of Yellow Water-lily *Nuphar lutea* and Spiked Water-milfoil *Myriophyllum spicatum*. Other agricultural changes, such as the increased use of herbicides, may have contributed to the disappearance of arable weeds and plants of unimproved grassland: - examples include Field Penny-cress *Thlaspi arvense*, Chicory *Cichorium intybus* and all four species of hemp-nettle: Broad-leaved *Galeopsis ladanum*, Downy *G. segetum*, Common *G. tetrahit* and Large-flowered *G. speciosa*. Another human influence, over-collecting, may account for the loss of the Spring Gentian *Gentiana verna* and Lesser Butterfly-orchid *Platanthera bifolia*. In other instances the reasons for the disappearance are unclear, for example the parasitic Toothwort *Lathraea squamaria*.

Against these losses there appear to be some 13 additions: some trees that have been planted and the rest are garden escapes.

Conclusion

The Aberford area is a gently rolling landscape with villages interspersed with good agricultural land and woodlands. The O.S. map shows numerous archaeological features and a long history of human habitation. Where once the Great North Road passed through the centre of Aberford, the area is now dominated by the A1(M). Other changes since the middle of the 18th century are the demise of the collieries and the railway. No doubt further investigation will show more subtle changes to the landscape as well as evidence of agricultural improvement.

Benjamin Spencer was probably self-taught and botanised widely over his neighbourhood. His observations were thorough, though he did not attempt the identification of mosses and liverworts and the number of grasses is possibly lower than might be expected. Even so his records provide a snapshot of the flora of the area in the 1860s. Details of the present flora have been based on records collected in the last quarter of the 20th century and are not without their problems. Therefore, the comparison should be treated with some caution until a more thorough survey of the area has been completed. Of the 208 species identified by Spencer about 17% have been lost, mainly through land drainage and the use of herbicides. It is not known whether this was a gradual process or a more recent one. Only further investigation can confirm such a high loss in the diversity of the area and whether plants are still being lost.

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Appendix 1. Plants annotated in Spencer's copy of Miall & Carrington (1862) but not recorded from Aberford in Lavin & Wilmore (1994), giving the locations noted by Spencer.

Pheasant's-eye	<i>Adonis annua</i>	Bunker's Hill Gardens
Common Water-crowfoot	<i>Ranunculus aquatilis</i>	Aberford
Yellow Water Lily	<i>Nuphar lutea</i>	Cock Beck
Field Penny-cress	<i>Thlaspi arvense</i>	Cock Beck below the Bridge
Spiked Water Milfoil	<i>Myriophyllum spicatum</i>	Hook Moor
Reflexed Stonecrop	<i>Sedum rupestre</i>	Aberford
Grass-of-Parnassus	<i>Parnassia palustris</i>	Intrenchment Aberford, Bramham
Small Bur-parsley	<i>Caucalis daucoides</i>	Cold Hill
Chicory	<i>Cichorium intybus</i>	Aberford
Common Cudweed	<i>Filago vulgaris</i>	Aberford
Sneezewort	<i>Achillea ptarmica</i>	Becca
Cross-leaved Heath	<i>Erica tetralix</i>	Aberford
Lesser Periwinkle	<i>Vinca minor</i>	Aberford
Spring Gentian	<i>Gentiana verna</i>	Aberford Raper Hills
Bogbean	<i>Menyanthes trifoliata</i>	Hillam Mill, Black Fen, Bramham Pk.
Common Cow-wheat	<i>Melampyrum pratense</i>	Intrenchment Aberford
Snapdragon	<i>Antirrhinum majus</i>	Bramham Park
Toothwort	<i>Lathraea squamaria</i>	Aberford, Bramham Park
Vervain	<i>Verbena officinalis</i>	Aberford
Large Wild Thyme	<i>Thymus pulegioides</i>	Aberford
Broad-leaved Hemp-nettle	<i>Galeopsis ladanum</i>	Aberford
Downy Hemp-nettle	<i>G. segetum</i>	Aberford
Common Hemp-nettle	<i>G. tetralix</i>	Aberford
Large-flowered Hemp-nettle	<i>G. speciosa</i>	Aberford
Field Gramwell	<i>Lithospermum arvense</i>	Becca
Common Butterwort	<i>Pinguicula vulgaris</i>	Becca Whincover(?) (Between Bramham Park and Boothcliff House)
Yellow Loosestrife	<i>Lysimachia vulgaris</i>	Bramham Park
Marsh Helleborine	<i>Epipactis palustris</i>	Cock Beck, Hayton Wood
Lesser Butterfly-orchid	<i>Platanthera bifolia</i>	Aberford, Hawsworth
Autumn Crocus	<i>Crocus nudiflorus</i>	Aberford
Arrowhead	<i>Sagittaria sagittifolia</i>	Cock Beck, Aberford
Broad-leaved Pondweed	<i>Potamogeton natans</i>	Aberford
Least Bur-reed	<i>Sparganium natans</i>	Fish Pond, Cold Hill
Hard-fern	<i>Blechnum spicant</i>	Bramham Park
Royal Fern	<i>Osmunda regalis</i>	Bramham Park
Wood Horsetail	<i>Equisetum sylvaticum</i>	Aberford

Appendix 2 is available at <http://www.ynu.org.uk/node/503>

The Green-flowered Helleborine at Cusworth Park, Doncaster (VC63)

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Introduction

In mainland Britain the Green-flowered Helleborine *Epipactis phyllanthes*, a variable plant with five recognised varieties, has a sparse and scattered distribution. Having been recorded historically in c.167 10km squares and known to be present in only 74 during the period 2000 to 2009 (Preston *et al.*, 2002 and BSBI distribution map <http://www.bsbimaps.org.uk/atlas/>) it is deemed to be Nationally Scarce in Great Britain (Cheffings & Farrell, 2005).

Its main concentrations are in Wiltshire, Hampshire, Sussex and Surrey, where it can be locally frequent. Populations have been encountered as far west as Flintshire and coastal dunes in Glamorgan and Merioneth and east to Kent and Norfolk. In the north it is deemed to be "a very rare orchid" (Wilmore *et al.*, 2011) occurring at sites along coastal dunes in Lancashire and Cumbria, at two adjacent sites on the Yorkshire Wolds and along the Permian Magnesian Limestone ridge through Yorkshire, Durham and Northumberland where it occurs on post industrial sites (Harrap & Harrap, 2009).

Apart from its western coastal dune populations, its preferred sites are small woods and copses on calcareous to mildly acidic soils, particularly the beech-woods of southern England where it prefers woodland edge situations with a sparse ground cover and is characteristically found growing through a carpet of Ivy *Hedera helix* (Harrap & Harrap, *loc.cit.*).

Yorkshire sites

VC61 South-east Yorkshire: Green-flowered Helleborine was first encountered in the Yorkshire region in 1953 when Mrs I. Grewe discovered a colony in a Beech *Fagus sylvatica* plantation near South Cave (SE93) on the southern edge of the Yorkshire Wolds (Shaw, 1955; Young, 1955; Crackles, 1990). This population was visited in 1954 by the Epipactologist Dr D.P. Young who identified the plants as belonging to the var. *vectensis* group (Young, *loc.cit.*). In 1977 a second locality was found in the South Cave area by J. Atkins (Crackles, *loc.cit.*) though it has not been recorded at either site since the 1980s (BSBI Distribution map 2012).

VC62 North-east Yorkshire: There are currently no records for North-east Yorkshire.

VC63 South-west Yorkshire: Green-flowered Helleborine was first encountered in Whitwell Wood (SK5179) in 1964 by Margaret Shaw, Ida Sollitt and Charles Waite of the Sorby Natural History Society (Waite, 1964; Robb, 1965). Though the wood is largely in Derbyshire, plants were also growing to the north of Bondhay Dyke and therefore within South Yorkshire. Plants were evidently last encountered at this site in the early 1990s (Graeme Coles pers. comm. 2.3.2010).

Green-flowered Helleborine was discovered in Cusworth Park, Doncaster (SE5503) in 1975 by Dr. John Hodgson of the Unit of Plant Sciences, University of Sheffield. This was in Grey Poplar *Populus x canescens* woodland on the north bank of the middle lake. It was again encountered here in July 1998 by Joyce Payne and CAH; three spikes were present in September 1999 and one in July 2000 but the site was destroyed by the removal of the woodland and re-engineering of the lake during the winter of 2003-04.

What is now known to be the main Cusworth colony, located in the narrow belt of damp Grey Poplar riparian woodland between the eastern side of the lower lake and the deep ring drain of the adjacent arable land, was first noticed in 1986 by Martin Limbert (Doncaster Museum Staff) and has been monitored here ever since by a succession of local botanists. This population was judged by Geoffrey Wilmore to be far larger than other Yorkshire colonies and comparable with the celebrated population at the Ainsdale NNR, Lancashire (*pers. comm.* 30.7.1998).

On 1 August 2004 a single plant, 34.5cm tall and with 13 flowers, was located by Ian McDonald and CAH at a new site near a venerable Common Oak *Quercus robur* (now removed) on the western bank of the lower lake.

VC64 Mid-west Yorkshire: On 14 August 1962 Michael Densley located a small colony of Green-flowered Helleborine on well drained highly calcareous soil on the Magnesian Limestone ridge at Parlington Hollins, Aberford (SE4135). Here it grew under dense Beech canopy on ground almost devoid of other vegetation apart from several specimens of Ivy and Enchanter's Nightshade *Circaea lutetiana*. A specimen forwarded to Kew and examined by V.S. Summershayes and Dr D.P. Young was identified as belonging to var. *pendula* (Densley, 1963 & 1987). It no longer exists at this site (Abbott, 2005).

A population was located at Fryston (SE42) between 1987 and 1999 (Don Grant *pers. comm.*, Preston *et al. loc.cit.*). Lavin & Wilmore (1994) described the two colonies in the West Yorkshire Metropolitan area as small- to moderate-sized populations in deciduous woodland beneath Beech trees.

It occurs in woodland at Mickley (SE2676) (Abbott, *loc.cit.*) where Preston *et al. (loc.cit.)* indicated its occurrence for the period between 1987 and 1999. On 14 June 2008 it was discovered at the Ellington Banks MoD site (SE2872) (Abbott, 2010).

VC65 North-west Yorkshire: Preston *et al. (loc.cit.)* shows its occurrence in the Richmond area (NZ10) between 1987 and 1999.

According to Preston *et al. (loc.cit.)*, populations of Green-flowered Helleborine tend to be sporadic, often not persisting for longer than about thirty years. Though the Yorkshire colonies at Whitwell Woods, South Cave and Parlington Hollins seem to have disappeared, the Cusworth population is still thriving some 40 years after its discovery (see figure 1).

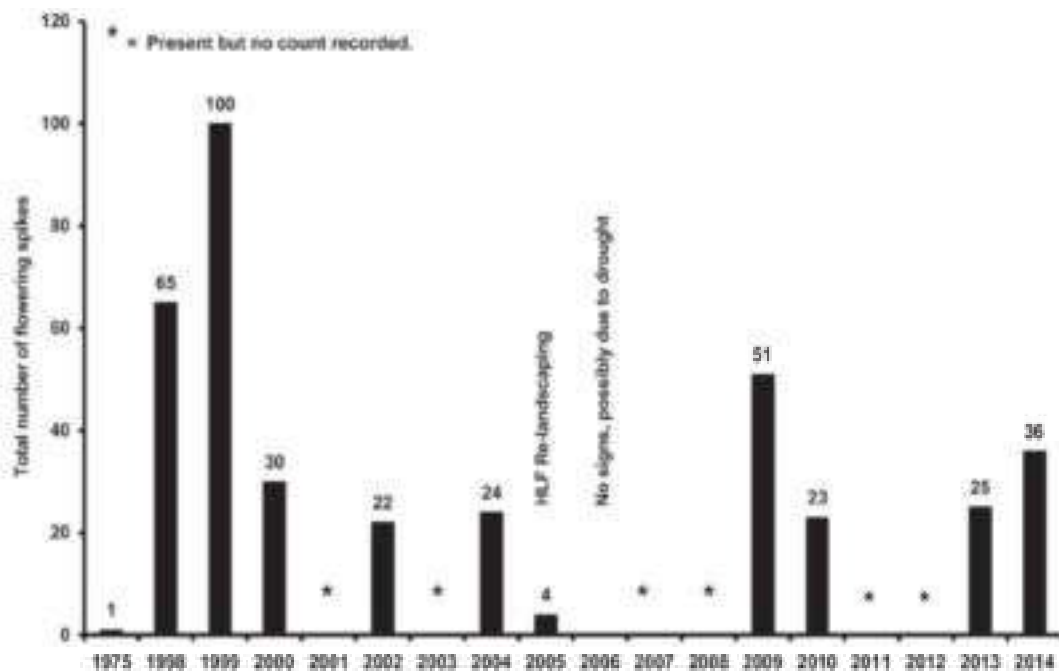


Figure 1. Annual counts of flowering spikes of *E. phyllanthus* at Cusworth Park 1975 to 2014.

Habitats and associated vegetation

The north Kent populations grow on chalk soils under mixed copses of Beech, Sweet Chestnut *Castanea sativa* and larch, the flowering spikes emerging through a carpet of Ivy and Dog's Mercury *Mercurialis perennis* (Lang, 1980). In the Welsh sand-dunes plants grow on low hummocks among Creeping Willow *Salix repens*, Bird's-foot-trefoil *Lotus corniculatus* and Red Fescue *Festuca rubra* (Lang, *loc.cit.*). In the Durham population the 50 plants discovered in the south Tyne area in 1974 were under the heavy shade of Silver Birch trees *Betula pendula* on the spoil heaps of an old lead mine (Lang, *loc.cit.*). Preston *et al.* (*loc.cit.*) also mention associations with pine and birch scrub on the Bagshot Sands and hazel coppice on sandy alluvium.

The Cusworth population is located in the dense to dappled shade of riparian Grey Poplar woodland with occasional Ash *Fraxinus excelsior*, Common Oak, Beech and Sycamore *Acer pseudoplatanus*. Shrubs include Hawthorn *Crataegus monogyna* and Wild Privet *Ligustrum vulgare*. The associated ground flora typically includes Wood Sanicle *Sanicula europaea*, Bluebell *Hyacinthoides non-scripta*, Lesser Celandine *Ficaria verna*, Enchanter's Nightshade, Wood Melick *Melica uniflora*, Creeping Soft-grass *Holcus mollis*, False Brome *Brachypodium sylvaticum*, Ivy, Honeysuckle *Lonicera periclymenum* and Bramble *Rubus fruticosus*. Through its riparian situation, the associated flora can also be dominated by Common Reed *Phragmites australis* and Lesser Pond Sedge *Carex acutiformis* with Hard Rush *Juncus inflexus* and Marsh Horsetail *Equisetum palustre*.

In order to compare the tree/shrub communities of the Cusworth site with those described from Green-flowered Helleborine sites in Kent, Wales and Durham (see above), the identities of the

closest woody plants to 38 flowering spikes were recorded in July 2000 and August 2004, the proportional associations being shown in figure 2.

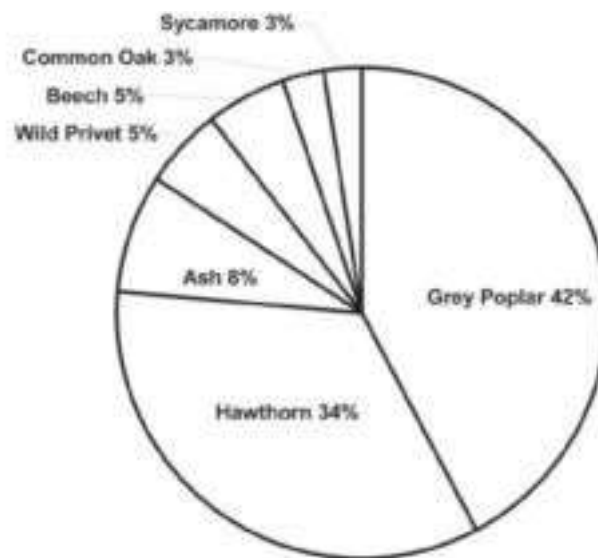


Figure 2: Species of trees and shrubs nearest to 38 flowering spikes of Green-flowered Helleborine.

