

The Doncaster Naturalist

Volume 3 Number 1

March 2018



Doncaster Naturalists' Society

Editorial

This edition of The Doncaster Naturalist has a wide range of topics from a good number of our members. We are pleased to welcome two new writers, Dave Williamson and Steven Heathcote. Both are keen and able naturalists, with good stories to tell. We hope to have more from them in the future. If anyone has thoughts of writing for us, but is a little uncertain about whether or not they could produce something people wanted to read, please let me know.

A look at Louise's report of the Society's activities over the last year or two makes us realise that we belong to a very active group, and looking around the audience at the Museum talks, or the participants in the walks and excursions shows that there is a reasonable age range amongst the participants. This is important. Several Yorkshire Natural History Societies have disbanded in the last few years, and another local one is about to do so. It is clear that the more active a society is, the more likely it is to succeed and attract new members. It does mean more work for the Society's officers and it is often a difficult balance to achieve, but the future of our Society looks sound.

I think the scope of articles in this publication helps the impression that we are an active bunch of people. We look forward to a similarly wide spectrum of contributions for our next edition - look out for stories to write about, and/or take some good photographs.

Paul Simmons

The Doncaster Naturalist is produced by the Doncaster Naturalists' Society on an occasional basis. This issue has been edited and designed by Paul Simmons.

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Doncaster Naturalists Society welcomes members who have interests in the natural history of Doncaster and district. It has served this function since 1880. The officers of the Society are:

President: Louise Hill

Secretary: Margaret Prior

Treasurer: Nora Boyle

Recorder: Pip Seccombe

The Society's website is: **www.doncasternaturalhistorysociety.co.uk**

Events programme

The Society runs a very full programme of indoor and outdoor meetings. Forthcoming events can be seen at www.doncasternaturalhistorysociety.co.uk/events

All are welcome to attend.

Membership

The current membership fee is £7 per year. Contact the Secretary for details.

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Volume 3 Number 1

March 2018

Front cover: Tawny Owl chick seen during the Doncaster Naturalists' Society excursion to Owston Wood in June 2017 (see p1) *Photo: Joyce Simmons*

Contents

- p1 Cecidology - the study of plant galls *Nora Boyle*
- p4 The moths of Lindholme Hall Estate: the Doncaster Naturalists' Society experience 2013 - 2017 *Dave Williamson*
- p9 God's Acre – a need for conservation management *Tricia Haigh*
- p11 The Tale of a Mystery Mollusc *Pip Seccombe*
- p13 Thorpe Marsh Willow Tits 2017 *Mick Townsend*
- p14 Spiders on the march! *Joyce Simmons*
- p15 Roman Ridge – a portrait of a Green Lane *Louise Hill*
- p27 New Galls *Tom Higginbottom*
- p31 How common is the arable liverwort Common Crystalwort? *Steven Heathcote*
- p35 A review of Odonata at Thorpe Marsh, 1983 to 2017 *Mick Townsend*
- p39 Royal fish sold for Miners' Children's Distress Fund *Colin A. Howes*
- p40 Tunny in Doncaster *Colin A. Howes*
- p44 Confessions of two Brown Bears *Colin A. Howes*
- p47 'Weeds' *Tricia Haigh*
- p49 Peter Bullock 1938-2017
- p51 President's Report Jan 2017 - Jan 2018 *Louise Hill*

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Cecidology – the study of plant galls

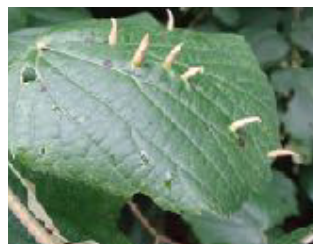
by **Nora Boyle**

I have been interested in plant galls for some time now so it only made sense to write an article which explains more about them. I thought about doing an actual ABC of galls but realised it would take up too much space so I've settled for an alphabetical look at the word Cecidology which is the study of plant galls. For those who aren't familiar with the definition of galls here is the generally accepted version. "A plant gall is an abnormal growth induced by the presence of another organism living in or on the host plant and causing its cells to enlarge and/or multiply to provide both food and shelter." (Taken from Michael Chinery's *British Plant Galls*.)

C is for Causers. Every gall must have a causer, something which initiates the gall, and a host on which the gall develops. Most gall causers are host specific meaning that they only develop galls on specific species so if you can identify the host it makes it easier to identify the causer. This could be a variety of organisms but the most common causers are insects, mites, and fungi. Here is a photograph of an interesting gall which looks like a tongue, on alder catkins, caused by the Ascomycete fungus *Taphrina alni*.



E is for Eriophyidae - a family of mites which includes those which cause pouch galls such as the bright red nail galls of *Eriophyes tiliaea*. Fundatrices (fertilised females who have overwintered in such places as cracks and crevices in bark) initiate the galls when they start feeding in the spring. Feeding by sucking up the cell contents causes the cells to die and the leaf surface domes upwards, nutritive tissue develops inside and when the pouch is partially created the females return and lay their eggs inside. When the larva hatch and start to feed, the gall develops fully. In the case of these nail galls each fundatrix causes just one gall near a vein but each gall could house 100-200 mites. Inside the gall are many hairs among which the mites feed. The adults crawl



out of the open end of the gall on the under surface of the leaf. The galls start green, turn pink then go bright red.

C is for Common Spangle gall *Neuroterus quercusbaccarum*.

These are galls formed on oak leaves by cynipid wasps which exist as both sexual and asexual or agamic generations. In this case the galls are induced by the agamic generation on the underside of leaves and resemble hairy Mexican hats with a domed centre, inside of which is a single larval cell. The formation of each gall is stimulated by the egg or the ovipositing but it only grows fully if the larva survives and feeds. Sometimes they are so numerous that they cover the whole of the underside of a leaf and cause it to curl, as in the photo. The sexual generation cause currant galls on male catkins.