Proximity to nearest tree

It is noticeable that most of the Cusworth specimens are growing in the pockets of soil within the surface root networks of the larger woodland trees. In 2002 and 2014 the distances from 65 plants to the trunks of the nearest substantial trees were measured. Distances ranged from 2cm to 250cm with one notably remote specimen at a distance of 6.8m (see figure 3). 68% of sampled plants were less than 1 metre from the trunks with a mean distance of 99cm (90cm excluding the distant specimen). This phenomenon may be linked with ecto-mycorrhizal fungi associated with the rooting systems of adjacent trees, enabling them to gain nutrients from this fungal symbiotic partnership (Summerhayes, 1968), isotope studies having shown that helleborines can acquire around 60% of their nitrogen and 14% of their carbon via fungi (Harrap & Harrap, *loc.cit.*). It may also enable this helleborine to survive in dry humus-poor substrates with which it is associated (Preston *et al.*, *loc.cit.*).

Height

Green-flowered Helleborine is a very variable plant. Plants in its north Kent population are small and slender and scarcely reach 20cm, whereas the Welsh sand-dune plants have stems up to 40cm (Lang, *loc.cit.*). Harrap & Harrap (*loc.cit.*) gives the UK height range as 5-75cm with the majority of plants between 15 and 50cm, the taller populations being in northern England.

Specimens from the Cusworth population measured from 24 July to 22 September during various years ranged from 10-44cm with a mean height of 26.3cm (see figure 4), the smallest growing through carpets of heavily shaded Ivy under Beech canopies and the tallest in thin woodland or well illuminated glades.

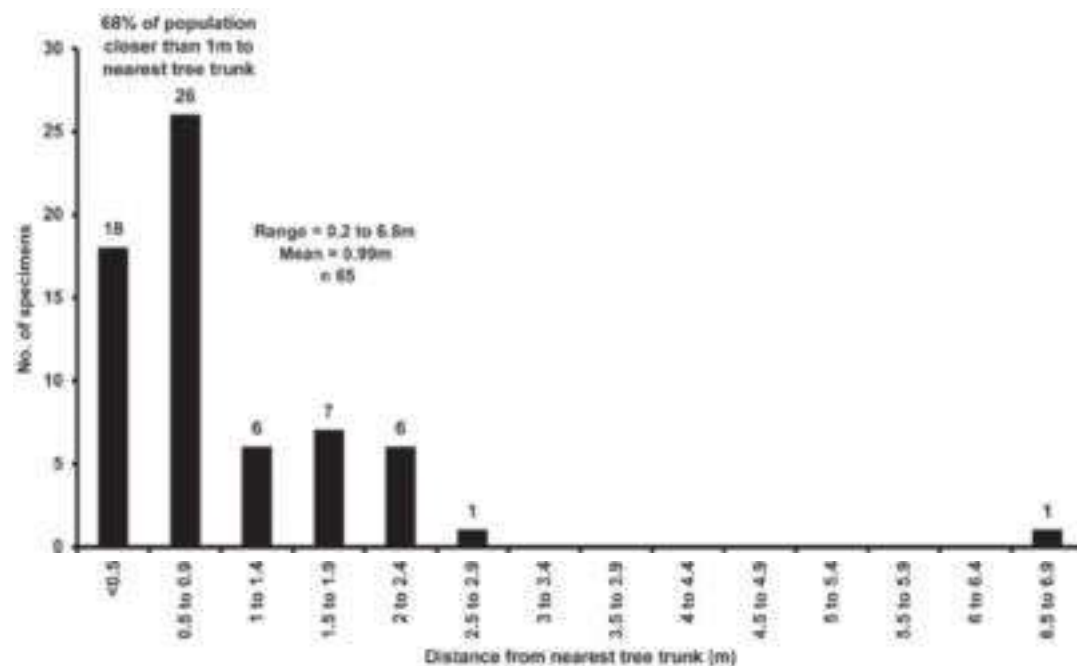


Figure 3: Proximity of 65 flowering spikes to nearest large tree.

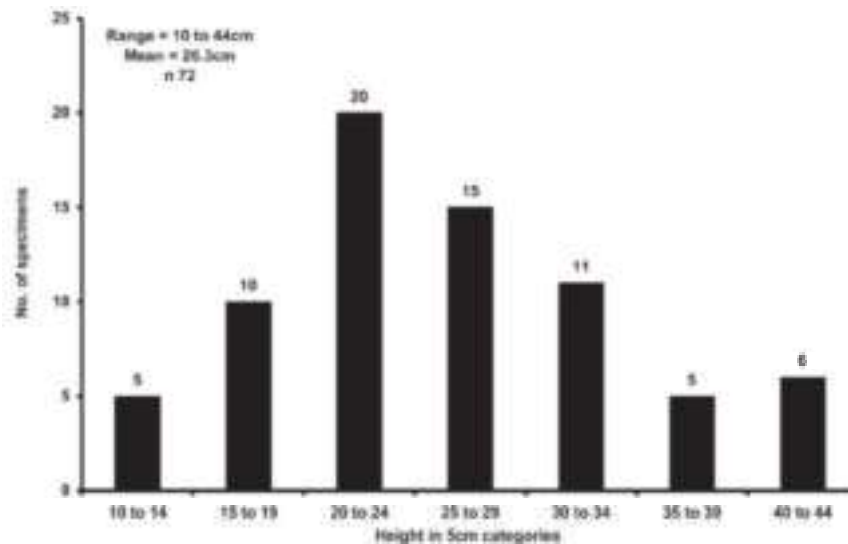


Figure 4: Height distribution of 72 flower spikes

Leaves

Not including the narrow, bract-like structures which grow from beneath the flower pedicels, the mostly oval, stiffly horizontal leaves are variable, the lowest usually being smallest, and can form

a funnel-like sheath around the lower stem; the largest are above the middle of the stem with the highest often being narrow and bract-like. The sampled Cusworth population showed a range from 2 to 8 leaves with a mean number of 4.1 (see figure 5).

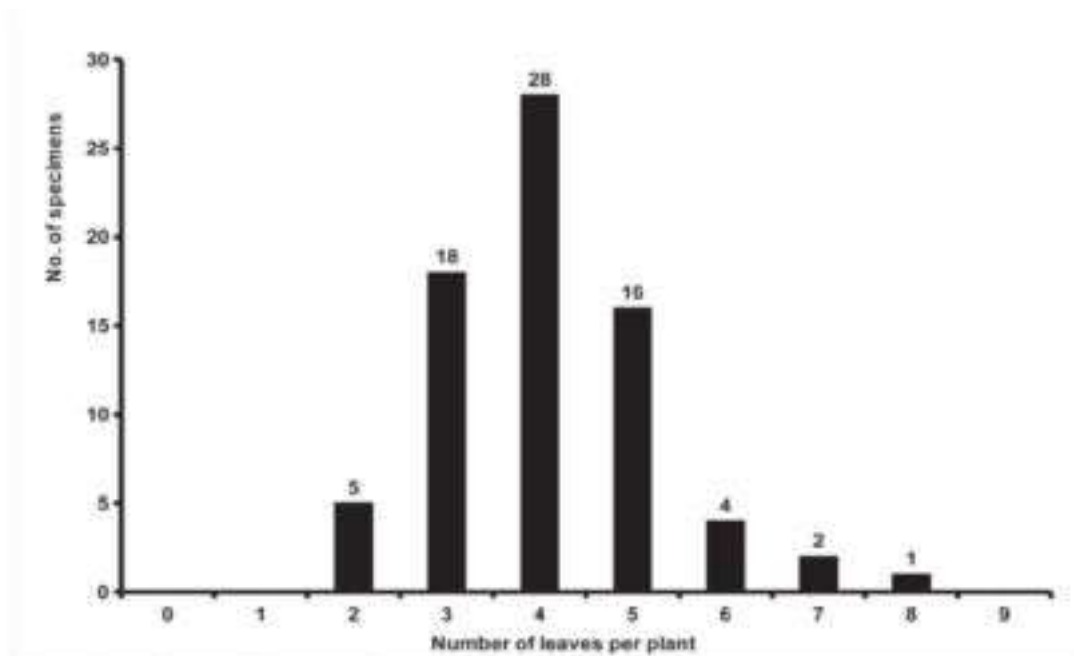


Figure 5: Numbers of leaves per plant ($n = 74$)

Flowers The flowers seem characteristically to be oriented to one side of the flowering spike and once open they usually hang vertically down (see Plate II, centre pages). The uppermost buds in the spike may fail to open. The flowering period of the Cusworth population commences in mid June; it seems to be at its best from late July and can last well into September.

Flowering spikes can exceptionally bear up to 35 drooping flowers (Harrap & Harrap, *loc.cit.*) though there is considerable regional variation with the north Kent population having up to 13 flowers and the Welsh sand-dune plants bearing up to 19 flowers (Lang, *loc.cit.*). Including unopened buds, figure 6 shows that the number of flowers on 72 sampled spikes from the Cusworth population ranged from 0 to 16 with a mean number of 6.4. This low mean value is partly in consequence of 8 sampled spikes having no flowers or buds and 4 spikes only having single flowers.

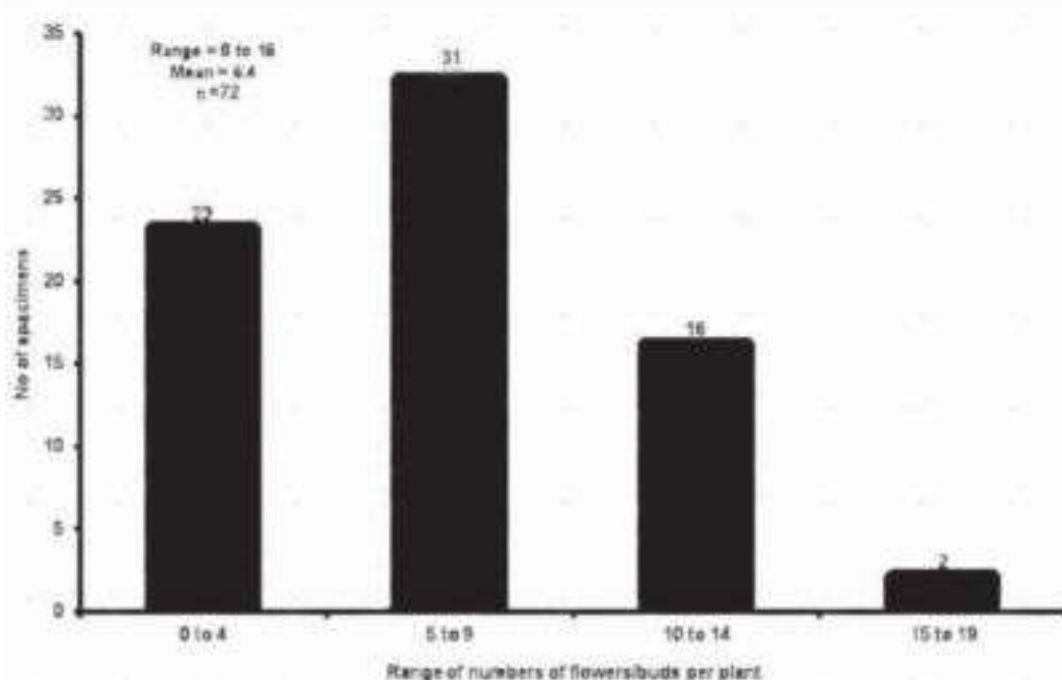


Figure 6: Range of numbers of flowers/buds per plant.

Proximity to woodland footpath

An initially unsurfaced path with several meandering detours, eroded down to the underlying clay marl mineral substrate, passed through the narrow linear woodland where the helleborines occur. Since most plants were close to this winding path, the colony was theoretically vulnerable to depletion through trampling. In 2003-04 unstable or fallen trees were removed and the path re-engineered, introducing a plastic netted geo-textile base covered by a layer of bark chippings.

The distances the flower spikes were growing from the path edge were measured for 31 flower spikes in July 2000 and 14 in August 2014. Figure 7 shows the numbers of flower spikes aggregated in 20cm categories from the path edges. Their positions ranged from three specimens directly adjacent to the bark chippings while the most distant were singles in deeper shade at 120, 140 and 220cm from the path. The mean distance of the specimens growing within 100cm of a path edge in 2000 was 52.8cm (n = 30) and in 2014 was 32.5cm (n = 12). Though this is likely to be due to the path coming closer to the helleborines during the 2003-04 engineering work rather than the helleborines subsequently expanding their range, the newly engineered path seems to have focussed walkers (mainly dog-walkers) to the defined route and seems to have reduced erosion of adjacent vegetation.

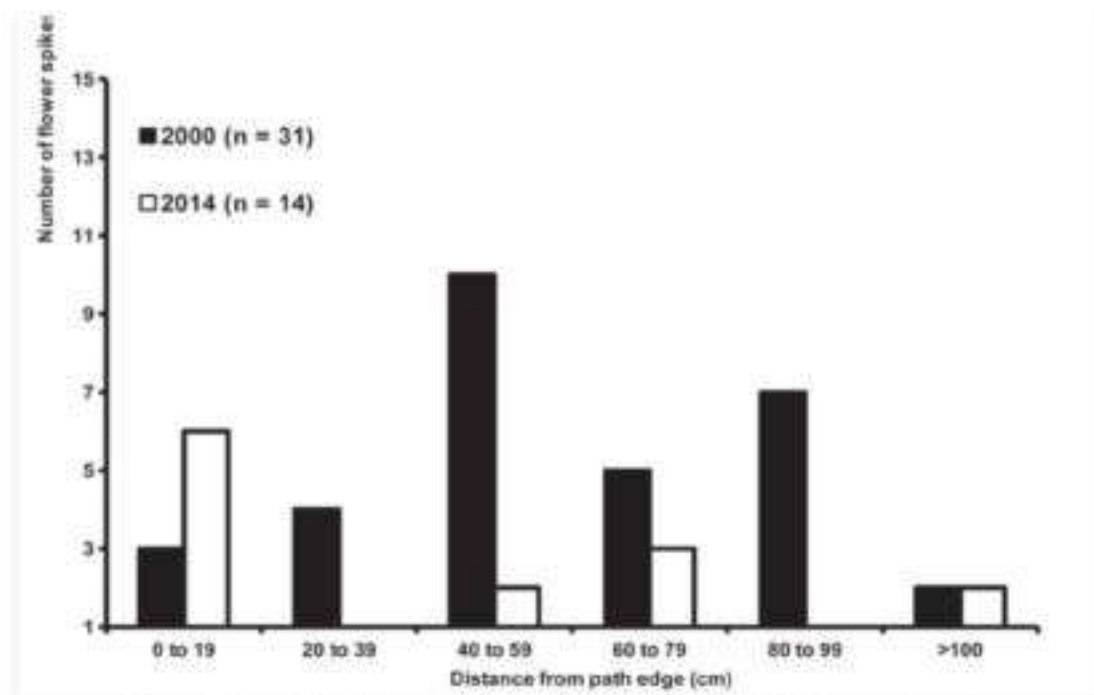


Figure 7: Proximity of flower spikes to the woodland path in 20cm categories.

Varieties

Of the five varieties described for Britain (Young, *loc.cit.*), var. *vectensis*, which largely occurs in southern England and the Midlands, has been identified at South Cave (Young, *loc.cit.*) and var. *pendula* has been identified at Parlington Hollins, Aberford (Densley, 1963, 1987).