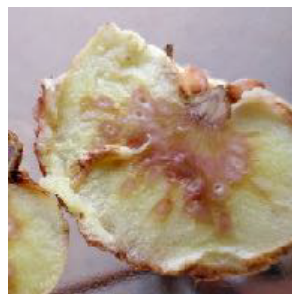


I is for Inquilines. Just when I thought I knew what would emerge from a gall would be the same species which initiated it, I discovered **Inquilines**; insects which specialise in laying their eggs inside a gall which has been induced by another species. They don't directly harm the gall causer but can be a cause of its death by starving it of food or crushing it. Their presence often causes the gall to become stunted or distorted. If you find a marble gall with a very small exit hole it could have been made by an inquiline.

D is for Diplolepis rosae - the emblem of the British Plant Gall Society. Known as the Bedequer Gall or more commonly Robin's Pincushion, it is one of the most easily recognised galls, especially when it has turned bright pink, as in the photograph opposite. This is a gall which is specific to roses, the most common host being *Rosa canina* or Dog rose. If you cut open a mature gall you will find a series of chambers each of which would have housed a single larva. Such galls are known as multiocular. Nearly all *D. rosae* individuals are female and lay eggs which don't need fertilization. The galls which are induced on buds and leaves start out green and turn bright pink.



O is for Ovipositor - the part of an insect through which their eggs are placed in the part of the plant where the gall will develop. This could be virtually any part of the plant though the most prominent positions are on the leaves and in the buds. In the case of *Biorhiza pallida* which causes Oak apples to develop on white oaks, the female searches for a suitable bud in which to lay her eggs then positions herself head downwards drilling repeatedly to prepare many channels in which she lays her eggs. Her ovipositor appears to cut a horizontal slit across the top of the bud and then she lays the eggs in the lower half. If you cut open an oak apple you will



see many chambers inside, each one containing a developing larva. When the larvae become adults they chew their way out so this is an example of a **closed gall**.

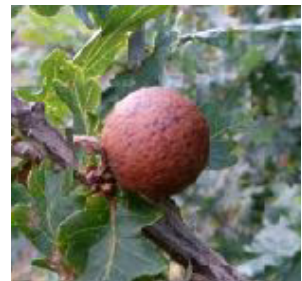
L is for leaf roll and leaf fold. These include the simplest of galls. Some of them involve small upward or downward leaf rolls on the margins of the leaves whereas others involve folding of the whole leaf. In all of them the roll or fold is caused by the enlargement of cells of one surface relative to the other. An example of a downward roll is a purple veined gall on ash leaves caused by the psyllid *Psyllopsis fraxini*. Psyllids are jumping lice. They lay their eggs on the leaves in the summer and when the nymph starts feeding the edge of the leaf rolls downwards forming a kind of pouch which protects them from environmental conditions. Adult psyllids leave the galls before the leaves fall and lay their eggs on dormant buds.



O is for open galls. These are galls where an opening for the gall causer to leave is part of the structure because the gall causers cannot chew their way out. The aperture may be wide open or the entrance can be lined with hair-like structures called erinea. Sometimes the entrance is temporarily closed and changes in the gall cause it to allow the causer to escape. This group of galls includes simple galls such as *Dasineura pustulans* on Meadowsweet and more complex galls such as *Didymomyia tiliaceae* on Lime (see photo) which has an egg-shaped inner gall which separates and falls to the ground. The yellow larva pupates inside and in the spring the adults emerge.



G is for gall wasps. This is a group of parasitic wasps which are only a few millimetres long and are brown or black. Most are responsible for inducing galls on species of Oak. They are often conspicuous on the underside of leaves and on buds, acorns and branches where their eggs are laid; gall formation being initiated only when the larvae start feeding. Some of these wasps have alternating lifecycles and form both asexual and sexual galls at different times of the year, sometimes on different species of oak. Probably the most well known gall on Oak trees is induced by the asexual generation of the gall wasp *Andricus kollari* commonly known as the Marble Gall. The wasp itself was introduced to Britain in the 19th century when the galls were used as a source of tannin for dyeing and ink making.



Y is for Yew Gall. The gall midge *Taxomyia taxi* causes galls to develop at the site of the meristems at the tips of yew shoots. They appear as tightly bunched leaves and each one contains just one orange larva sitting above the meristem in a distinct central chamber. This gall midge is unusual in that it can develop from egg to adult in either one or two years producing galls with slightly different appearances. The galls which take two years to develop look like artichoke galls, as in the photo opposite.



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The moths of Lindholme Hall Estate: the Doncaster Naturalists' Society experience 2013 - 2017

Dave Williamson

This is a summary of the observation and recording of moths by Doncaster Naturalists' Society (DNS) members at Lindholme Hall Estate (Lindholme) over the five year period 2013-2017.

Lindholme Hall Estate

Lindholme Hall Estate is effectively an 'island' within the Hatfield Moors section of the Humberhead Peatlands National Nature Reserve (NNR). A privately owned estate of some 48.5 ha (120 acres) about 10 miles to the east of Doncaster it sits on a glacial moraine from the last ice age. The variety of habitats there include peat bog and birch and oak woodlands. Unlike the surrounding Hatfield Moors the peat bog here escaped the ravages of the large-scale commercial peat extraction that continued on Hatfield Moor up until 2004. This relative lack of damage makes the Lindholme site of particular interest and importance. It is hoped that as the restoration work managed by Natural England proceeds on Hatfield Moors the 'bank' of flora and fauna living at Lindholme can aid the natural re-colonisation process. The Lindholme Hall



Figure 1. Gomde Lindholme Hall

Estate was purchased by 'Rangjung Yeshe UK' in 2009 and since then has been the centre for Tibetan Buddhism in the UK with the revised name of Gomde Lindholme Hall (Fig. 1). DNS enjoy a very good relationship with the Gomde ('training ground') in part through DNS

members having supported the purchase of a piece of land within Lindholme for the estate and through help given with conservation management. By prior arrangement DNS have been able to visit the estate on day trips or at night time to explore the plant and other wildlife, including the moths, that occur there.