Using the varietal descriptions in Young (1952) and Harrap & Harrap (*loc.cit.*) the hypochile and epichile structures in sampled florets of the Cusworth plants show this population also to be var. *pendula*, which seems to be the typical form for the north of England (Harrap & Harrap, *loc.cit.*). This is useful to know since it helps to resolve a query over the origins of the Cusworth colony. Local history knowledge had raised the possibilities that this orchid may have been inadvertently introduced in soil amongst tree roots during the planting and landscaping by Richard Woods of Surrey in the 1750s. Further, Green-flowered Helleborine could have been intentionally introduced by the Rev. George Edwards Smith, who discovered it in Phyllis Wood, Westdean, West Sussex in 1838-39 and described it new to science in Smith (1852). Rev. Smith served briefly (1844-86) as curate at St Wilfred's church in the nearby parish of Cantley and was an extremely active botanist during his period in Yorkshire. However, according to records in Lees (1888), Smith does not appear to have been aware of any *Epipactis* species at Cusworth or elsewhere in southern Yorkshire.

The presence of var. *phyllanthus* or var. *degenerata* at Cusworth would indeed have suggested introductions from southern populations (see Harrap & Harrap, *loc.cit.*). However the presence of var. *pendula* characteristics in the Cusworth colony suggests it is part of the natural metapopulation which occurs sparsely in sites along the Magnesian Limestone ridge in Yorkshire. It would be interesting to confirm the varietal status of other Yorkshire populations.

Correction

The Roche Abbey record of Green-flowered Helleborine quoted in Wilmore *et al.* (2011) is an error. No such record exists at Rotherham Biological Records Centre (W.A.Ely pers. comm.)

Acknowledgements

I would like to thank Geoffrey Wilmore for his help in reading through and checking the above text. Thanks are also due to Graeme Coles for information on the Whitwell Wood population, to Gordon Smith, executor to the Batty-Wrightson estate, for checking the Cusworth archives and to Julie Harrap, deputy curator at Cusworth Hall, who provided information on the historic landscaping of the park. Special thanks are due to the many people who have helped in monitoring this notable local plant at Cusworth Park; these include Dorothy Bramley, David Carroll, Elizabeth Farningham, Don Grant, Julie Harrap, John Hoare, Helen Kirk, Janetta Lambert, Martin Limbert, Paul Maguigan, Ian McDonald, Joyce Payne, Catherine Palmer, Pip Seccombe, Geoffrey Wilmore and members of the Bradford Botany Group, Doncaster Naturalists' Society, Hardy Orchid Society and the Yorkshire Naturalists' Union (Flowering Plants Section). I am grateful to Chris Holmes of Cusworth Museum for the photographic studies.

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YNU Bryological Section: Report for 2013

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Excursions

The following sectional meetings were held in 2013. The nomenclature follows the current British Checklist and Census Catalogue (Hill *et al.*, 2008).

Cronkley Scars and Pasture, Upper Teesdale (VC65), 4-5 May 2013

The part of Upper Teesdale that belonged historically to Yorkshire has been little recorded for its bryophytes in recent years, though there are many old records of great interest. This meeting concentrated on the north-facing crags and boulder fields at Cronkley Scars and the intervening ground below the scars as far as the banks of the Tees. The official part of the meeting on 4 May was devoted to the Raven Scar area but TLB stayed on for a second day and worked the area further east in the vicinity of Bleaberry Scar and Tarn Dub. It proved to be a memorable meeting, in the number of species recorded, in the rediscovery of several old records and in some unexpected new ones.

River Tees. The stretch of the Tees below Cronkley Scars is relatively quiet and its bed has emergent stones and boulders with scattered tufts of invariably blackened riparian mosses, but is otherwise bare. *Sciuro-hypnum plumosum* was noted on some of the larger boulders but the two commonest on the rocks were *Racomitrium aciculare* and *Schistidium platyphyllum*. Two others found in very small quantity were *Cinclidotus fontinaloides* and *Schistidium agassizii*, the latter being a rarity known in the Pennines only from the upper stretches of the Tees. There were few other riverside mosses apart from occasional patches of *Fontinalis antipyretica* and *F. squamosa*.

Flushes and seepages. Cronkley Pastures is a mosaic of rough grassland interspersed with base-rich flushes and pockets of acid mire. The richest area of base-rich flushes was found below Bleaberry Scar. The central parts of the larger flushes are often gravelly with running water and small stones, feeding into small rocky streams and rivulets. At the margins of the flushes, where water flow is reduced, there is sometimes a development of sedge and moss lawns. *Blindia acuta* is a characteristic and abundant moss of the stony flushes, growing on rock surfaces, and *Jungermannia exsertifolia* is locally plentiful in the wetter parts. *Scorpidium scorpioides* is also characteristic of runnels in the gravelly flushes but was seen only below Bleaberry Scar, though in good quantity there. *Sarmentypnum sarmentosum* was also found very locally in wetter parts of the flushes and over flushed stones. Also among stones in the rivulets and on the edges of the gravelly flushes were *Plagiochila porelloides*, *Ctenidium molluscum*, *Fissidens osmundoides*, *Palustriella falcata*, *Tortella tortuosa* and sparsely *Preissia quadrata*. Two liverworts, *Aneura pinguis* and *Blepharostoma trichophyllum*, were occasionally present on wet soil or among thin layers of moss over rocks. *Palustriella falcata* extends into the lawns at the edges of flushes and in seepages, where it is accompanied by *Scorpidium cossonii* and *Campylium stellatum*.

Sarmentypnum exannulatum appeared to be more restricted and was seen only once. *Breutelia chrysocoma* was frequent in flushed turf and seepages. In more boggy channels, though still with slight base-rich flushing, were *Scorpidium revolvens* (fertile) and *Sphagnum platyphyllum*, the latter very rarely recorded in Yorkshire but perhaps overlooked. Among the species of more oligotrophic hollows were *Sphagnum girgensohnii* and *Straminergon stramineum*.

Crags and boulder fields at Raven Scar. This sector of Cronkley Scar faces north-west and has extensive boulder fields on the slopes below the dolerite (whin sill) crags. There are scattered Juniper *Juniperus communis* bushes. *Racomitrium lanuginosum* is very common on and among the boulders. *R. fasciculare*, *R. heterostichum* and *R. sudeticum* are also frequent on the rocks, along with *Marsupella emarginata* and *Andreaea rupestris*. Many patches of *Tritomaria quinquedentata* were found in hollows and recesses. With the exception of *M. emarginata*, members of the family Gymnomitriaceae are very rare in the Pennines, but Cronkley is a known locality for *Gymnomitrium obtusum* and *Marsupella sprucei*. Both were refound. In fact, *G. obtusum* is locally abundant on the sides of boulders, its whitish colour causing it to look superficially like a lichen. *M. sprucei* was also present in good quantity but it is a minute plant, detectable on this occasion through the presence of numerous mature capsules. Unexpectedly a fourth species of the family, *Gymnomitrium crenulatum*, was also found to be present, an outstanding discovery as it was previously unknown in the Pennines, being recorded in England only from the Lake District and the Cheviot. Also on the boulders, the western moss *Campylopus atrovirens*, though very sparse, was noteworthy here as it is near the eastern edge of its range. *Polytrichastrum alpinum* was on earth among the rocks and there were a few patches of *Sphagnum quinquefarium*. We examined the stems of Junipers for *Lophozia longidens*, another known speciality of the area, and refound it sparsely as well as *Barbilophozia attenuata*, *Dicranoweisia cirrata*, *Ulota bruchii*, *U. phyllantha* and a small amount of the liverwort *Scapania gracilis*. The main crags are precipitous and difficult to work, but we were able to locate a population of *Kiaeria blyttii*, a montane moss whose only previous record in VC65 is that of Richard Spruce at the nearby Holwick Scars in 1843! *Rhabdoweisia crispata* was another good find, in a recess on the crags, and there were occasional tufts of *Bartramia pomiformis*. *Tetraplodon mnioides* occurred on bones in several places.

Crags and boulder fields at Bleaberry Scar and Tarn Dub. The dolerite crags and boulders had a different mix of species compared with Raven Scar, but with many similarities. *Gymnomitrium obtusum*, *G. crenulatum* and *Marsupella sprucei* were all present, but in smaller quantity. On the other hand the vertical crags, dry at the time but evidently subject to frequent irrigation, had much *Andreaea rothii* and *Racomitrium aquaticum*, and *Grimmia ramondii* was found on a small boulder at the base of the crags. This is a rediscovery of a record made at Cronkley by E.C. Horrell in 1889. *Scapania compacta*, *Bartramia ithyphylla* and *Pohlia cruda* were also present on the crags. The gullies running into the crags in this area are not very deep but produced a few additions, notably *Amphidium mougeotii*, *Hymenostylium recurvirostrum* and *Hygrohypnum luridum*. On the slopes of one of the gullies there is an outcrop of dark, impure limestone with a conspicuously different flora that included *Leiocolea alpestris*, *Plagiochila porelloides*, *Scapania aspera*, *Gymnostomum aeruginosum*, *Orthothecium intricatum*, *Schistidium robustum* and *Tortella tortuosa*. This was the only area where *Frullania tamarisci* was seen along the crags. The small areas of calcareous turf below the outcrop had *Ditrichum gracile*, *Entodon concinnus*, *Thuidium assimile* and *Sanionia uncinata*. Towards Tarn Dub there were further extensive

boulder fields. The Dub itself is a series of pools that form in the hollows below the slopes. The water level was low as a consequence of the dry spring and expanses of *Cinclidatus fontinaloides* were exposed, with *Climacium dendroides* also frequent among the rocks. Some of the boulders nearby had evidence of base enrichment, with isolated patches of *Thamnobryum alopecurum*, *Isothecium alopecuroides* and *Homalia trichomanoides*. Several tufts of *Hedwigia stellata* were present, another moss first recorded here (as *H. ciliata*) by Richard Spruce in 1843, but not reported recently. A patch of *Lophozia incisa* was found on soil on a vertical bank among the boulders.

Ponden, near Howarth (VC63), 5 October 2013

It is some years since the Howarth area has been investigated for its bryophytes. The autumn meeting gave an opportunity to check the margins of Ponden Reservoir as well as the moorland in Ponden Clough. Only a little mud was exposed by the reservoir but a number of characteristic bryophytes were present, notably a few shoots of the rare *Physcomitrium sphaericum*, previously only known in VC63 from Morehall and Damflask Reservoirs to the north-west of Sheffield. Other colonists of the mud included *Aphanorrhegma patens*, *Atrichum crispum*, *Dicranella rufescens*, *Leptobryum pyriforme*, *Pohlia camptotrachela* and *Pseudephemerum nitidum*. The walls around and near the reservoir produced a tuft of *Ptychomitrium polyphyllum*, some *Pseudocrossidium revolutum* on old mortar and numerous common species.

Ponden Clough has only small exposures of rock, thus limiting the variety of the flora. *Blindia acuta* was present on one exposure of wet gritstone, and we also noted *Aneura pinguis*, *Riccardia multifida* and *Bryum pseudotriquetrum* on wet rocks and seepages. Bare shale-clay on some of the slumps along the stream bank supported various pioneer mosses, notably a fine population of *Discelium nudum* in one place, with its distinctive young sporophytes emerging from the green protonema. *Discelium* is a nationally scarce moss and most of its British localities are concentrated in the Pennines. *Ditrichum heteromallum*, *Pogonatum urnigerum* and *Pohlia annotina* were also present. There were nine species of *Sphagnum* on moist heathy banks and in flushes, including *S. girgensohnii*, *S. russowii* and *S. squarrosum*. Although most of the habitats in the clough were consistently acidic, a single flush had an abundance of *Palustriella commutata*, but with no other base-demanding associates.

There were rather few trees on our route, but *Ulota calvescens* was a notable record on an Ash tree *Fraxinus excelsior* by the bridge at the foot of Ponden Clough (see below for further comments on this species). Other epiphytes around the reservoir included *Frullania dilatata*, *Metzgeria violacea*, *Cryphaea heteromalla*, *Orthotrichum pulchellum* and *Ulota phyllantha*.

All the sites visited were in tetrad SD93Y, and 105 bryophytes were recorded in total.

Records

(Abbreviations: NWNLU = North-western Naturalists' Union; YNU = Yorkshire Naturalists' Union.) The number of records received from each of the Watsonian vice-counties is shown below. The high number from VC63 is due in large part to the recording of Johnny Turner in the Hebden Bridge area.

Vice-county	Records received
61	21
62	65
63	1608
64	951
65	509

The most remarkable development in 2013 was the discovery of the epiphytic moss *Ulotrichum calvescens* in the Pennines (Blockeel & Turner, 2013). *U. calvescens* was previously thought to have an extreme oceanic distribution, primarily in western Scotland and Ireland, so the discovery of numerous populations in the Pennines was astonishing. It was first spotted by Johnny Turner in the Hebden Bridge area but was soon found elsewhere in Yorkshire (and adjacent counties). It is clearly a recent arrival at most and probably all of these sites, as *Ulotrichum* species were absent from most of the South Pennines when levels of SO₂ pollution were high. It has been overlooked because of its similarity to other *Ulotrichum* species, and the fact that one of its distinctive field characters (the few or sparse hairs on the calyptra) is more variable than once thought. Its spread has a parallel in that of *Colura calyptrifolia*, an oceanic liverwort that now also occurs in the South Pennines (though not quite as far east as *U. calvescens*).

Colura is itself now known from numerous localities in Calderdale, thanks to the diligent searching of Johnny Turner. He has also found many sites for *Orthotrichum lyellii*, *O. striatum*, *O. stramineum* and *O. tenellum* in Calderdale, all mosses that have been recolonising areas from which they were long absent. *Orthotrichum speciosum* is much rarer but has been spreading slowly in England. Johnny found it on willow near Heptonstall and it turned up unexpectedly, also on willow, on the banks of the R. Ouse near York. The return of epiphytes to many parts of Yorkshire has been an exciting process to observe over the past two decades.

Didymodon acutus has always been a very rare moss in Yorkshire, and many of the older records may be errors for related species. Recently it has been turning up increasingly in ruderal habitats, on gravelly tracks and roadsides. It appears that these records do not belong to the true *D. acutus* but probably to *D. icmadophilus*, previously considered a very rare species in Britain. New records turned up in 2013 during the YNU meeting at Cromwell Bottom and the NWN meeting at Barden Reservoir.

Another moss on the increase is the robust and conspicuous *Rhytidiadelphus loreus*. Although frequent in the northern parts of Yorkshire, it had almost disappeared from south and south-west Yorkshire in the 20th century, because of susceptibility to air-borne pollution. There were several new records in 2013, from both established and secondary woodland. Like a number of other robust bryophytes it is an effective coloniser of former industrial sites.

The list below provides details of these and other records of note, including new vice-county records and updates to the Census Catalogue (identified by an asterisk).