Gomde Lindholme Hall

DNS Visits to Lindholme 2013-2017

Over the 5 years from 2013 to 2017 there were 19 DNS visits to Lindholme for which we have good records of the moth species observed. This includes eight day time visits and eleven night time mothning sessions between 11th May 2013 and 3rd December 2017. For the moth enthusiast a trip to Lindholme is always exciting as the special habitats there mean that rare and unusual species can turn up at any time. In June 2010 for example, Harry Beaumont and the late Frank Botterill had a Great Oak Beauty (Fig. 2) come in to their Mercury Vapour (MV) light - a Nationally Scarce species that had not been recorded in Yorkshire since 1883! It's hard to match that but in August 2015 a Black Arches (Fig. 3) caused much excitement when it appeared at the DNS MV light being operated by Louise Hill and Tim Prosser - this was only the fourth Yorkshire record since 1883 (1883 being the year that George Taylor Porritt first published a systematic list of Yorkshire's moth and butterfly records).



Figure 2. Great Oak Beauty



Figure 3. Black Arches

The methods used for recording moth species and numbers have included simple observation of moths disturbed during day time walks or conservation work, sweep-netting of lower growing vegetation and trees, and at night time the use of moth lights and traps and 'sugaring' to attract the moths. The moth lights used have included both of the main light-source types i.e. Mercury Vapour (MV) and Actinic Tube (AT) and on occasions we have employed as many as nine lights (three MV and six AT). Sugaring involves painting a potent mix of treacle, beer and other ingredients (contact Joyce Simmons for the recipe!) on to a tree trunk - some moths find it irresistible! An evening spent mothning at Lindholme can be a very pleasant experience with lots of moths coming in to the lights and with the calls of Nightjars and Tawny Owls in the background. It can of course be upset by the vagaries of the British weather although our resident meteorologist, Tim Prosser, does keep us well informed on the progress of any impending weather fronts! Other potential hazards include the various biting insects that inhabit Lindholme's woods and bogs and also the large resident population of Hornets which are attracted by the lights and come in to dismember and carry off some of the other unfortunate insects.

Moths Records

Number of Species

Over the recording period concerned (and adding in the Great Oak Beauty record from 2010) we have recorded 286 species with 132 being 'micro'-moths and the other 154 'macro'-moths. A total of over 2700 individual moths have been recorded with our most successful individual mothing session on 4th August 2016 recording 449 individual moths of 105 species.

Most Commonly Recorded Species

The most commonly recorded species in terms of total numbers of individuals includes the most numerous, Brown Silver-line (Fig 4), a common British species associated with Bracken; the ubiquitous Large Yellow Underwing - it's scientific name *pronuba* means 'bridesmaid' apparently referring to the brightly coloured hind wing; and Crescent, a local species of wet habitats including boggy moorland.

The commonest species in terms of the number of occasions recorded include the two most frequent, Straw Dot, a species that likes a wide range of damp habitats, and Common White Wave that is often disturbed during the daytime as well as being attracted to the light of a moth trap. Pebble Hook-tip (Fig. 5 - a cryptic moth of Birch woodlands) and the brightly coloured Large Emerald (Fig.6) also feature in the top twelve.



Figure 4. Brown Silver-line



Figure 5. Pebble Hook-tip



Figure 6. Large Emerald

National and Regional Status of Species

According to the Yorkshire Naturalists' Union Lepidoptera Group web-site 'Yorkshire Moths', 10 of the 286 species are 'Nationally Scarce B' (ie recorded in 31 -100 of the 2856 10km squares covering Great Britain) and 46 are nationally 'Local' (ie recorded in 101 - 300 of the 10km squares). At a regional level 88 of the species are described as 'Scarce', 'Rare' or 'Very Rare' in Yorkshire and a further 18 that are not as rare are still described as 'Local'. So a total of 56 species (20%) are local or rarer at a national level and 106 species (37%) local or rarer in the Yorkshire context. It seems reasonable to conclude that the Lindholme Hall site is of particular significance as a site for moths within Yorkshire and indeed in the UK.

Two of the Nationally Scarce micro-moths found around Lindholme are *Crambus hamella* (Fig.7) and *Pseudotelphusa paripunctella* (Fig. 8):



Figure 7. *Crambus hamella*



Figure 8. *Pseudotelphusa paripunctella*

Moth species in relation to their larval food plants

Many moth species including a significant proportion of those recorded at Lindholme are polyphagous ie the larvae feed on a wide variety of plants. Others are more specific and in some instances restricted to a single plant species. The distribution and abundance of a moth species is clearly determined by much more than the occurrence of the larval food plant eg the larvae of the Peach Blossom moth feed on bramble leaves but can be rare or absent on sites where bramble is common, and some of the birch-feeding species recorded in heathland habitats such as Lindholme do not occur in other birch woodland habitats despite the food plant being numerous in both. The food plants of those moth species whose larvae feed exclusively or primarily on specific plant species naturally reflect the main habitats at Lindholme with birches, oaks, heather, cottongrass, bracken and bedstraws all featuring on the menu (Figs. 9 & 10).



Figure 9. Haworth's Minor on Common Cottongrass



Figure 10. Emperor Moth larva on Heather

Lindholme's characteristic moth fauna

Many of the moth species we have recorded at Lindholme are common and widespread across many habitats but others are limited in Yorkshire by their specific habitat requirements. This gives Lindholme a characteristic moth fauna with a mix of heathland species such as

Aristotelia ericinella (Fig. 11) and Heath Rustic (Fig. 12), and birch and oak woodland species such as Birch Mocha (Fig. 13) and Maiden's Blush (Fig. 14) respectively.



Figure 11. *Aristotelia ericinella*



Figure 12. Heath Rustic



Figure 13. Birch Mocha



Figure 14. Maiden's Blush

Conclusion

The Lindholme Hall Estate is a wonderful place with a rich assemblage of interesting habitats. The associated moth fauna is correspondingly diverse and includes many rare and local species characteristic of the peat bogs, heathland and birch and oak woodlands. No doubt future visits by DNS members will add further to this list and we can look forward to the thrill that accompanies the sudden appearance of a new moth species at one of the lights!