- Archidium alternifolium***. VC64: SE0256 drawdown zone, Barden Lower Reservoir, NWN, 12 Oct 2013; SE0564 Grimwith Reservoir, G. Haycock, 20 Oct 2013. Reservoir margins are the most characteristic habitat for this moss in the Pennines.
- Brachythecium mildeanum***. VC64: SE525573 Redhouse Ings, T.L. Blockeel & P.N. Gaunt, 29 Oct 2013. *B. mildeanum* often occurs in weedy habitats and is certainly under-recorded in Yorkshire. It is easily passed over for the common *B. rutabulum*.
- Campylophyllum calcareum***. VC63: SK533829 on shaded Magnesian Limestone boulder, Anston Stones Wood, T.L. Blockeel, 31 Oct 2013. This is the sole locality for *C. calcareum* in VC63 and it was last recorded there in 1978.
- Cephalozia connivens***. VC63: SD9531 above Blake Dean in hummock of *Mylia taylorii*, J.M. Turner, Feb 2013. This is now very rare on the South Pennine moorlands because of former acid pollution and degradation of the blanket bog.
- Colura calyptrifolia***. VC63: SD97612292 near Withens Reservoir, J.M. Turner, 16 Feb 2013; SD989298 on sallow, Crimsworth Dean, T.L. Blockeel & J.M. Turner, 26 Feb 2013; SD992314 on *Salix*, Lumb Falls, Crimsworth Dean, T.L. Blockeel & J.M. Turner, 26 Feb 2013; SE01 on *Salix*, Booth Dean, Rishworth, J.M. Turner, 29 Apr 2013; SE03002807 Luddenden Dean, J.M. Turner, 28 Feb 2013; SE0530 small Ash tree in scrubby woodland, near Ogden Water, J.M. Turner, 5 Mar 2013. Following its discovery in Broadhead Clough in 2012, these records confirm that *Colura* is now widespread in Upper Calderdale.
- Ctenidium molluscum* var. *condensatum***. VC65*: NY8429 among rocks in gully, ca 470m alt., east end of Green Hill Scar, Cronkley Scar, Upper Teesdale, T.L. Blockeel, 5 May 2013.
- Dicranella cerviculata***. VC64: SE0256 Barden Lower Reservoir, M. Wilcox, 12 Oct 2013. *D. cerviculata* grows on moist or wet acid soil or peat and is easily overlooked. There are rather few records from Yorkshire.
- Didymodon acutus* agg.** VC63: SE12 on rubbly ground by path, Cromwell Bottom NR, near Brighouse, T.L. Blockeel & J.M. Turner, 18 May 2013; VC64: SE0256 Barden Lower Reservoir, NWN, 12 Oct 2013. These records are referred to *D. acutus* in a broad sense because of the uncertainty over the taxonomy of this species in Britain.
- Disclium nudum***. VC64: SE0564 Grimwith Reservoir, G. Haycock, 20 Oct 2013. This distinctive colonist of exposed acid soils (especially clay derived from grit-shales) is widely recorded in the Pennine moorlands but there have been rather few records in recent decades, although it is unlikely that it has declined significantly.
- Fissidens bryoides* var. *caespitosus***. VC63: SD991281 Lower Hebden Valley, J.M. Turner, 2013; SE01 Booth Dean, Rishworth, J.M. Turner, 29 Apr 2013. Further records of this variety from Calderdale, first found in VC63 near Hardcastle Crag in 2009.
- Fissidens exilis***. VC64: SE55 Redhouse Wood, P.N. Gaunt, 2013. A distinctive but minuscule moss that is easily overlooked.
- Fossombronina foveolata***. VC64*: SE0256 Barden Lower Reservoir, M. Wilcox & NWN, 12 Oct 2013. A very interesting record, and the first recent one from Yorkshire, of a liverwort that is very scarce in Britain. *F. wondraczekii* is the more usual species by Pennine reservoirs.
- Grimmia ramondii***. VC65*: NY847290 small dolerite boulder below crag, c.460m alt., Bleaberry Scar, Cronkley Scar, Upper Teesdale, T.L. Blockeel, 5 May 2013. Rediscovery of this moss in its only recorded Yorkshire site.
- Gymnomitrium crenulatum***. VC65*: NY83582916 on dolerite rock faces and boulders at base of crag, 450m alt., below Raven Scar, Cronkley Scar, Upper Teesdale, T.L. Blockeel, 4 May 2013. First record for Yorkshire and the Pennines.
- Hedwigia stellata***. VC65*: NY85252879 on dolerite boulder in boulder field, c.425m alt., near Tam Dub, Cronkley Scar, Upper Teesdale, T.L. Blockeel, 5 May 2013. Apparently the first VC65

- record of *Hedwigia* since 1906, when it was recorded at Cronkley by J.G. Baker.
- Klaeria blyttii***. VC65*: NY836291 vertical face of rock in cleft on dolerite crag, c.470m alt., Raven Scar, Cronkley Scar, Upper Teesdale, T.L. Blockeel, 5 May 2013. Rediscovery of this moss in Upper Teesdale. There are also old records of the closely related *K. faicata* and *K. starkei* in Teesdale but these need confirmation as it is unlikely that all three of these montane species occurred together in Teesdale at the south-eastern limit of their range in Britain.
- Kurzia trichoclados***. VC63: SD9531 above Blake Dean, J.M. Turner, Feb 2013. A rare liverwort in Yorkshire, usually growing on peat.
- Lophocolea semiteres***. VC63: SE3903 Wombwell, H. Lake, 13 May 2013; SE3209 Mapplewell, H. Lake, 24 Jun 2013. Records of this introduced liverwort from the Southern Hemisphere continue to accumulate. Johnny Turner has found numerous sites in Upper Calderdale.
- Lophozia incisa***. VC63: SE02E on wet peat on moorland south of High Brown Knoll, J.M. Turner, 8 Jan 2013. The only other recent record in VC63 is from the Upper Derwent Valley in the Dark Peak.
- Microlejeunea ulicina***. VC63: SD999261 birch tree by gully, Wood Top between Hebden and Mytholmroyd, J.M. Turner, 31 Mar 2013. Unlike some other epiphytes, *Microlejeunea* has been rather slow to spread in VC63, where it was recorded previously in the Sheffield area in 2009.
- Moerckia flatoviana***. VC63: SE053317 on tufa, Ogden Clough, J.M. Turner, 10 April 2013. This is a known locality for *Moerckia*, but the only one in the South Pennines, and confirmation of its continued presence is very welcome.
- Orthotrichum speciosum***. VC64*: SE526575 on willow by pumping station, Redhouse Ings, River Ouse, T.L. Blockeel & P.N. Gaunt, 29 Oct 2013.
- Orthotrichum tenellum***. VC62*: NZ953032 sparsely on base of Ash tree on slope in pasture, Stoupe Beck near Fyling Hall, T.L. Blockeel, 1 Sep 2013. Now widely reported from SW Yorkshire but this is the first recent record from the north-east.
- Philonotis calcarea***. VC63: SD92W wall at base of calcareous flush through *Molinia* Mire, road to Withens Clough reservoir J.M. Turner, 15 Feb 2013; SE0531 Ogden Clough, J.M. Turner, 5 Mar 2013. As its name suggests, this is a calciphile and rare on gritstone moors.
- Plagiobryum zieri***. VC63: SE055317 wet cliff by stream, White Wall End, near Ogden Plantation, J.M. Turner, 5 Mar 2013. A notable record on the gritstone moors of a calciphile normally found on Carboniferous Limestone.
- Plagiomnium cuspidatum***. VC63: SE01 Booth Dean, Rishworth, J.M. Turner, 29 Apr 2013. Most previous VC63 records are from the Magnesian Limestone but there are old records from Upper Calderdale.
- Platyhypnidium lusitanicum***. VC63*: SE027287 mostly submerged on rocks in woodland stream with *Hygrohypnum ochraceum* and *Racomitrium aciculare*, near Jerusalem Farm, Luddenden Dean, J.M. Turner, 28 Feb 2013; SD92 Colden, J.M. Turner, 2013. This aquatic moss is probably overlooked in streams on the Millstone Grit. It is known from the Peak District and the Bowland Fells but there are large unrecorded gaps between these two areas.
- Ptilium crista-castrensis***. VC63*: SD95242364 on horizontal *Salix* bole in wet woodland at edge of fishing lake with *Sanionia uncinata*, Lumbutts Clough, near Todmorden, J.M. Turner, 26 June 2013. This is a remarkable record but it follows on from a number of other recent records in unexpected habitats. *Ptilium* is a boreal forest moss which is very rare in Britain south of Scotland and the Lake District. It is clearly a recent colonist at Lumbutts.
- Racomitrium ericoides***. VC63: SD9528 gritstone wall top above Jack Bridge, Colden, J.M. Turner, 25 Feb 2013; SD9828 wall top, Lee Wood Road, Midgeholes, J.M. Turner, 18 April 2013. This moss is rare in the South Pennines and was first recorded in VC63 in 2010.

- Rhytidiadelphus loreus***. VC61: SE6546 Wheldrake Wood, P.N. Gaunt, 20 Nov 2013; VC63: SE01 Booth Dean, Rishworth, J.M. Turner, 29 Apr 2013 and various other sites in Calderdale SD92W, SE02B, SE02E, SE03A; VC63: SE12G Cromwell Bottom NR near Brighouse, T.L. Blockeel & J.M. Turner, 18 May 2013; SK287841 steep slope, dead logs covered with mosses, Porter Valley, Porter Clough, A.Baker, 6 Oct 2013.
- Solenostoma caespiticium***. VC63: SD959314 on bare clay-shale at edge of path, Blake Dean, Hebden Valley, T.L. Blockeel & J.M. Turner, 8 Oct 2013. This is an old site for this nationally rare liverwort, which was known from numerous localities in Calderdale in the mid 20th century. There have been few records in recent decades but it is easily overlooked.
- Sphagnum magellanicum***. VC64: SD83198110 blanket mire, Oughtershaw, G. Haycock, 18 Oct 2013. The only other recent records of this distinctive pink *Sphagnum* are from Malham Tarn Moss.
- Sphagnum platyphyllum***. VC65*: NY8429 in channel in flush with sparse *Scorpidium revolvens*, c.410m alt., flush system below Green Hill Scar, Cronkley Scar, Upper Teesdale, T.L. Blockeel, 5 May 2013. This appears to be the first recent record in the Pennines. It is one of the more base-demanding *Sphagna* and is nationally scarce, but possibly somewhat overlooked.
- Syntrichia laeviplia***. VC63: SE3904 on Crack Willow *Salix fragilis*, Darfield, by River Dove, H. Lake, 4 Mar 2013. This epiphytic moss remains rather scarce in Yorkshire and has not spread as rapidly as other epiphytes in recent years.
- Thamnobryum maderense***. VC63*: SD9827 damp recess in rocks above river below Eaves Wood, near Hebden Bridge, J.M. Turner, 2 May 2013. This is a problematic moss of uncertain status, differing from *T. alopecurum* in the complanate form of the fronds. There are currently very few British records.
- Tortella bambergeri***. VC63: SE0104 on and around sandstone boulder, Greenfield, near Dove Stone Reservoir, J. Lowell & NWNU, 16 Mar 2013. A second site in the vice-county for this recently recognised species.
- Tortula subulata***. VC63: SE0104 on and around sandstone boulder, Greenfield, near Dove Stone Reservoir, J. Lowell & NWNU, 16 Mar 2013. There are few recent records of this normally base-demanding moss on the Millstone Grit.
- Ulota calvescens***. VC63*: SD998276 on Goat Willow *Salix caprea*, Nutclough, Hebden Bridge, J.M. Turner, 14 May 2013; SD98802795 several cushions on *Salix*, Valley View Road, Heptonstall, J.M. Turner, 27 May 2013; SD99012759 4 cushions on Ash branch, opposite top of Buttress, Lee Wood Road, Hebden Bridge, J.M. Turner, 27 May 2013; SD98712756 on *Salix* in scrub, near end of Acres Lane, Heptonstall, J.M. Turner, 20 May 2013; SD999277 on oak twigs, Nutclough, Hebden Bridge, J.M. Turner, 13 May 2013; SD957247 several tufts on Sycamore *Acer pseudoplatanus*, sallows and oak, near Todmorden, J.M. Turner, 20 May 2013; SD996267 several tufts on *Salix*, Hebden Bridge, J.M. Turner, 19 May 2013; SD999263 single cushion on *Salix* off Carr lane, Wood Top, Nr Mytholmroyd, J.M. Turner, 21 May 2013; SE0316 occasional on willow, Booth Dean Clough, Nr Rishworth, J.M. Turner, 28 May 2013; SE013258 single cushions on three *Salix* in woodland, Scout Bottom, near Mytholmroyd railway station, J.M. Turner, 22 May 2013; SE00142781 two cushions on branch of road side *Salix*, Sandy Gate Lane, Nr Hebden Bridge, J.M. Turner, 13 May 2013; SE000278 on oak branch in woodland, Ibbot Royd/Nutclough, J.M. Turner, 13 May 2013; SE1222 on willow, Cromwell Bottom NR, near Brighouse, T.L. Blockeel & J.M. Turner, 18 May 2013; SE03641678 several large tufts on sallows and planted Hornbeam *Carpinus betulus* scrubby woodland above Booth Dean Clough, J.M. Turner, 28 May 2013; SE061312 on Rowan *Sorbus aucuparia* near the reservoir edge, Ogden, J.M. Turner, 14 Jun 2013; SE009186 On north

facing trunks of Sycamores, by Baiting reservoir, J.M. Turner, 3 Jun 2013; SE058307 on quite exposed young Sycamore and Ash, Ogden, J.M. Turner, 14 Jun 2013; VC64*: SD986655 young Ash bole, Grass Wood, Grassington, J.M. Turner, 4 Jun 2013; SE063564 riverside woodland, Strid Woods, Bolton Abbey, J.M. Turner, Jun 2013.

Deletion from the Yorkshire list

Palustriella decipiens. The two Yorkshire records of this moss have long been anomalous, as it is otherwise unknown in Britain outside the Scottish Highlands. Two herbarium specimens have been located at the Royal Botanic Garden, Edinburgh, and both are incorrectly named. The VC61 record from Naburn SES4 (leg. W. Bellerby, 1930) is *Palustriella falcata* and the VC62 record from Crosscliff near Scarborough SE89 (leg. G. Massee, 1881) is *Cratoneuron filicinum*. Therefore *P. decipiens* should be deleted from the Yorkshire list.

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Searching for leafmining moths and bagworms in East Yorkshire

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The population status and known ranges of all species are necessarily products of their abundance and geographical distribution, respectively, as well as recorder effort. The distribution maps on the Yorkshire Moths website (www.yorkshiremoths.info/) suggest that many nationally and regionally common micro-moths, particularly leafmining species, are absent from or at least very rare in East Yorkshire (VC61). However, such maps can only ever be 'minimum estimates', since it is rarely possible to survey an entire area, and even extremely widespread and common species are poorly represented on some distribution maps. For example, when the website was last updated in October 2014, there were only 60 larval records of Golden Pigmy *Stigmella aurella*, a ubiquitous miner on bramble, in VC61, compared with 77 in VC62, 177 in VC64 and 460 in VC63! Similarly, there were only 39 records of Hawthorn Slender *Parornix anglicella* mines (on hawthorns) in VC61, compared with 63 in VC62, 76 in VC65, 153 in VC63 and 171 in VC64. However, even a casual search along the hedgerows of East Yorkshire can reveal that many apparently scarce leafminers are actually widespread and common. The apparent scarcity of many leafmining moths in East Yorkshire is thus at least partly due to a lack of recorder effort (the majority of leafmine enthusiasts appear to be active mainly in VCs 63 and 64), perhaps due partly to the relative lack of woodland compared to other parts of the county. As revealed by targeted searches in the mid-2000s, however, a number of previously presumed scarce or rare moths (e.g. White-speckled Smoke *Narycia duplicella*) are actually relatively

widespread in the county, including in East Yorkshire (Chesmore, 2008). This should be borne in mind when interpreting the distribution maps.

A number of sites in VC61 were searched for micro-moth larvae, especially leafmining species and bagworms (Psychidae), in 2013 and 2014 (Table 1). Sampling effort varied considerably between sites. Most time in 2013 was spent locally, such as at Nut Wood, North Cave Wetlands and the Low Hunsley Plantation. I ventured further afield in 2014, though, to places such as North Cliffe Wood and Skipwith Common, after being inspired by the annual reports produced by Butterfly Conservation Yorkshire and the Yorkshire Naturalists' Union (e.g. Frost, 2014) and by what Dave Shenton was finding in Kent (www.kentmicromoths.blogspot.co.uk). Most time was spent at North Cliffe Wood, followed by Nut Wood, North Cave Wetlands, the Low Hunsley Plantation and Skipwith Common, whereas Broomfleet Washlands, Hull and Newport were visited only briefly. Allerthorpe Common was visited only in spring and the notoriously under-recorded 'Holderness Hole' was visited once in October 2014 to 'put some dots on the maps'.

Table 1. Number of species and most notable records by the author of leafmining moths and bagworms in East Yorkshire (VC61) in 2013 and 2014.

Site	NGR	No. ²	Most notable records
Allerthorpe Common	SE758478	4	Silver-barred Clothes <i>Infurcitinea argentimaculella</i> ³
Broomfleet Washlands	SE863286	6	Black-spot Sallow Pigmy <i>Ectoedemia intimella</i> ³
'Holderness Hole'	TA297246	24	White-bodied Midget <i>Phyllonorycter joannisi</i>
Spring Bank, Hull	TA082299	9	Dusty Apple Pigmy <i>Bohemannia pulverosella</i>
Low Hunsley Plantation	SE944340	8	Hazel Slender <i>Parornix devaniella</i>
Millington Wood area ¹	SE836535	32	Little Beech Piercer <i>Strophedra weirana</i>
Newport area	SE850307	15	Virgin Pigmy <i>Ectoedemia argyropeza</i> ³
North Cave Wetlands	SE880332	27	Yarrow Case-bearer <i>Coleophora argentula</i>
North Cliffe Wood	SE862372	53	Pale Birch Case-bearer <i>Coleophora orbitella</i> ³ , Violet Case-bearer <i>Coleophora violacea</i> ³ , Broken-barred Pigmy <i>Ectoedemia minimella</i> ³ , Alder Lift <i>Heliozela resplendella</i> ³ , Small Birch Pigmy <i>Stigmella sakhalinella</i> ³
Nut Wood, Raywell	SE991303	13	Maple Midget <i>Phyllonorycter acerifoliella</i>
Skidby	TA015336	26	Large Midget <i>Phyllonorycter emberizaepennella</i>
Skipwith Common	SE667377	35	Dotted-margin Smoke <i>Diplodoma laichartingella</i> ³
Spurn area	TA415158	20	Kent Bent-wing <i>Phyllocnistis xenia</i> ⁴
Thwaite Gardens	TA053328	17	Grey-alder Midget <i>Phyllonorycter strigulatella</i>
Tophill Low	TA073485	49	Bittersweet Smudge <i>Acrolepia autumnitella</i>
University of Hull	TA077316	13	Bindweed Bent-wing <i>Bedellia somnulentella</i> ³ , White-bodied Midget <i>Phyllonorycter platanoidella</i> ³

¹ With Charlie Fletcher and Ian Marshall

² Sampling effort varied considerably between sites

³ New vice county record

⁴ New county record

Unbelievably, there was only one larval record of the "very common and fairly widespread resident" Common Alder Midget *Phyllonorycter rajella* on the Yorkshire Moths website in VC61 prior to 2012 (although it should be noted that there are historical records for a number of species, including this one, that are not plotted on the distribution maps; see Sutton &

Beaumont, 1989), but in 2013 and 2014 I recorded this moth almost every time I encountered the food plant (alders). Similarly, there were only two larval records of Nut-tree Pigmy *Stigmella microtheriella* and Common Fruit-tree Pigmy *Stigmella oxyacanthella*, also “very common and fairly widespread residents”, in VC61 prior to 2012 on the Yorkshire Moths website, but a dedicated search would no doubt reveal both to be widespread in East Yorkshire. With only a relatively small amount of effort and decent site selection, the relative lack of previous ‘leafminering’ in VC61 inevitably resulted in a number of new VC records, namely Bindweed Bent-wing (on Hedge Bindweed *Calystegia sepium* s.l.), Pale Birch Case-bearer (on Gorse *Ulex europaeus*¹), Violet Case-bearer (on Silver Birch *Betula pendula*), Virgin Pigmy (on Aspen *Populus tremula*), Black-spot Sallow Pigmy (Plate V, centre pages; on Common Sallow *Salix cinerea*), Broken-barred Pigmy (on Silver Birch), Alder Lift (on Alder *Alnus glutinosa*), White-bodied Midget (on Norway Maple *Acer platanoides*) and Small Birch Pigmy on Silver Birch, plus one new county record: Kent Bent-wing, on White Poplar *Populus alba* (see Table 1). Of these, Virgin Pigmy, Black-spot Sallow Pigmy, Broken-barred Pigmy, Alder Lift, White-bodied Midget and Small Birch Pigmy may have been overlooked in the past but some of the others may be genuinely scarce or rare in Yorkshire. For example, the Violet Case-bearer and Pale Birch Case-bearer larvae I found at North Cliffe Wood were only the sixth records for Yorkshire. Similarly, in September 2013, I fortuitously found the distinctive mine of Kent Bent-wing on a White Poplar sapling in Easington, which was the first record for Yorkshire (Frost, loc. cit.). It is not essential to visit nature reserves to find under-recorded leafmining moths. For example, I recorded only the second Yorkshire record (the first since 1884) of Bindweed Bent-wing, as well as Lime Bent-wing *Bucculatrix thoracella*, Larch Case-bearer *Coleophora laricella*, Poplar Bent-wing *Phyllocnistis unipunctella*, Dark Hornbeam Midget *Phyllonorycter esperella*, White-bodied Midget, London Midget *Phyllonorycter platani* and Black-poplar Pigmy *Stigmella trimaculella* in the car park at the University of Hull! North Cliffe Wood was a particularly productive site with 53 species of leafmining moth or bagworm in 2014, including five new VC records. Unsurprisingly, given its diverse habitat and impressive moth track record, Skipwith Common was also productive during only a small number of visits, and I am sure that Allerthorpe Common would be if visited in the autumn. Indeed, Charlie Fletcher recorded 57 species of leafmining moth, including three new VC records (Frost, loc. cit.), in one visit there in 2013 (C.H. Fletcher, pers. comm.)! Tophill Low was also productive, with 49 species of leafmining moths recorded mainly in two visits, due at least partly to the diverse range of trees on site.

I am particularly interested in the so-called bagworms and spent numerous days searching for them in various places (fortunately they can be found in the spring, when it is too early in the year for most leafmining moths). I find their cryptic habits and life histories (e.g. wingless females in most species and parthenogenetic reproduction in some (see Sterling & Parsons, 2012) fascinating, and it is always pleasing to find them (and get a half-decent photograph!). While looking for White-speckled Smoke, Virgin Smoke *Luffia ferchaultella* (Plate V) and Common Sweep *Psyche costa* (Plate V) larvae at Skipwith Common, I was delighted to find a larva of Dotted-margin Smoke, which was a new VC61 record, and subsequently found two more at North Cliffe Wood. This is another moth that has probably been overlooked in the past, as demonstrated by a flurry of records in VC63 in recent years (see Frost, loc. cit.). Despite the

¹ The larva of this species does not feed on Gorse, so had evidently fixed on the stem for pupation (H.E. Beaumont, pers. comm.)

apparently widespread distribution of White-speckled Smoke (see Chesmore, *loc. cit.*), I have not found it everywhere I have looked (although that does not necessarily mean that it was not there!). For example, I have yet to find it in the Low Hunsley Plantation, Millington Wood, Nut Wood and at Tophill Low; I have so far recorded it on Pedunculate Oak *Quercus robur*, Silver Birch, Ash *Fraxinus excelsior*, an unidentified lime and an unidentified conifer, and it can inhabit apparently small and isolated patches of suitable habitat (Chesmore, *loc. cit.*). Similarly, I have so far found Virgin Smoke only at Skipwith Common and Brown Smoke *Taleporia tubulosa* only at North Cliffe Wood. Similar to the bagworms in terms of the cryptic habits of its larva, I was fortunate to find the larval tubes of Silver-barred Clothes Moth at Allerthorpe Common in March 2014, which was only the second Yorkshire record and new to VC61, and then at North Cliffe Wood in April; I also succeeded in rearing an adult from a larval tube (Plate V). In addition, I recorded a number of other local moths, such as Grey Birch *Aethalura punctulata*, Northern Tubic *Denisia similella*, Bluebell Conch *Hysterophora maculosana*, Beautiful Carpet *Mesoleuca albicillata*, Gold-speckled Clothes Moth *Nemoxera betulinella*, Silver-dot Twitcher *Prochoreutis sehestediana* and Four-spotted Clothes Moth *Triaxomera fulvimitrella*, usually resting on tree trunks, during searches for bagworms.

Another rewarding aspect of 'leafminering' is to rear the moths through to adulthood (Plate V); it is surprisingly exciting to see what has emerged each morning! Not only is it possible to collect and subsequently examine a range of species that are rarely seen as adults, but some cannot be identified from their mines (e.g. most *Phyllonorycter* mines on oaks and willows), so it is necessary to rear the adults to confirm the identity. Furthermore, the presence of leafminers provides evidence that these moths are breeding in an area, whereas adults could merely be wanderers from populations elsewhere. Rearing leafminers is also probably the easiest way to obtain completely fresh adults to photograph. Techniques for rearing micro-moths have been reviewed by Brian Elliott (2010).

This article demonstrates that with relatively small amounts of effort, even by inexperienced practitioners, it is possible to find a wide and varied range of leafmining moths and bagworms, and I would encourage the uninitiated to give it a go! Admittedly it can be tricky at times, but with practise and perseverance it can be fascinating and very rewarding; half the battle is identifying the food plant, which drastically reduces the number of species that need to be considered. Identification aids can be found on the following websites, among others:

British Leafminers (www.leafmines.co.uk)
 UK Fly Mines (www.ukflymines.co.uk/index.php)
 Bladmineerders (www.bladmineerders.nl)
 Lepiforum (www.lepiforum.org).

In addition a helpful leafminer crib sheet is available from the Yorkshire Moths forum (<https://groups.yahoo.com/neo/groups/yorkshiremoths/info>). I have no doubt whatsoever that more experienced 'leafminer-ers' than I would 'fill their boots' if they visited suitable sites in East Yorkshire, which would go some way towards redressing the imbalance of leafminer records in the county.

Acknowledgements

I would like to thank Dave Shenton for his encouragement and assistance (and passing on the leafminer 'bug'!), and Charlie Fletcher and Harry Beaumont for verifying the identity of difficult and/or under-recorded species. Many thanks also to Charlie Fletcher for his comments on a draft of this article. Dave Shenton maintains an inspiring and informative leafminer blog (<http://kentmicromoths.blogspot.co.uk/>).

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Obituary: Dorothy Margaret Bramley: 1921 – 2015

A Bradford lass, Dorothy was educated at the celebrated Salt's Grammar School for girls, Saltaire, subsequently becoming a graduate of the celebrated Leeds College of Domestic Science, locally and irreverently known as the Leeds 'Pudding School'. Dorothy's contribution to the war effort was as one of the Government advisors who demonstrated to women's groups how to cook thriftily and eat healthily during those days of wartime food shortages. Later she worked for the national 'Mass Observation' social research project which for the first time monitored the lives of 'ordinary people', a project referred to as 'an anthropology of ourselves', the archive of which is maintained at Sussex University.

1944 saw Dorothy's marriage to Don Bramley whom she had known since Grammar school days. In 1945, through Don's work with 'British Nylon Spinners', they moved to Coventry then Pontypool, South Wales, living in the idyllic Usk Valley, and finally moving to Doncaster in September 1955. In Doncaster Dorothy worked as a Domestic Science teacher initially in Rossington and finally Balby Woodfield School where she became Deputy Head. Don's early retirement in 1971 saw him volunteer his services to Doncaster Museum as an amateur geologist. This brought the Bramleys in contact with the Museum Natural History staff, the Doncaster Naturalists' Society and the YNU. That year the YNU was seeking a new Administrative Officer and Don tentatively took on the post, which in reality became a double act between Don and Dorothy. This commitment shaped life in the Bramley household for the next 27 years. Dorothy became a devoted supporter of the YNU, attending Executive and field

meetings in fog, snow and shine, sickness and health for over three decades. Indeed Dorothy became one of the most regular attenders at YNU general field meetings. She was a keen supporter of the YNU Flowering Plants Section and the YNU History Section, hosting a meeting of the latter group at her home at 29 Cantley Lane allowing members to examine her botanical literature, botanical illustrations and of course Don's extensive geology/lapidary collection.

In 1971 the Bramleys and their neighbours in the Cantley Lane area, together with supporters of Potteric Carr (Low Ellers) Yorkshire Wildlife Trust Nature Reserve, were caught up in the campaign to defeat the routing of the proposed M18, which was initially designed to go through the hearts of Sandall Beat Wood and Low Ellers Nature Reserves as well as through the Bramley household! This action forged a lasting link with the YWT and Dorothy became a staunch supporter of the Potteric Carr volunteers producing a booklet on the Botany of the Nature Reserve which ran to several editions.



Figure 1. Dorothy Bramley at the South Yorkshire Plant Atlas launch in Nov 2011.

In 1977 Don and Dorothy, joined the Doncaster Naturalists' Society, Dorothy becoming an expert botanist and, with Ian McDonald, Pip Seccombe and Peter Skidmore, created what was to become the heyday of botanical recording in Doncaster. As a keen botanist she gave regular illustrated talks both to the society and other local community groups.

As an outlet for projects and surveys being undertaken by Doncaster Naturalists' Society members in 1982 the society launched its journal *The Doncaster Naturalist*. Don Bramley who was President at the time wrote the following in the forward to the first edition "We already have an encouraging list of articles from our members from whom our 'Temporary Editor' has assembled our first copy". By November 1989 Dorothy the ... 'Temporary Editor' had edited some 76 papers in 10 issues. The Society's published output then took the form of periodic Site Survey Reports. These included surveys of Castle Hills (1990), Wadworth Wood (1993) and Austerfield Quarry (1995). Not only did Dorothy edit these, she provided numerous botanical line drawings.

Dorothy served as DNS President from 1990-1992 and on 11 March 2000, along with committee members and all surviving past presidents (Peter Skidmore, Helen Kirk, Colin Howes Tom Higginbottom and Pip Seccombe), planted two Wild Service (or Chequer) Trees beside Doncaster Museum, thereby putting the 'Chequer' back into Chequer Road!

On 29 May 2002 in recognition of her long and substantial contribution to the running and life of the Doncaster Society Dorothy was presented with a framed certificate conferring on her Honorary Life Membership of the DNS.

She was a regular attender at University extramural botanical illustration courses run by Valerie Oxley. From this she joined the Three Counties Botanical Illustration group in Retford, and then started her own botanical illustration group which regularly exhibited at Bawtry Library. She joined Valerie and a group of north of England botanical illustrators to produce plates for '*Wild Flowers of the Peak District*' by Patrick Harding and Valerie Oxley (2000). Here, Dorothy contributed colour illustrations of Pyramidal Orchid *Anacamptis pyramidalis* and Bee Orchid *Ophrys apifera*. Elsewhere her illustrations of Wild Service-tree (*Sorbus torminalis*) have appeared in the *YNU Bulletin* (2000) 34: 1-8 and the Tree Lupin (*Lupinus arboreus*) in the *YNU Bulletin* (2005) 44: 22-27.

Dorothy became deeply involved with family history studies, being one of the founding members and for a time, President of the Doncaster Family History Society. She was also a keen needlewoman, becoming one of the legendary 'Doncaster Broderers'. Avant-garde examples of her framed embroidery were always on show on the walls of the Bramley household. She was an enthusiastic member of a local ladies choir and in her teaching days was keen on sport, excelling at tennis and badminton.

In March 2011 the Doncaster Naturalists' Society held a reception at Doncaster museum to celebrate Dorothy's 90th birthday. This was attended by friends and representatives from the numerous organisations Dorothy had supported over the years. Dorothy's personal library of botany books was gifted to the Doncaster Naturalists' Society in December 2014 and is housed at Doncaster Museum and Art Gallery.

In her latter years, Dorothy resided at Rockhouse Residential Care Home near Tickhill. She died on 17 January 2015 following a short illness, aged 93.

Colin Howes and Louise Hill

Notice

The Northumbria Mammal Group publication *Mammals, Amphibians and Reptiles of the North East* is now available to view electronically and can be downloaded from the Mammals section of The Natural History Society of Northumbria's website at www.nhsn.ncl.ac.uk/sections-mammals.php. The text of the original book is currently on the website but the various individual species accounts will be updated as new information comes to light.

Book reviews

Yorkshire Hawkweeds by Vincent Jones. Pp. 193, with colour plates, line drawings, plant distribution maps and comprehensive identification details. ISBN 978-0-9565378-2-9. £25.00, softback. Published by the Yorkshire Naturalists' Union, York, 2014.