It is difficult to know how significant the diversity and status of the Lindholme moth species are in acting as a source for the potential re-colonisation of the surrounding Hatfield Moors as English Nature progress their restoration work. But by helping to manage and sustain the key habitats at Lindholme and by monitoring their associated moth fauna we can at least give this its best chance of succeeding.

Acknowledgments

Thanks to Gomde, Lindholme Hall and their team for their help and support in allowing us to look for moths on their estate.

Thanks are due to Harry Beaumont for his help in checking, correcting and adding to the Lindholme moth species list and for his expert help in identifying the more difficult species. Thanks too to my fellow moth trappers for their good company and their moth trapping and identification skills: Harry Beaumont, the late Frank Botterill, Louise Hill, Tim Prosser, Margaret Prior, Pip Seccombe, Joyce Simmons, Paul Simmons and Sue Williamson.

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God's Acre – a need for conservation management

Tricia Haigh

As we enter 2018 it will be 24 years since we first began to conserve our churchyard following PCC approval. Before then the churchyard had not been regularly maintained for a number of years. Every so often when the grass was getting too tall a working group would be organised to go in and cut everything back regardless of what might be in flower. A few of us who were more interested in nature looked at the churchyard and decided that we could better manage the churchyard so that it would benefit wildlife and be better maintained for the benefit of those who regularly use it. Looking at the churchyard, which is approximately an acre in size, it appeared to have both spring and summer meadow areas with a shady area where Hollies grew. We sought the help of Doncaster Naturalists' Society to survey those species present in order to decide how we should manage our churchyard. In those early years it was an uphill task to persuade people that what we were doing was worthwhile. At the outset the churchyard was full of grass with small numbers of plant species that flowered in small colonies here and there. Our first year, when we allowed the grass to grow throughout the churchyard, was especially difficult. But over the years by our management regime, which has been constantly monitored and adapted as necessary, and by carefully introducing more species that would benefit wildlife, our churchyard has improved both visually and as a sanctuary for wildlife.

In 1995 we introduced our first plants. After seeking faculty approval we planted a number of small trees and shrubs, including our native Dog Rose, mostly around the perimeter of the churchyard. Other plants have since arrived by themselves, shrubs such as Flowering Currant, which is one of the earliest to produce blossom, vitally important to insects just

coming out of hibernation and more recently, in June 2014, we were delighted to be able to add Bee Orchid, *Ophrys apifera*, to our species list. Those plants that turn up in our churchyard, blown in by the wind or brought in by birds or mammals, or plants that have self seeded from others already growing there, are carefully monitored. If they are valuable aesthetically or will benefit wildlife they are allowed to stay. If they are likely to become a nuisance, difficult to manage, they would be removed. Not all the plants are native species. Some such as Buddleia and Cotoneaster are both attractive in themselves and are valuable to wildlife. From March, when the first blossom appears through to the end of June, when the last of the Cotoneaster species (*C. cornubia*) is covered in sprays of white flowers, there is blossom to be seen on shrubs and trees all around the churchyard. These plants are some of our key species when it comes to supporting our declining bee species as well as being a source of food for our birds and small mammals in the autumn and winter.

A few years into the project we began to split and replant some of our Snowdrops and we introduced some early flowering native Daffodils and Primroses. This was partly to provide early spring colour in the churchyard but also to provide an early nectar source for insects emerging from hibernation. These have since begun to spread and increased in number in the spring meadow.

Over the years those plants which were identified in the 1994 surveys have, as a result of careful management, increased in number and colonised far greater areas of the churchyard than when they were first recorded. As a result we have a churchyard that is full of colour and interest throughout the year and which is rich in its biodiversity from the tiniest of insect life to the larger birds and mammals higher up the food chain.



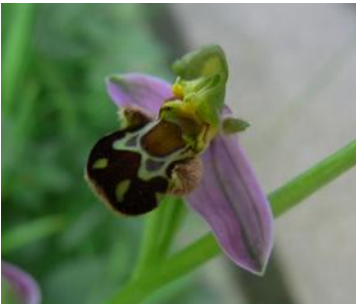
Our mowing regime is crucial to the successful management of the churchyard and especially the meadow areas but managing the churchyard involves other tasks too. With so many trees and shrubs it is important that we keep these within bounds. In recent years we have begun to raise the crown and thin out the stems of some of our mature self-set Hollies. This has improved the appearance for visitors as they walk up the path towards the church but it has also let more light into the spring meadow area which should benefit the flora in that part of the churchyard. Some of the wood that is cut as a result of managing our trees and shrubs is used to create a number of log piles as well as piles of thinner brushings (or small twiggy branches), mostly tucked away under bushes and in quiet corners

along with piles of autumn leaves where they may be put to good use by the creatures that live in the churchyard.

Some of our most beneficial plants require a good deal of maintenance. Ivy and Brambles are two excellent wildlife plants providing nectar (in the case of Ivy towards the end of the

growing season when there is so little to be found elsewhere) and fruit, as well as shelter in their tangled branches and stems, great for nests and for hibernation sites, tucked away out of site and protected from the elements. Left to their own devices these two would soon take over large areas of the churchyard, but with judicious pruning they are maintained for maximum wildlife benefit. Other herbaceous plants which are also excellent wildlife plants in their own right, such as Stinging Nettles and even the toxic Ragwort, can become thugs if left and so are cut back or removed before seeding.

Parts of our churchyard may appear to be “wild” but all is carefully managed with the help of our volunteers. The grassland is managed by selective cutting, by cutting at different heights and times and by leaving some areas uncut. Small working parties take on the general management throughout the year, then in July the spring meadow areas are cut and in September we hold our annual churchyard working day when a number of parishioners give their time to cut the summer meadow areas and prepare the churchyard for its winter rest, which always proves to be an enjoyable event.



Bee Orchid *Ophrys apifera*

Churches have long been recognised as sanctuaries. Now with the decrease of natural wildlife habitats, our churchyards are increasingly seen as sanctuaries for wildlife, providing refuge for many varieties of plants and animals. Conservation does not imply a policy of neglect and lack of care. It does mean a change of emphasis, adopting a sensitive and balanced approach so that the churchyard is managed for the benefit of all.