The genus *Hieracium*, the hawkweeds, in Britain comprises some 412 apomictic species, sometimes popularly called microspecies (*Flora of Great Britain and Ireland* – Vol 4. P.D. Sell & G. Murrell, CUP, 2006). The general botanist is usually quite content, when recording plants in the field, to lump any hawkweeds under the blanket term *Hieracium* agg. and, if requiring more detailed knowledge, will need to consult a *Hieracium* specialist. Hawkweeds are, indeed, a proverbially difficult group of plants and most aspiring plant hunters and recorders shy away from them. They are recognised as belonging to a critical genus.

Do not, however, let these foregoing remarks put you off. Vincent Jones, in his new and much awaited book, discusses 117 species of hawkweeds recorded in Yorkshire, more than a quarter of the national total. Vincent has studied hawkweeds for nearly thirty years and is acknowledged as our regional expert. He has produced a treatise on the Yorkshire hawkweeds the quality of which is, to my mind, quite a rarity. It is much more than just another regional flora; it is, rather, an authoritative account produced in a similar format to the acclaimed BSBI series of national handbooks of various other plant groups. This book does not merely give detailed information on the occurrence and distribution of each species, discussing the preferred habitats and giving eight-figure grid references as precise locational information, together with dot maps showing overall coverage. It also provides precise and comprehensive identification details for all 117 species, with definitive photographs of each, together with dichotomous keys covering all the major groupings and sections – *Sabauda*, *Tridentata*, *Stelligera*, *Vulgata* and the rest, and then gives explicit and unambiguous detail of leaf shape, presence or absence of hairs, appearance and structure of phyllaries and colour of styles. In addition to this treatment of each species, the early part of the book discusses hawkweed features in general terms, covering stem characters (with particular reference to the types of hairs present); leaf shape (including dentition, veining, the presence of hairs); and finally the flowering heads (capitula) are discussed in detail. This introductory coverage is accompanied by many line drawings and photographs of leaf shape, hair type and the form and structure of inflorescences.

To tackle such an abstruse group of plants with such care and detail is one thing but Vincent Jones has that rare ability of conveying his knowledge to the layman in an uncomplicated, user-friendly and easily understandable form. Difficult or unfamiliar terminology is discussed in simplified language and the end result produces a new concept in regional flora compilation which will appeal to many botanists and must surely encourage the future wider study of this difficult group, when such a simplified template is laid before them.

Vincent Jones is to be congratulated on the production of this work, combining care, clarity and thoroughness of exposition. In his introductory remarks he claims that he does not aspire to the scholarship and scientific rigour of Sell and Murrell. I would suggest, however, that he has

enabled the beginner or aspiring student of hawkweeds to benefit from his own knowledge and scholarship in the most profitable and easily understandable way. I have no hesitation in recommending this superb treatise to all those who want to carry their botanical studies to a further level. It is a landmark publication for the Yorkshire region.

GTDW

Britain's Habitats. A guide to the Wildlife Habitats of Britain and Ireland by Sophie Lake, Durwyn Liley, Robert Still and Andy Swash. 2014. [2015 on verso of title-page] Pp. 276, incl. numerous colour plates, 70 maps & 5 tables. Princeton University Press, Woodstock, Oxford. £27.95 hardback.

To paraphrase Eric Morecambe's words, "all the right words are there, but not necessarily in the right order". This beautifully illustrated work is packed with useful information but, unfortunately, this is not all that easy to access and therefore not really a guide; for example, from a Yorkshire point of view, although the maps provided give some measure of the occurrence of different habitats to be found in the county, only a few specific sites are mentioned or exemplified by illustrations, namely Scar Close pp.56, 156, Cow Gill p.57, Upper Teesdale pp.70, 130, Rise Hill, Whernside & Knoutberry Hill p.129, Ingleborough p.132, Whernside pp.149, 174, Southerscales p.159 and Pauli Holme Strays p.222. Those interested in Lincolnshire, the second largest county with a very active Wildlife Trust and many nature reserves, will find it mentioned only once (p.229). It would appear that habitat exemplification is mainly based on Dorset and East Anglia. Similar criticisms could be mentioned from a subject point of view; lichens, for example, known to be excellent biomonitors of a wide range of environmental parameters, particularly in respect of ecological continuity, receive limited attention and some questionable interpretation (*cinnabarina* = *cinnabarina* p.63, *Collema conglomeratum* was last seen in Britain over 100 years ago, and "orange sea lichen" p.247 could be one or more of many taxa). An expansion of the single page index for habitats (p.276) to embrace organisms and locations would have made this book more useful. Naturally, one has to accept that geographical and taxonomic coverage has to be selective, but tracking down a naturalist's specific needs may not be fully satisfied, especially in terms of the rather sketchy provision of further information on literature sources, etc.

Despite the above criticisms, this guide does whet one's appetite to explore Britain and, to a lesser extent, Ireland and the authors are to be congratulated on their portrayal of 12 woodland, 3 scrub, 9 heathland, 10 grassland, 3 rocky, 6 wetland, 14 freshwater, 9 coastal and 3 other (arable, brownfield & traditional orchard) habitats. As well as a map for each of these categories, subheads usually include "Similar habitats", "Origins and development", "Conservation", and occasionally "What to look for"; notes are also given on "How to recognise [habitats]" and "When to visit". Urban, suburban and industrial habitats do not receive coverage – this, in my opinion, is an unfortunate omission since many naturalists live in such areas and, with the environmental amelioration of such habitats in recent years, now have considerable scope to study wildlife on their doorstep. The authors and publishers are to be congratulated on the excellent and lavish visual production of this reasonably priced book, not only in terms of the coloured plates but also for the tabulated and cartographical data.

MRDS

Excursion Circulars 2015

Circular No. 890

Divisional Secretary VC61: SARAH WHITE, Yonder Cottage, Ashford Hill, Thatcham, Berkshire, RG19 8AX. Tel: 01635 268442
Email: sarahpriest656@btinternet.com

The VC61 Meeting will be held on **Saturday 16 May at Jeffry Bog YWT Nature Reserve**

Maps: 1:50,000 Landranger Sheet: 100 Malton & Pickering.
1:25,000 Explorer Sheet: 300 Howardian Hills & Malton.

Meeting Place: Jeffry Bog lies 6 miles south-west of Malton and 2 miles east of Kirkham Abbey. We will meet at 10:30 at the roadside opposite the entrance to Church Farm and adjacent to the footpath to the reserve (SE762666). (Nearest postcode YO60 7NJ). Please be careful not to obstruct the farm tracks and, if necessary, please park a little further along the roadside. There are no toilet facilities.

Tea and Meeting: This will be at 16:30 in Westow Village Hall (YO60 7NE). This is located in the main street of Westow village with parking on the roadside.

The Area: Jeffry Bog is a relict area of neutral grassland, marsh and wet woodland on the south bank of the River Derwent in Kirkham Gorge. It lies on the western edge of VC61 where the river has cut through the Jurassic rocks of the Howardian Hills. It is both an SSSI and YWT Reserve. Although it is a small reserve of only 3ha, a footpath along the river gives access beyond the reserve to other riverside habitats.

The neutral grassland is dominated by Meadow Foxtail *Alopecurus pratensis* and associated herbs include Pignut *Conopodium majus*, Betony *Betonica officinalis*, Great Burnet *Sanguisorba officinalis*, Wood Anemone *Anemone nemorosa* and Bitter Vetch *Lathyrus linifolius*. Areas of marsh are dominated by Hard Rush *Juncus inflexus*, Blunt-flowered Rush *J. subnodulosus* and Sharp-flowered Rush *J. acutiflorus*. Herbs include Meadowsweet *Filipendula ulmaria*, Marsh Marigold *Caltha palustris*, Ragged Robin *Silene flos-cuculi* and Bogbean *Menyanthes trifoliata*.

The wet woodland is dominated by Alder *Alnus glutinosa* and the riverside area is very wet with Tufted Sedge *Carex acuta*, Yellow Flag *Iris pseudacorus*, Opposite-leaved Golden Saxifrage *Chrysosplenium oppositifolium*, Large Bitter-cress *Cardamine amara* and Marsh Hawk's-beard *Crepis paludosa*. Away from the river the drier areas of woodland have Dog's Mercury *Mercurialis perennis*, Early-purple Orchid *Orchis mascula*, Ramsons *Allium ursinum*, Wood Anemone and Goldilocks *Ranunculus auricomus*.

The Yorkshire Wildlife Trust and Natural England welcome our visit and are looking forward to receiving our records for this site.

Reference: The SSSI description is at:

http://www.sssi.naturalengland.org.uk/citation/citation_photo/1001695.pdf and the YWT reserve is described in the YWT Reserve Guide 'Discover Yorkshire's Wildlife' page 114.

Circular No. 891

Divisional Secretary VC62: Mick Carroll, 10 Crofts Avenue, Pickering, North Yorkshire, YO18 7HP.
Tel: 01751 476550 Email: mickcarroll47@btinternet.com

The VC62 Meeting will be held on **Saturday 13 June at Hazel Heads, Hawnby.**

Maps: 1:50,000 Landranger Sheet: 100 Malton & Pickering.
1:25,000 Explorer Sheet: OL26 North York Moors.

Meeting Place: Meet at Hazel Heads car park (SE529928), 4km north of Hawnby on the road to Osmotherley at 10:30.

Tea and Meeting: This will start between 16:00 and 16:30 in Hawnby Village Hall at the bottom of the village.

The area: Upper River Rye. Deciduous and conifer woodland with open access to Hawnby Moor, but please be aware that this is prime time for moorland nesting birds.

Circular No. 892

Divisional Secretary VC63: Joyce Simmons, 16 Springfield Crescent, Kirk Smeaton, Pontefract, WF8 3LE Tel: 01977 620725 email: joyce@gentian.plus.com

The VC63 excursion will be on **Saturday 11 July to Worsbrough Country Park**, near Barnsley.

Maps: 1:50,000 Landranger sheet: 111 Sheffield & Doncaster.
1:25,000 Explorer sheet: 278 Sheffield & Barnsley.

Meeting Place: Meet at 10:30 in the Worsbrough Mill Country Park car park (SE352033 - parking fee £3). The car park is on the right when travelling from Barnsley to Sheffield along the A61. This is across the road from the Red Lion public house where we will hold the indoor meeting.

Indoor Meeting: In the Red Lion public house, Worsbrough Bridge at 16:00. Drinks, meals and snacks are available here.

Moth trapping: If anyone wishes to set a moth trap there on the evening of 10 July please contact Joyce Simmons before 1 July.

The area: This is a Local Nature Reserve of wet woodland and semi-improved meadows

surrounding Worsbrough Reservoir, which hosts several breeding aquatic birds. The reservoir was constructed in 1804 to supply the Dearne & Dove Canal which ran from here to Goole. A short length of this survives on the opposite side of the road from the car park. The drier woodland on both sides of the A61 contains a mix of species and ages, both native and ornamental planting, with some old trees amongst them.

The River Dove flows out of the Reservoir but above this the streams which feed the Reservoir flow through willow carr. The trees here are mainly willows and Alder *Alnus glutinosa*, some of considerable girth and many which have fallen and remain undisturbed. Nationally scarce Touch-me-not Balsam *Impatiens noli-tangere* can be found in places beside the stream. Interesting aquatic plants grow around the meadow ponds in the valley, such as Square-stalked St John's-wort *Hypericum tetrapterum*, Short-fruited Willowherb *Epilobium obscurum* and Marsh Ragwort *Senecio aquaticus*.

On the north side of the valley are drier areas with acid and neutral grassland. Common Spotted *Dactylorhiza fuchsii* and Southern Marsh Orchids *D. praetermissa* and their hybrids can be found here. Unfortunately an area of unimproved grassland at SE341037 has become overgrown with hawthorn scrub, but sedges such as Spiked Sedge *Carex spicata* and Oval Sedge *Carex ovalis* are present.

Hazards of the area: The reservoir is deep water but is fenced. Other water bodies are generally shallow, but may have slippery banks and muddy margins, particularly after rain. Most paths are level, though there are some steep woodland slopes.

Previous YNU Excursions: June 1899, May 1949, May 1980.

Circular No. 893

Divisional Secretary VC64: Terry Whitaker; 4 Crowtrees, Low Bentham Via Lancaster LA2 7EE, Tel. 015242 62269 E-mail t.whitaker1@btinternet.com

The VC64 meeting will be on **Saturday 25 July to the Trough of Bowland - Langden Brook (SD6150).**

The YNU Moth Group is invited to trap on the Friday night 24 July. Generators/batteries will be required because there is no power source in the area.

Maps: 1:25,000 Explorer OL41: Forest of Bowland & Ribblesdale.

Meeting place: Meet at 10:30, parking at SD632511; Approx Post Code BB7 3BJ.
By Track from Langden Brook intake up valley to Fiendsdale Head.

Reporting meeting: 16:00 Dunsop Bridge Village Hall (SD656501 – BB7 3BG).
TMW will provide tea and biscuits at a small charge.

The Area: Description:

We have permission to visit all United Utilities land in the area, which includes the Langden Valley and Fiendsdale Head & Bleasdale Water. The area is within the Bowland Fells SSSI and part of the Forest of Bowland AONB. The streams of the AONB run through sedimentary rocks consisting of inter-bedded sandstones, limestones and shales of the Carboniferous Era. Collectively these are known as the 'Bowland Series'. Millstone grits in the Namurian strata form the highest points. The valley bottom at Sykes is shale and higher up there is a small limestone exposure which may be of particular interest to the malacologists. The highest land is covered with a considerable depth of hill peat.

The River Hodder runs approximately south-eastwards from the bottom of the Trough of Bowland. A tributary, the Langden Brook, is encountered where it runs in from the west down a narrow, steep-sided valley which has two main tributary valleys - Fiendsdale and Bleasdale. The Langden Valley is notable for its braided river system, important for its fluvial geomorphology, showing the recent development of alluvial fans, river bank erosion and channel changes since deglaciation. Water from Langden Brook is used to supply parts of Lancashire with drinking water during periods of high flow. With obstruction of the natural downstream movement of gravel, which is an essential part of a healthy river's ecosystem, vast quantities build up behind the abstraction point. Since the 1920s when the intake was constructed, the lower Langden Brook has been starved of this type of substrate. A project to restore Langden Brook to a more natural state came to fruition in 2009 after 20 years of effort by a variety of organisations. Once or twice a year, United Utilities must remove the built-up gravel to ensure a constant water supply. Previously the material was disposed of but is now reintroduced into Langden Brook downstream of the intake to allow natural river processes to continue. The gravel provides ideal habitat for spawning Salmon *Salmo salar* and Sea Trout *Salmo trutta trutta* as well as aquatic invertebrates.

The vegetation types in the area are almost entirely acidic. By the stream the sandstone-derived pebbles host a variety of ruderal communities. The acid grassland vegetation on banks of pebbly sediments is dominated by Sheep's-fescue *Festuca ovina* with small marshy areas having patches of Heath Rush *Juncus squarrosus*, Soft Rush *Juncus effusus* and patches of Tufted Hair-grass *Deschampsia cespitosa*. Further up the valley sides the grasslands consist of a mixture of NVC U5 *Nardus stricta* - *Galium saxatile* grassland (Mat-grass - Heath Bedstraw) and larger areas of NVC U20 *Pteridium aquilinum* - *Galium saxatile* where Bracken *Pteridium aquilinum* dominates. Further up the slopes this grades into dry heath dominated by Heather *Calluna vulgaris* and Wavy Hair-grass *Deschampsia flexuosa*. Bilberry *Vaccinium myrtillus* becomes more abundant on the rocky, steeper slopes, associated with the Heather. The upper slopes are managed as grouse moor by periodic burning and have the characteristic mosaic of Heather of different ages. On the very highest moorland at 400m deep peat has accumulated. In these hilltop shallower slopes across the broad summit ridges of Holdron Moss (SD605514), Mere Clough Head (SD617516) and Hareden Hill (SD616494) there is extensive blanket bog with patches of eroded peat and wet heath. Within the blanket bog *Sphagnum* mosses are scarce due to past burning practices. Hare's-tail Cottongrass *Eriophorum vaginatum* is dominant, with Cross-leaved Heath *Erica tetralix*, Crowberry *Empetrum nigrum*, Cowberry *Vaccinium vitis-idaea*, Cloudberry *Rubus chamaemorus* and Heather. Bog-rosemary *Andromeda polifolia* and Cranberry *Vaccinium oxycoccus* are widespread. The latter is the foodplant of the nationally notable Manchester

Treble-bar *Carsia sororiata* ssp. *anglica* which is recorded on the highest ground to the west on the boundary between VC64 and VC60, as is the uncommon day-flying micromoth Caledonian Button *Acleris caledoniana*. Other more common moths typical of heathy areas to found here are Emperor Moth *Saturnia pavonia*, Fox Moth *Macrothylacia rubi*, Red Carpet *Xanthorhoe coloraria*, Grey Mountain Carpet *Entephria caesiata*, Light Knot Grass *Acronicta menyanthidis* and Wood Tiger-moth *Parasemia plantaginis*. Summer butterflies are scarce except for Small Heath *Coenonympha pamphilus* and Green-veined White *Pieris napi* but in spring the Green Hairstreak *Callophrys rubi* can be abundant in the Bilberry areas.