The Tale of a Mystery Mollusc

Pip Seccombe

Towards the end of June last summer, I was attempting to rid a raised flower-bed in our small urban garden, of its Spanish Bluebell *Hyacinthoides hispanica* population. About 3” below the soil surface I came upon a mollusc shell which I immediately recognized as that of *Pomatias elegans*, a most attractive and distinctive snail because of the operculum at the open end of the specimen. (An operculum is a horny or calcareous plate carried by the foot and serving to close the mouth when the animal is withdrawn into the shell).



I had seen empty shell specimens many years ago while attending a Natural History course at Sheffield University where I had opted for a module on molluscs. The tutor was Robert Cameron, husband of Margaret Redfern, known to many of the Nats for her expertise in plant galls. So I phoned Robert, who confirmed the identity of my snail and asked if it was alive. This possibility had not occurred to me as I was aware that it was a pretty rare beast and a limestone specialist.

At Robert's suggestion I put a piece of moist tissue in the pot, which would tempt the occupant out, if it was alive. This was on June 28th. The snail jar appeared the same each morning, although I did begin to think that the specks of soil on the tissue did seem to be increasing in number and some did look a little faecal-like! Robert indeed confirmed this.

A couple of days later I took the snail out of the jar to show to a friend and decided to leave the lid resting on the top of the jar rather than screwing it down, in case I was depriving the unlikely inmate of air. The following day, July 3rd, we left home early to attend the ordination of a friend in Sheffield Cathedral, so it was well into the afternoon before I went to check on the snail.

Imagine my surprise on finding the lid of the empty pot, on the window sill and the apparently moribund mollusc about 12 inches away, fortunately still on the sill! I immediately phoned Robert and at his suggestion, put some soil in the jar with a couple of young sycamore leaves. The next morning *P. elegans* had gone underground leaving the clearly visible entrance hole of its burrow. From then on, the only evidence of the presence of the snail was the soil disturbance and rearrangement of the greenery, all carried out during the night. Eventually, guided by Robert, I returned the snail to the same patch of garden where I had found it 3 weeks previously.

Meanwhile I had chipped off a few bits of the stone from the retaining wall of the raised bed, which turned out to be sandstone of some kind. So it has landed in a not very congenial habitat. Nevertheless, I will keep a close eye on this piece of garden and hope my peripatetic mollusc may reappear one day.

Discussion

Many snails are hermaphrodite, but not this one. Unless it is a female and had already mated, there won't be any progeny. The only theory I have about how it found its way to our garden, involves our son and daughter-in-law who live and work in Japan. Each summer they spend a few weeks in the UK, and at least one day of that, giving our garden an annual going over. Carolyne's family are all keen gardeners and kindly donate some of their excess plants to us. Judging by the donated plants in the area where the snail turned up, the most likely candidate is an Essex garden belonging to Carolyne's sister. Of course, this is far from proof but the owners of all the possible gardens have been given photos of the snail and have been asked to keep a look out - so watch this space!

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Thorpe Marsh Willow Tits 2017

Michael Townsend

Willow Tits have been recorded at Thorpe Marsh Nature Reserve every year since 1980 when records began there. They were seen frequently throughout most of 2017 with the exception of a quiet period during May and June, presumably while they were nesting and rearing young. They were recorded on 85 out of 159 recording days during the year, but not at all in May and June. Most sightings were of one to three birds but following the scrub clearance in south-east Reedholme and the erection of a feeding station the numbers seen have increased. Four to six birds have been seen and when the colour-ringing scheme is running from 2018 onwards we should have more accurate counts.

Willow Tits are elusive and nearly all the sightings are from the feeding stations in front of North Mere Hide and in Reedholme. They certainly bred in the area in 2017.

An adult was feeding young in Smallholme on 19th April (BE, BF) and an adult and three young were at the north Mere feeding station on 30th July (BE). The BTO bird ringer Ken Pearson caught 6 individual birds during 2017. The nature reserve birds comprised three born in 2017 (caught in July, August and December), confirming that they successfully bred in the area. On the National Grid site he trapped three adults, a male and a female in April and a male in December.

Thorpe Marsh Nature Reserve has a range of habitats, some of which suit Willow Tits. Part of the reserve management involves scrub control whilst leaving certain areas as scrubland for the benefit of species such as Willow Tits. When Silver Birch trees have been felled some are cut at chest or head level to rot and other lengths are fastened to other trees for the same reason which is to provide potential nest sites for Willow Tits. This has only been done during the last two years and we have seen no sign of their having been used.

Nationally the BTO estimated that Willow Tit numbers declined by 79% between 1995 and 2010. There is a decline at Thorpe Marsh but not on that drastic scale. Annual maximum counts from 1980 onwards indicate that Willow Tit numbers were higher in the 1980s and very early 1990s than from 1993 onwards. There seems to be a further slight downward trend from 2013 to 2017. The bird-ringing returns have also declined from 2012 onwards which backs up the indications from the maximum counts but at least the species is still here and breeding.

Notes

BE and BF are Barry Evans and Barry Foster, volunteer wardens.

Ken Pearson has netting lanes near to the settling ponds in grid square SE6009 and the netting lanes in the Thorpe Mere area are at SE588095 and SE590096.

The British Trust for Ornithology estimate was given in the BTO Bird Atlas 2007-2011.

Spiders on the march!

Joyce Simmons

In the last edition of *The Doncaster Naturalist* I described finding the Labyrinth Spider, *Agelena labyrinthica*, at the very south of the Doncaster area at Austerfield and then in the green lanes of Tickhill. These were the first records for this spider in Yorkshire. However, the spider has not stayed there, but has moved north. No doubt the young spiders, when dispersing, did not actually march, it is much more likely that they employed the wind. Spiderlings climb onto vegetation such as a grass leaf to give themselves as much height as possible. There they spin a silk thread which catches the breeze and carries them aloft, known as ballooning. In this way they can travel long distances.

In 2016 we found Labyrinth Spider webs beside tracks on Hatfield Moor, in two places amongst the heather stems. Our spiders then continued their travels to Potteric Carr where they were found in summer 2017. On a DNS evening meeting on 15th June 2017 we found a single web in Owston Meadow. Two days later we found more on another DNS expedition to Owston Wood (approx 1.5 miles away from the meadow). The march north continues. Where next?



Labyrinth Spider at the entrance to its funnel web.



Spider in Owston Meadow.

The Labyrinth spider constructs an elaborate sheet web with many non-sticky aerial threads which flying or trespassing insects blunder into. The disturbance stretches the thread and the spider darts from her hiding place in the tunnel and kills the victim with multiple bites. Her meal is then enjoyed in the privacy of her tunnel.

Males arrive on the female web in July, and tap the web to announce that they are not food. If he is welcome she will fold in her legs and sit still. At this point the male becomes rough and hauls her about by the leg until a suitable position for mating is achieved. His presence in her web is tolerated for some time. In August the female builds a large and elaborate cocoon slung on nearby vegetation with a network of passages, which earns the species the name Labyrinth Spider. Eggs are laid in the cocoon and the female stays with her eggs and then the young, until she dies.

Roman Ridge – a portrait of a Green Lane

Louise Hill

Roman Ridge is a section of the old Great North Road bypassed by the modern road system. This section exists as a bridleway which runs northwards from Sunny Bar, on York Road, to join the A1 at Redhouse Interchange north of Doncaster.

The Doncaster Naturalists' Society undertook a detailed survey of the hedges and verges of the ridge in advance of proposals to create a surfaced cycleway along the length of the ridge. Two visits were made on the 14th and 29th of May 2005, starting at Sunny Bar (SE5504) and reaching the Tithe Barn (SE 5351706771) on the first visit and then completing the survey from Tithe Barn to Redhouse Interchange at SE5209 during the second visit. The recorders were Colin and Richard Wall, John Scott, Derek Allen, Pip Seccombe, Sheila and Louise Hill, Ian McDonald and three members of a local community group. The surveyors were blessed with warm sunny weather on both occasions.

The survey method employed was to divide the Ridge into 30m sections (fig. 1), using a Trumeter walking wheel. On the first visit the records for each section combined all species from hedges on both sides, the verges and path (where unsurfaced) whereas the second survey visit recorded woody species in the hedges on either side of the path separately but recorded a combined list for verge species.

The written report produced by the Society listed the species found in each of the 1km grid squares through which the Roman Ridge passes. The report was submitted to the Doncaster Biological Records Centre but the detailed species data were not submitted, the intention being to produce a more detailed write-up in the future when time allowed. After 13 years that time has finally arrived!

In 2009 I was commissioned to carry out a botanical survey of the Ridge by Doncaster Metropolitan Borough Council as part of a rolling review of Local Wildlife Sites in the Doncaster Borough. The site was to be assessed against the draft Local Wildlife Site Selection Criteria which had recently been drawn up. The Site Selection Criteria for hedgerows is as follows:

Sites meeting 1 or more of these criteria will be eligible for Local Wildlife Site designation:

HD1. *A hedgerow that is at least 30 metres in length, pre-dates 1845 and supports;*

(a) 5 or more species, per 30 metre sample, of native hedgerow trees and shrubs listed in the 'Ancient and/or Species Rich hedgerows' character list for woody species (Table 4.2), or

(b) 4 or more species per, 30 metre sample, of native hedgerow trees and shrubs (Table 4.2), and has a score of 5 or more from the 'Ancient and/or Species Rich hedgerows' character list for non-woody species (Table 4.3), or

(c) Supports 'notable', old or veteran tree/s, or

(d) Is remnant ancient woodland of hedgerow dimension

Description of the habitats

The section from Sunny Bar to Wensleydale Road/Stanley Road was found to be entirely urbanised and its nature was greatly influenced by recent planting and garden escapes. Therefore, the survey extended from the A1 north of Redhouse Interchange as far as Stanley Road/Wensleydale Road on the northern edge of Scawsby.

For the purposes of illustration, the hedgerows of the ridge were numbered starting at the northern end, the odd numbers on the eastern side and the even numbers on the western side. The northern fragment of the Roman Ridge was defined by the slip-road off the southbound A1 and the dual carriageway of the A638 (Hedges 1 and 2). The construction of the access road into Redhouse Interchange has caused further severance and habitat loss, leaving only a short remnant (Hedges 3 and 4) between the A638 and Rockingham Way. Here the hedges survived intact and the worn trackway included some grassy verges.

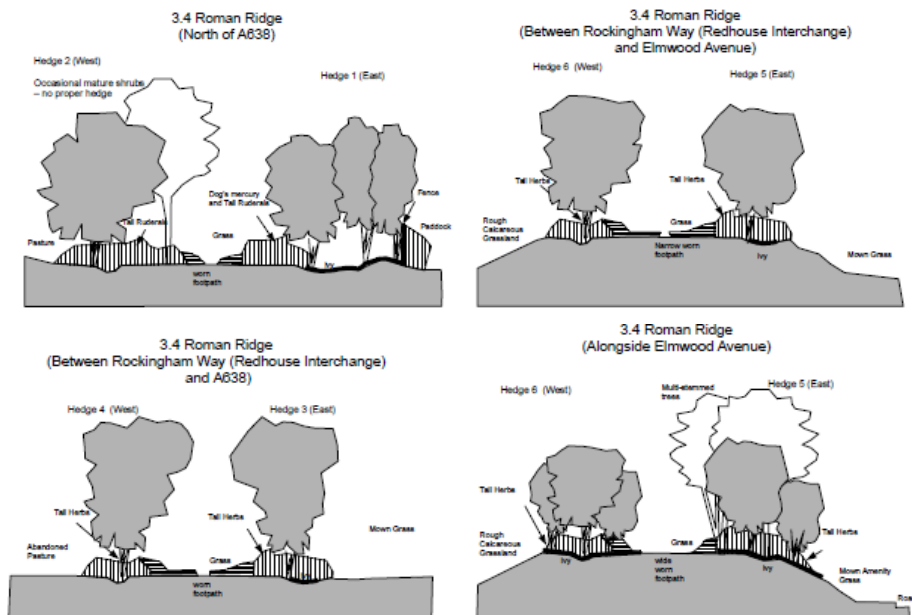
Between the warehouses and offices of Redhouse Interchange and Chase Park, the Ridge survived as a more-or-less intact double hedge (Hedges 5 and 6) with a shady narrow verge dominated by a woodland herb layer. The southern section of Hedge 5, beside Woodlands village suffered from significant modification and incorporation into gardens or complete loss and replacement by fencing.