There is little natural woodland in the area but near the meeting point are a variety of coniferous plantations and some small Sycamore *Acer pseudoplatanus* stands. Up-valley in the side ghylls of the Langden Brook are small linear Sessile Oak *Quercus petraea*-dominated woodlands with birch and Rowan *Sorbus aucuparia*, the largest of them near Holdron Castle (SD611507; not a building but a stack of tumbled millstone grit), with others in Dry Clough (SD615408) and alongside the Langden Brook (SD61885064).

The rocky outcrops have rich bryophyte communities as well as Hard Fern *Blechnum spicant* particularly abundant. Wet gritstone outcrops are worth a visit as they have many ferns and bryophytes. Holdron Castle and the low dripping cliffs alongside the Langden Brook at SD618506 are probably the most accessible.

Many upland birds occur here but the Hen Harrier *Circus cyaneus* is a key species. The Bowland Fells represent the only regularly used breeding locality in England and are a very important breeding nucleus for this endangered raptor. Merlin *Falco columbarius* and Peregrine *F. peregrinus* both occur in significant numbers. Other birds include Oystercatcher *Haematopus ostralegus*, Lapwing *Vanellus vanellus*, Snipe *Gallinago gallinago*, Curlew *Numenius arquata*, Golden Plover *Pluvialis apricaria*, Short-eared Owl *Asia flammeus*, Redshank *Tringa totanus* and Ring Ouzel *Turdus torquatus*. The stream sides have Grey Herons *Ardea cinerea* which fish the Langden Brook for Trout and Bullhead *Cottus gobio*. For several years visitors with dogs were molested by a breeding pair of Eagle Owls *Bubo bubo*.

Hazards of the area:

As Fiendsdale Head and Bleasdale Water take in some wild moorland, it is important that you are competent using a map and compass, especially if poor weather is likely to be encountered and you depart from the track up the Langden Valley. The hillsides are very steep, so there is always risk of tripping and falling. It is also worth noting that river crossings may be impossible after heavy rain. Wear clothing appropriate for the altitude and footwear suitable for rough ground. Any children in the party must be supervised by a parent or guardian at all times.

Accommodation

There is very little close to the Trough. Wood End Farm B&B, Dunsop Bridge (www.visitwoodendfarm.co.uk) is probably the closest (3km). Clark Laithe Lodge B&B, Newton in Bowland (www.clerklaithe.co.uk) and the Inn at Whitewell (www.innatwhitewell.com), a more upmarket hotel, are further away. Even further away (10km) in Slaidburn is the Hark to Bounty Inn (www.harktobounty.co.uk).

Circular No. 894

Divisional Secretary VC65: Terry Whitaker; 4 Crowtrees, Low Bentham Via Lancaster LA27EE, Tel. 015242 62269 E-mail t.whitaker1@btinternet.com

The VC65 meeting will be on **Saturday 8 August to Ravenseat & Whitsundale (NY8603).**

The YNU Moth Group is invited to trap on the Friday night - generators/batteries will be required because there is no power source on site. ***Please note that due to an error the incorrect date of August 15 appears in the Membership Card.***

Map: 1:25,000 Explorer OL30: Yorkshire Dales – Northern & Central Area.

Meeting place: 10:30 Ravenseat Farm (NY862033); Parking available nearby.

Reporting meeting: 16:00 Ravenseat Farm, Amanda Owen will provide cream teas.

The Area: Description

Whitsundale forms part of the upland watershed between Swaledale and Cumbria incorporated into the Arkengarthdale, Gunnerside and Reeth Moors SSSI. It supports vegetation characteristic of the more natural moorlands of the North Pennines. The presence of flushes, acid and limestone grassland, relict ghyll woodlands and small open water bodies such as the peaty Birkdale Tarn (NY851018) increases the habitat diversity of the moors.

As one ascends from the valley of the River Swale, the solid geology is dominated by Carboniferous rocks. The Yoredale Series (a combination of limestones, sandstones and shales, with a little limestone above 350m) and the lower Namurian (Millstone Grit Group) comprising sandstones and shales, are the common rock types, producing mainly acidic vegetation types. The grassland vegetation grades into mires and dry heath on the lower slopes above the valleys. Close to Ravenseat Farm (at NY862031) are some marshy pastures and meadows dominated by Marsh-marigold. The dry heath is dominated by Heather and Wavy Hair-grass. On steeper slopes, particularly in sandstone ghylls, Bilberry becomes more abundant associated with the Heather. Areas of blanket bog occur on the higher moorland where deep peat has accumulated. In these areas Hare's-tail Cottongrass is dominant, with Cross-leaved Heath, Crowberry, Cowberry and Heather.

North of Ravenseat is Up Hoods Bottom Beck, where grazing pressures have been severe. The vegetation is dominated by acid grassland, often in association with Bracken on the lower slopes and ghylls. These grasslands on the sandstones and shales consists mainly of Mat-grass and Heath Bedstraw, with patches of Heath Rush and Sheep's-fescue. The stream is broken by waterfalls and sandstone cliffs at Graining Scar (NY 864047), which have interesting ferns. Above the falls on the high ground above 450m the ground is less steep and dominated by extensive tracts of wet heath and blanket bog. Linda Robinson found a Marsh Saxifrage *Saxifraga hirculus* flush there at Red Mea Well, roughly halfway between the Pennine and Shunner Fell populations. This was a second new flush in this area in the last two years; the other was at the head of Arkengarthdale just over the hill. Elsewhere on the moors species-poor flushes and bog pools dominated by Soft Rush and the bog moss *Sphagnum recurvum* occur. Close to

Whitsundale Beck west of Ravenseat are some small flushed patches of NVC M23 mire: *Juncus effusus/acutiflorus* - *Galium palustre* rush-pasture. Small Pearl-bordered Fritillary *Boloria selene* has been reported from these areas but not confirmed, although its food plant Marsh Violet *Viola palustris* is common. The rocky outcrops and the river gorge have many ferns including Lemon-scented *Oreopteris limbosperma*, Beech *Thelypteris phegopteris*, Oak *Gymnocarpium dryopteris*, Lady *Athyrium filix-femina*, Male *Dryopteris filix-mas*, Borrer's Male *D. borrieri*, Narrow Male *D. combrensensis* and Broad Buckler *D. dilatata*. There is little woodland and scrub within the area. The How Edge Gorge near Ravenseat is particularly interesting in having a good clone of Aspen *Populus tremula*, which was an integral part of the original woodland present after the last Ice Age; it also has some Scottish Willow *Salix caprea* subsp. *sphacelata*, very under-recorded but turning up in these upland gorges and scars in Cumbria and N.W. Yorkshire. Here, too, are the montane form of Eared Willow *Salix aurita*, Juniper *Juniperus communis* with Tea-leaved Willow *Salix phylicifolia* and the odd birch.

Much of the area to the south-west is grouse moor and consequently of low botanical interest; the bird life, however, is interesting. Areas of tall heather are favoured by breeding Merlin and Short-eared Owl while the moorland burning regime provides the varied structure required by birds such as Red Grouse *Lagopus lagopus*, Golden Plover and Curlew. Snipe and Redshank breed around the grassy and rushy edges of the moor, while Whinchat *Saxicola rubetra* utilise the Bracken and Ring Ouzel and Raven *Corvus corax* frequent ghyll sides and rock outcrops. Small numbers of Dunlin *Calidris alpina* are found on the higher blanket bog. Black Grouse *Tetrao tetrix* have been seen periodically near Ravenseat. Peregrine, Hen Harrier and Buzzard *Buteo buteo* forage over the moorland. A variety of other breeding birds including Teal *Anas crecca*, Wheatear *Oenanthe oenanthe*, Twite *Linaria flavirostris*, Common Sandpiper *Actitis hypoleucos* and Lapwing occur.

Hazards of the area

There is a lot of very tussocky ground, so there is always risk from tripping and falling. Be aware that Whitsundale Beck is fast flowing and runs between steep cliffs at How Edge Gorge. Do not work alone. Please take reasonable care at all times. The location is over 400m so wear clothing appropriate for the altitude and footwear suitable for rough ground. Any children in the party must be supervised by a parent or guardian at all times.

Accommodation

A variety of accommodation is available 5km down the valley at Keld which offers camping, a variety of B&Bs, bunk-barns and holiday cottages, and Keld Lodge has a restaurant and a wide variety of hotel-type rooms.

YNU Calendar 2015

Up-to-date information can also be found on the YNU website at:

www.ynu.org.uk/events/general

Apr	11	Conchological Section field meeting. Semerwater. Meet at 10.30 in the parking area at the north-east end of the lake SD921875.
	28	Leeds Univ. Basic Field Skills Course. 09:30 – 16:30 Discovery Centre, Carlisle Road, Leeds.
May	9	Bryology Section field meeting VC65. Sedburgh area. Meet at 10am on Howgill Lane at SD654923.
	9	Conchological Section field meeting. River Derwent at Low Hutton. Meet at 10.30 in car park east of railway on bank near suspension bridge SE764677. Joint with YNU Freshwater Biology Section.
	16	VC61 Excursion Jeffry Bog YWT reserve (see p73).
	19	Entomological Section field meeting Ox Close Wood, East Keswick. By invitation of the East Keswick Wildlife Trust. Meet at 10:30am at Crabtree Lane car park at the junction with the A659 at SE362454, marked on the O.S.map). See articles in <i>The Naturalist</i> 1084 for information on the site.
	30	Botanical Section field meeting VC64. Bishop Wood nr Selby. Meet at 10.30 at the entrance at SE555334.
Jun	13	VC62 Excursion Upper River Rye, Hawnby (see p74).
	27	Botanical Section field meeting VC61. Stillingfleet nr Selby. Meet at 10.30 by the church at SE593410.
	28 – Jul 3	Swaledale field survey (see p40).
July	11	VC63 Excursion Worsborough near Barnsley (see p74).
	24-25	VC64 Excursion Trough of Bowland (see p75).
Aug	1	Botanical Section field meeting VC63. Silkstone Fall Woods and Transpennine trail. Meet at 10.30 on the roadside at Silkstone Railway Station at SE290043.
	1	Marine and Coastal Section field meeting jointly with the YWT. South Landing, Flamborough. Meet at 9.30 at the Living Seas Centre NZ809160. Morning on the shore, afternoon in the centre using the microscopes. Low water 12.00 mid-day. Advance booking is necessary – contact p.lightfoot@btinternet.com
	2	Marine and Coastal Section field meeting jointly with Darlington and Teesdale Naturalists' Field Club. Saltburn. Meet at 9.30 at the car park on Saltburn Rd NZ668215. We will be on the rocky shore at Saltburn Scar until 12.00 noon. Advance booking necessary – contact p.lightfoot@btinternet.com
	7-8	VC65 Excursion Whitsundale near Keld (see p78).
	13-14	Beningbrough Hall field survey (see p 40).
	15	Marine and Coastal Section field meeting jointly with the National Trust. Ravenscar. Meet at 10.00 at the Ravenscar Visitor Centre NZ979016 (YO13 0NE). This is part of the NT's Coastal Bioblitz programme. Low water 11.30.
	16	Marine and Coastal Section field meeting jointly with Whitby Naturalists' Club. Meet at 9.30 in the car park in Staithes NZ781185. Low water 12.00 mid-day.
Nov	14	AGM, York. Preceded by Natural Sciences Forum.

Pearson, M. (2015). A Flora of Aberford. *The Naturalist* 140: 44-47.

Appendix 2. List from *The Flora of the West Riding*, giving the locations of the plants as noted by Spencer.

= believed to be extinct

<i>Thalictrum majus</i>	Aberford	<i>Allium ursinum</i>	Aberford
<i>Anemone memorosa</i>	Aberford	<i>Sinapsis arvensis</i>	Aberford
<i>Adonis autumnalis</i> #	Bunker's Hill Gardens	<i>Sinapsis alba</i>	Aberford
<i>Ranunculus aquatilis</i> #	Aberford	<i>Reseda luteola</i>	Aberford
<i>R. ficaria</i>	Aberford	<i>Reseda lutea</i>	Lotherton Lane Aberford
<i>R. lingua</i>	Cock Beck	<i>Viola odorata</i>	Aberford
<i>R. auricomus</i>	Becca Aberford	<i>Viola alba</i>	Aberford
<i>R. bulbosus</i>	Aberford	<i>Viola canina</i>	Aberford
<i>Caltha palustris</i>	Aberford	<i>Viola arvensis</i>	Aberford
<i>Trollius europaeus</i>	Bramham Park	<i>Polygala vulgaris</i>	Aberford Park
<i>Helleborus viridis</i>	Becca Banks	<i>Silene inflata</i>	Aberford
<i>Aquilegia vulgaris</i>	Becca Banks & Hayton Wood	<i>Lychnis flos-cuculi</i>	Aberford
<i>Aconitum napellus</i>	Bramham Park	<i>Silene alba</i>	Aberford
<i>Berberis vulgaris</i>	Aberford	<i>Silene dioica</i>	Aberford
<i>Nuphar lutea</i> #	Cock Beck	<i>Agrostemma githago</i>	Aberford
<i>Papaver argemone</i>	6/4/1876	<i>Moehringia trinervia</i>	Aberford
<i>Papaver rheas</i>	Aberford	<i>Stellaria nemorum</i>	Aberford
<i>Meconopsis cambrica</i>	Bramham Park	<i>S. media</i>	Aberford
<i>Chelidonium majus</i>	Aberford	<i>S. holostea</i>	Aberford
<i>Fumaria capreolata</i>	Aberford Bunker's Hill Gardens	<i>S. graminea</i>	Aberford
<i>Fumaria officinalis</i>	Aberford	<i>Cerastium glomeratum</i>	Aberford
<i>Thlaspi arvense</i> #	Cock Beck below the Bridge	<i>Linum catharticum</i>	Aberford
<i>Capsella bursa pastoris</i>	Aberford	<i>Malva moschata</i>	Near Cock Beck Aberford
<i>Hutchinsia petraea</i>	Front of Alms Houses Bramham Park	<i>Malva sylvestris</i>	Aberford
<i>Armoracia rusticana</i>	Aberford Church Yd	<i>Hypericum perforatum</i>	Aberford
<i>Cardamine amara</i>	Nab Wood	<i>H. tetrapterum</i>	Aberford
<i>Cardamine pratensis</i>	Aberford	<i>H. pulchrum</i>	Aberford
<i>Barbarea vulgaris</i>	Cock Beck	<i>Acer campestre</i>	Aberford
<i>Rorippa nasturtium-aquaticum</i>	Aberford	<i>Acer pseudo-platanus</i>	Aberford
<i>Sisymbrium officinale</i>	Aberford	<i>Geranium phaeum</i>	Becca Aberford