The urbanisation of the eastern side of the Hedge 7 continued from Ridge Balk Lane until the old entrance to Brodsworth Colliery. Here the ridge passed into the cutting which leads to the bridge over Underhills Drain. The western hedge (Hedge 8) became more intermittent at this point. The Ridge then takes on a wooded character as it passed alongside Hanging Wood and Tithe Barn Plantation Local Wildlife Sites.

South of the Tithe Barn the Ridge (Hedges 9 and 10) passes alongside Highfields Estate before entering more open country up to Green Lane. South of Green Lane (Hedges 11 and 12) the Ridge had open arable land bordering both sides for half the distance to Wensleydale Road but the southern part had urban development or recreational open space bordering the western side, with open arable agriculture opposite side.

Hedge Number	Hedges 1 & 2	Hedges 3 & 4	Hedges 5 & 6	Hedges 7 & 8	Hedges 9 & 10	Hedges 11 & 12
Northern End Grid Reference	SE52394 09410	SE52429 09223 Southern side of A638	SE52429 09223 Rockingham Way (Southern verge)	SE52719 08053 South side of Ridge Balk Lane	SE53517 06771 Tithe Barn	SE53705 06051 Green Lane
Southern End Grid Reference	SE52407 09279 (at Farm Track)	SE52464 09080 Rockingham Way, northern verge).	SE52719 08053 Bollards just N of Ridge Balk Lane	SE53517 06771 Tithe Barn	SE53705 06051 Green Lane	SE54860 05254 Stanley Road/Wensleydale Road
Distance	113m	120m	1230m	1440m	750m	1230m

The diagrams below show cross-sections of the Ridge and its vegetation at various points:



Cross sections prepared for Local Wildlife Site Resurvey 2009 reproduced with permission of DMBC Environmental Planning.



View from near old railway bridge, just north of Hanging Wood. (Hedges 7 and 8).



View north from opposite end of Layden Drive. Hedge 11 (right) and hedge 12 (left).

Analysis

All the 30-metre section data gathered by members of the Society were entered into a spreadsheet, with species data added from the supplementary survey work in 2009. This spreadsheet was submitted to the Doncaster Biological Records Centre in 2010 for subsequent use in the Local Wildlife Site assessment process.

Having created what was a quite stunningly tedious and dry-looking spreadsheet running to over 240 columns in width with 200 rows of species data for 153 individual 30m sections, I felt that there must be a more-visually-interesting way of displaying the results. I set about trying to provide some form of analysis of species distribution along the Ridge for display at a Presidential Address to the Society in April 2010.

To achieve this, firstly, the species were grouped according to their growth habitats and/or environmental preferences. For the record, the results of groupings are presented below.

The hedges of the Roman Ridge were found to be particularly diverse, supporting an impressive number of native woody shrubs and climbers but there are also a number of species associated with urban influences :

Native Woody Shrubs	Non-native Woody Shrubs
<i>Acer campestre</i>	<i>Acer pseudoplatanus</i>
<i>Cornus sanguinea</i>	<i>Aesculus hippocastanum</i>
<i>Corylus avellana</i>	<i>Cotoneaster</i> sp.
<i>Crataegus laevigata</i> (possible)	<i>Fagus sylvatica</i> (planted)
<i>Crataegus monogyna</i>	<i>Ligustrum ovalifolium</i>
<i>Euonymus europaeus</i>	<i>Malus domestica</i> (cultivar)
<i>Fraxinus excelsior</i>	<i>Populus nigra</i> var. <i>italica</i>
<i>Ligustrum vulgare</i>	<i>Quercus cerris</i>
<i>Populus canescens</i>	<i>Rosa</i> sp. (<i>R. rugosa</i> ?)
<i>Prunus avium</i>	<i>Sorbus aria</i> (a Whitebeam – planted?)
<i>Prunus domestica</i> ?	<i>Symphoricarpos albus</i>
<i>Prunus spinosa</i>	<i>Syringa vulgaris</i>
<i>Quercus petraea</i>	
<i>Quercus robur</i>	Native Climbers and Scramblers
<i>Rhamnus cathartica</i>	<i>Bryonia dioica</i>
<i>Rosa arvensis</i>	<i>Hedera helix</i>
<i>Rosa canina</i>	<i>Lonicera periclymenum</i>
<i>Rubus idaeus</i>	<i>Rubus fruticosus</i> agg.
<i>Salix caprea</i>	<i>Tamus communis</i>
<i>Salix cinerea</i>	
<i>Salix</i> sp.	Non-native Climbers and Scramblers
<i>Sambucus nigra</i>	<i>Clematis</i> (garden cultivar)
<i>Ulex europaeus</i>	<i>Fallopia baldschuanica</i> (Russian vine)
<i>Ulmus glabrum</i>	
<i>Ulmus procera</i>	

Species of the hedge bottoms included many woodland herbs.