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<i>G. pratense</i>	Aberford	<i>P. reptans</i>	Aberford
<i>G. pyrenaicum</i>	Aberford Bar	<i>P. erecta</i>	Aberford
<i>G. pusillum</i>	Aberford	<i>P. sterilis</i>	Aberford
<i>G. molle</i>	Front of Alms houses	<i>Fragraria vesca</i>	Aberford
<i>G. robertianum</i>	Aberford	<i>Rubus discolor</i>	Aberford
<i>Oxalis acetosella</i>	Aberford	<i>Rubus caesius</i>	Aberford
<i>Euonymus europaeus</i>	Beck Side Aberford Lower part of Rein Hook moor	<i>Rosa pimpinellifolia</i>	Aberford
<i>Cytisus scoparius</i>	Becca Banks	<i>Rosa canina</i>	Aberford
<i>Ulex europaeus</i>	Aberford	<i>Sanguisorba officinalis</i>	Aberford
<i>Genista tinctoria</i>	Vicarage Aberford	<i>S. minor</i>	Aberford
<i>Genista anglica</i>	Becca [illeg] Cover [?]	<i>Alchemilla vulgaris</i>	Aberford
<i>Ononis repens</i>	Aberford Park Field Lane	<i>Alchemilla arvensis</i>	Aberford
<i>Anthyllis vulneraria</i>	Field top near Hayton Wood, Ditch side in plantation side of Lotherton Lane	<i>Crataegus monogyna</i>	Aberford
<i>Melilotus officinalis</i>	Cold Hill Quarry Cock Beck Aberford	<i>Malus sylvestris</i>	Aberford
<i>Trifolium repens</i>	Aberford	<i>Sorbus aria</i>	Aberford
<i>T. pratense</i>	Aberford	<i>Sorbus aucuparia</i>	Aberford
<i>T. campestre</i>	Aberford	<i>Epilobium hirsutum</i>	Aberford
<i>Lotus corniculatus</i>	Aberford	<i>E. parviflorum</i>	Aberford Cock Beck Parlington Lane
<i>Onobrychis viciifolia</i>	Aberford	<i>E. montanum</i>	Aberford
<i>Vicia sativa</i>	Aberford	<i>Circaea lutetiana</i>	Nr. Cock Beck Bramham Park Parlington Lane
<i>Vicia hirsute</i>	Aberford	<i>Myriophyllum spicatum</i> #	Hook Moor
<i>Lathyrus pratensis</i>	Aberford	<i>Callitriche species?</i>	Nab Wood 3/6/76
<i>Prunus spinosa</i>	Aberford	<i>Lythrum salicaria</i>	Ditch near Cock Beck Cock Beck
<i>Prunus padus</i>	Aberford	<i>Bryonia dioica</i>	Aberford
<i>Filipendula ulmaria</i>	Aberford	<i>Ribes uva-crispa</i>	Aberford
<i>Geum urbanum</i>	Aberford	<i>Sedum acre</i>	Aberford
<i>G. rivale</i>	Aberford	<i>Sedum rupestre</i> #	Aberford
<i>G. intermedium</i>	Found at Seven Arches June 1876	<i>Sempervivum tectorum</i>	Aberford
<i>Agrimonia eupatoria</i>	Aberford	<i>Parnassia palustris</i> #	Intrenchment Aberford Bramham Park
<i>Potentilla anserine</i>	Aberford	<i>Hedera helix</i>	Aberford

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1	<i>Cornus sanguinea</i>	Aberford	<i>Leontodon saxatilis</i>	Aberford
2	<i>Sanicula europaea</i>	Aberford	<i>Sonchus arvensis</i>	Aberford
3	<i>Conium maculatum</i>	Aberford	<i>S. oleraceus</i>	Aberford
4	<i>Aegopodium podagraria</i>	Aberford	<i>Pilosella officinarum</i>	Aberford
5	<i>Conopodium majus</i>	Aberford	<i>Taraxacum officinale</i>	Aberford
6	<i>Pimpinella saxifrage</i>	Aberford	<i>Cichorium intybus</i> #	Aberford
7	<i>P. major</i>	Near Cold Hill Farm	<i>Arctium lappa</i>	Aberford
8	<i>Angelica sylvestris</i>	Aberford	<i>Cardus tenuiflorus</i>	'This maritime species is reported from Aberford by C.Gray' [/ in margin]
9	<i>Daveus carota</i>	Field top near Aberford Bar	<i>Centaurea nigra</i>	Aberford
10	<i>Caucalis daucoides</i> #	Cold Hill	<i>C. cyanus</i>	Aberford
11	<i>Anthriscus caucalis</i>	Aberford	<i>C. scabiosa</i>	Aberford
12	<i>Anthriscus sylvestris</i>	Aberford	<i>Eupatorium cannabinum</i>	Aberford
13	<i>Sambucus nigra</i>	Aberford	<i>Tanacetum vulgare</i>	Aberford
14	<i>Viburnum opulus</i>	Aberford	<i>Artemisia vulgaris</i>	Aberford
15	<i>Lonicera periclymenum</i>	Aberford	<i>Gnaphalium diorcum</i>	Woodhouse Grange, Aberford
16	<i>Galium verum</i>	Aberford	<i>G. uliginosum</i>	Beck Aberford
17	<i>Cruciata laevipes</i>	Aberford	<i>Filago germanica</i> #	Aberford
18	<i>Galium palustre</i>	Aberford	<i>Petasites hybridus</i>	Cock Beck
19	<i>G. witheringii</i>	Aberford	<i>Tussilago farfara</i>	Aberford
20	<i>G. saxatile</i>	Aberford	<i>Senecio vulgaris</i>	Aberford
21	<i>G. mollugo</i>	Aberford	<i>S. jacobaea</i>	Aberford
22	<i>G. aparine</i>	Aberford	<i>Doronicum pardalianches</i>	Peel Park Bradford Bramham Park, Garforth Nun Appleton
23	<i>Sherardia arvensis</i>	Aberford Rein	<i>Bellis perennis</i>	Aberford
24	<i>Gallium odorata</i>	Aberford	<i>Leucanthemum vulgare</i>	Aberford
25	<i>Valeriana dioica</i>	Aberford	<i>Tanacetum pathenium</i>	Aberford
26	<i>V. officinalis</i>	Aberford	<i>Chamaemelum nobile</i>	Aberford
27	<i>Dipsacus fullonum</i>	Aberford	<i>Achillea ptarmica</i> #	Becca
28	<i>Scabiosa pratensis</i>	Aberford	<i>Achillea millefolium</i>	Aberford
29	<i>Scabiosa columbaria</i>	Aberford	<i>Campanula rotundifolia</i>	Aberford
30	<i>Tragopogon pratensis</i>	Cock Beck Aberford	<i>C. latifolia</i>	Aberford

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<i>C. glomerata</i>	Aberford	<i>Antirrhinum majus</i> #	Bramham Park
<i>Calluna vulgaris</i>	Aberford	<i>Linaria vulgaris</i>	Aberford
<i>Erica tetralix</i> #	Aberford	<i>Chaenorhinum minus</i>	Aberford
<i>Ilex aquifolium</i>	Aberford, of very large size	<i>Lathraea squamaria</i> #	Aberford Bramham Park
<i>Fraxinus excelsior</i>	Aberford	<i>Verbena officinalis</i> #	Aberford
<i>Vinca minor</i> #	Aberford	<i>Salvia verbenaca</i>	Bramham Moor
<i>Gentiana verna</i> #	Aberford Raper Hills	<i>Mentha piperita</i>	Cold Hill
<i>Gentianella amarella</i>	Parlington Park Hook Moors	<i>Thymus chamaedrys</i> #	Aberford
<i>Centaureum erythraea</i>	Aberford Park Bad Barley Field	<i>Origanum vulgare</i>	Aberford
<i>Blackstonia perfoliate</i>	Aberford Near Beck, Becca, Roman Ridge	<i>Teucrium scorodonia</i>	Aberford
<i>Menyanthes trifoliata</i> #	Hillam Mill Black Fen Bramham Park	<i>Ajuga reptans</i>	Aberford Found white flowered Bugle in Bad Barley field Becca July 13 th 1863
<i>Polemonium coeruleum</i>	White flowered Aberford, Cock Beck Aberford	<i>Ballota nigra</i>	Aberford
<i>Convolvulus arvensis</i>	Aberford	<i>Lamiasium galeobololon</i>	Aberford
<i>Calystegia silvatica</i>	Aberford	<i>Lamium album</i>	Aberford
<i>Hyoscyamus niger</i>	Collingham Coal Yard Found in N Bloome Esq Pleasure Grounds May 1863	<i>L. amplexicaule</i>	Aberford
<i>Solanum nigrum</i>	Aberford	<i>L. purpureum</i>	Aberford
<i>Atropa belladonna</i>	Becca Banks Parlington Lane	<i>Galeopsis ladanum</i> #	Aberford
<i>Verbascum thapsus</i>	Quarry on Hook Moor	<i>G. segetum</i> #	Aberford
<i>Veronica anagallis-aquatica</i>	Mill pond Aberford	<i>G. tetrahit</i> #	Aberford
<i>V. beccabunga</i>	Aberford	<i>G. speciosa</i> #	Aberford
<i>V. officinalis</i>	Aberford	<i>Stachys officinalis</i>	Aberford
<i>V. chamaedrys</i>	Aberford	<i>S. palustris</i>	Aberford
<i>V. agrestis</i>	Aberford	<i>S. sylvatica</i>	Aberford
<i>V. polita</i>	Behind School Aberford	<i>S. arvensis</i>	Aberford
<i>Odontites vernus</i>	Aberford	<i>Glechoma hederacea</i>	Aberford
<i>Euphrasia officinalis</i>	Aberford	<i>Myosotis scorpioides</i>	Aberford
<i>Rhinanthus minor</i>	Aberford	<i>M. laxa</i>	Ditch between Field Lane & Beck
<i>Melampyrum pratense</i> #	Intrenchment Aberford	<i>Lithospermum arvense</i> #	Becca
<i>Scrophularia auriculata</i>	Aberford	<i>Symphytum officinale</i>	On side of Coal Line from Garforth to Aberford
<i>Digitalis purpurea</i>	Near Parlington Lake	<i>Pentaglottis sempervivens</i>	Aberford

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<i>Echium vulgare</i>	Bramham Moor	<i>Humulus lupulus</i>	Hedge side of Lotherton Lane
<i>Pinguicula vulgaris</i> #	Becca Whincover[?] Between Bramham Park and Boothcliffe House	<i>Ulmus procera</i>	Aberford
<i>Primula vulgaris</i>	Aberford	<i>Quercus robur</i>	Aberford
<i>P. elatior</i>	Aberford	<i>Fagus sylvatica</i>	Aberford
<i>P. veris</i>	Aberford	<i>Carpinus betulus</i>	Aberford
<i>Lysimachia vulgaris</i> #	Bramham Park	<i>Corylus avellana</i>	Aberford
<i>L. nemorum</i>	Aberford	<i>Alnus glutinosa</i>	Aberford
<i>Anagallis arvensis</i>	Aberford	<i>Betula pubescens</i>	Aberford
<i>A. tenella</i>	Field above Shipley Glen July 1876	<i>B. pendula</i>	Aberford
<i>Plantago major</i>	Aberford	<i>B. glutinosa</i>	Aberford
<i>P. media</i>	Aberford	<i>Populus alba</i>	Aberford
<i>P. lanceolata</i>	Aberford	<i>P. tremula</i>	Aberford
<i>Chenopodium bonus-henricus</i>	Bramham Park	<i>P. nigra</i>	Aberford
<i>Persicaria bistorta</i>	Garforth Lotherton	<i>Taxus baccata</i>	Aberford
<i>P. maculosa</i>	Aberford	<i>Spiranthes spiralis</i>	Bramham Park gathered 6 specimens July 1863
<i>Polygonum aviculare</i>	Aberford	<i>Neottia nidus-avis</i>	Gathered 3 specimens in Bloom at B. Park August 26 th 1865
<i>Fallopia convolvulus</i>	Aberford	<i>Listera ovata</i>	Aberford
<i>Rumex obtusifolius</i>	Aberford	<i>Epipactis palustris</i> #	Cock Beck Hayton Wood
<i>R. conglomerates</i>	Aberford	<i>Orchis mascula</i>	Aberford
<i>R. acetosa</i>	Aberford	<i>O. maculate</i>	Aberford
<i>R. acetosella</i>	Aberford	<i>Gymnadenia conopsea</i>	Aberford abundant
<i>Daphne laureola</i>	Roman Ridge Hayton Wood	<i>Habenaria bifolia</i> #	Aberford Hawsworth
<i>D. mezereum</i>	Several plants in Becca Whincover[?] on the side of Leeds & York Roads	<i>Coeloglossum viride</i>	Rombalds Moor July 1877
<i>Euphorbia helioscopia</i>	Aberford	<i>Coeloglossum albida</i>	Becca & Bramham Park
<i>E. exigua</i>	Aberford	<i>Ophrys apifera</i>	Cold Hill Quarry
<i>Buxux sempervirens</i>	Aberford	<i>Iris pseudo-acorus</i>	Aberford (Lead)
<i>Mercurialis perennis</i>	Aberford	<i>Crocus vernus</i>	Vicar's Glebe Aberford
<i>Urtica urens</i>	Aberford	<i>C. nudiflorus</i> #	Aberford
<i>U. dioica</i>	Aberford	<i>Narcissus poeticus</i>	Vicar's Glebe Aberford
<i>Parietaria judaica</i>	Park Wall Aberford	<i>N. pseudo-narcissus</i>	Lotherton Park Lead Hall Behind School, Aberford

Pearson, M. (2015). A Flora of Aberford. *The Naturalist* 140: 44-47.

Appendix 2. List from *The Flora of the West Riding*, giving the locations of the plants as noted by Spencer.

= believed to be extinct

<i>Galanthus nivalis</i>	Aberford	<i>Blechnum spicant</i> #	Bramham Park
<i>Allium scorodoprasum</i>	Parlington Park Vicar's Glebe	<i>Osmunda regalis</i> #	Bramham Park
<i>A. ursinum</i>	Aberford	<i>Equisetum arvense</i>	Aberford
<i>Hyacinthoides nonscriptus</i>	Aberford Becca Banks Hollinge	<i>E. sylvaticum</i> #	Aberford
<i>Ruscus aculeatus</i>	Bramham Park	<i>E. palustre</i>	Aberford
<i>Convallaria majalis</i>	Hayton Wood} Becca Banks } abundant	<i>Viscum alba</i>	On maple tree at Lotherton, on thorn trees in Parlington Hollin, on poplar near Park House, hanging over stream at Lead Mill, on apple trees at Marshall's Lotherton
<i>Polygonatum multiflorum</i>	Bramham Park Mrs Wharton's Plantation	<i>Scilla verna</i>	Vicar's Glebe
<i>Paris quadrifolia</i>	Church Yard Aberford Common		
<i>Tamus communis</i>	Aberford		
<i>Colchicum autumnale</i>	Aberford – abundant		
<i>Hydrocharis masus-ranae</i>	Baildon Moor Aug 11/77		
<i>Stratiotes aloides</i>	Darcy Gap		
<i>Alisma plantago-aquatica</i>	Aberford Mill pond – beck		
<i>Sagittaria sagittifolia</i> #	Cock Beck Aberford		
<i>Potamogeton natans</i> #	Aberford		
<i>Arum maculatum</i>	Aberford		
<i>Sparganium minimum</i> #	Fish Pond Cold Hill		
<i>Juncus effuses</i>	Partington Lake		
<i>Luzula campestris</i>	Aberford		
<i>Milium effusum</i>	Aberford		
<i>Melica uniflora</i>	Aberford		
<i>Briza media</i>	Aberford		
<i>Dactylis glomerata</i>	Aberford		
<i>Polypodium vulgare</i>	Bramham Park Verver's Bushes		
<i>P. calcareum</i>	B. Park		
<i>Dryopteris filix-mas</i>	Aberford		
<i>Asplenium trichomanes</i>	Park Wall Aberford		
<i>A. ruta-muraria</i>	Bramham Park		
<i>A. septentrionale</i>	Cold Hill Bridge		
<i>Phyllitis scolopendrium</i>	Johnson Wood's Well Park Wall Aberford		