Spring-flowering Calcareous Woodland Herbs/bulbs/ferns	Summer-flowering Shade-tolerant Hedgerow Herbs/Ferns
<i>Allium ursinum</i>	<i>Alliaria petiolata</i>
<i>Anemone nemorosa</i>	<i>Anthriscus sylvestris</i>
<i>Arum maculatum</i>	<i>Ballota nigra</i>
<i>Geranium robertianum</i>	<i>Heracleum sphondylium</i>
<i>Geum urbanum</i>	<i>Pteridium aquilinum</i>
<i>Glechoma hederacea</i>	
<i>Hedera helix</i>	
<i>Hyacinthoides non-scripta</i>	
<i>Mercurialis perennis</i>	
<i>Ranunculus ficaria</i>	
<i>Stachys sylvatica</i>	
<i>Stellaria holostea</i>	
<i>Viola hirta?</i>	
<i>Viola odorata</i>	

Species of the hedge bottoms also included some calcareous grassland herbs as well as some non-natives and ruderal species.

Calcareous Grassland Herbs	Ruderals & non-natives
<i>Cruciata laevipes</i>	<i>Fallopia japonica</i>
<i>Potentilla reptans</i>	<i>Hyacinthoides non-scripta</i> x <i>hispanica</i>
	<i>Urtica dioica</i>

The diversity of the grassy verges was quite variable, depending on the level of urbanisation adjacent to the Ridge. The suite of species was, however, generally indicative of the neutral - calcareous nature of the underlying soils.

Calcicole Grasses & Herbs	
<i>Allium</i> sp. (possibly crow garlic)	<i>Ranunculus bulbosus</i>
<i>Brachypodium pinnatum</i>	<i>Sanguisorba minor</i>
<i>Brachypodium sylvaticum</i>	<i>Silene vulgaris</i>
<i>Bromopsis ramosa</i>	
<i>Artemisia absinthium</i>	
<i>Centaurea nigra</i>	
<i>Centaurea scabiosa</i>	Coarse and Ruderal Grasses
<i>Chaerophyllum temulentum</i>	<i>Anisantha sterilis</i>
<i>Ballota nigra</i>	<i>Arrhenatherum elatius</i>
<i>Cruciata laevipes</i>	<i>Dactylis glomerata</i>
<i>Galium verum</i>	<i>Hordeum murinum</i>
<i>Hypericum hirsutum</i>	<i>Poa annua</i>
<i>Knautia arvensis</i> (recorded by LAH 29/09/09)	
<i>Origanum vulgare</i>	
<i>Pimpinella saxifraga</i>	

Grasses and Herbs of Neutral Soils	
<i>Alopecurus pratensis</i>	<i>Plantago lanceolata</i>
<i>Lolium perenne</i>	<i>Plantago major</i>
<i>Poa pratensis</i>	<i>Potentilla reptans</i>
<i>Poa trivialis</i>	<i>Ranunculus acris</i>
<i>Achillea millefolium</i>	<i>Ranunculus repens</i>
<i>Anthriscus sylvestris</i>	<i>Rumex acetosa</i>
<i>Bellis perennis</i>	<i>Silene latifolia</i>
<i>Cerastium fontanum</i>	<i>Tragopogon pratensis</i>
<i>Cirsium vulgare</i>	<i>Trifolium dubium</i>
<i>Digitalis purpurea</i>	<i>Trifolium pratense</i>
<i>Lamium album</i>	<i>Trifolium repens</i>
<i>Leucanthemum vulgare</i>	<i>Vicia cracca</i>
<i>Lotus corniculatus</i>	<i>Vicia sativa</i>

Plants of Damp Soils	Ruderals /Plants of Disturbed & Enriched Habitats/Garden escapes
<i>Epilobium hirsutum</i>	<i>Anagallis arvensis</i>
<i>Filipendula ulmaria</i>	<i>Arctium minus</i>
<i>Phragmites australis</i>	<i>Armoracia rusticana</i>
<i>Solanum dulcamara</i>	<i>Artemisia vulgaris</i>
<i>Sonchus arvensis</i>	<i>Calystegia</i> sp.
	<i>Chamerion angustifolium</i>
Woodland /Shade tolerant Herbs	<i>Cirsium arvense</i>
<i>Alliaria petiolata</i>	<i>Conium maculatum</i>
<i>Bryonia dioica</i>	<i>Dipsacus fullonum</i>
<i>Geranium robertianum</i>	<i>Foeniculum vulgare</i>
<i>Geum urbanum</i>	<i>Galium aparine</i>
<i>Glechoma hederacea</i>	<i>Heracleum sphondylium</i>
<i>Humulus lupulus</i>	<i>Lactuca serriola</i>
<i>Mercurialis perennis</i>	<i>Lapsana communis</i>
<i>Ranunculus ficaria</i>	<i>Lunaria annua</i>
<i>Moehringia trinervia</i>	<i>Picris echioides</i>
<i>Silene dioica</i>	<i>Pentaglottis sempervirens</i>
<i>Viola odorata</i>	<i>Reseda lutea</i>
	<i>Rumex obtusifolius</i>
Invading Scrub	<i>Sedum acre</i>
<i>Crataegus monogyna</i>	<i>Senecio jacobaea</i>
<i>Malva sylvestris</i>	<i>Senecio vulgaris</i>
<i>Rosa arvensis</i>	<i>Sisymbrium officinale</i>
<i>Rosa canina</i>	<i>Sonchus asper</i>
<i>Rubus fruticosus</i> agg.	<i>Stellaria media</i>
	<i>Symphytum</i> sp.
	<i>Taraxacum</i> agg.
	<i>Tussilago farfara</i>
	<i>Urtica dioica</i>

While these lists paint a reasonable picture of the nature of the site, it does not provide the level of detail which could allow much interpretation of how the nature of the green lane habitat changes along its 4.5km length.

A second approach was then to plot the above suites of species in a linear fashion with the zero point, or start, being the northern end of the Ridge at the A1 near Redhouse Interchange, SE 52394 09410, the 'mid' point at the Tithe Barn, at SE 53517 06771 (Section 89 – where recording of separate lists for eastern and western hedges stopped), and the southern end (section number 153) at Wensleydale Road near Scawsby at SE 53705 06051.

The resulting bar charts graphs are presented below in a manner which, I hope, gives an at-a-glance display of the diversity and composition of the hedgerow along its length. The first shows shrubs found along both east and west sides from the northern section of the Ridge from Redhouse to Tithe Barn.

Native woody shrubs - both hedges

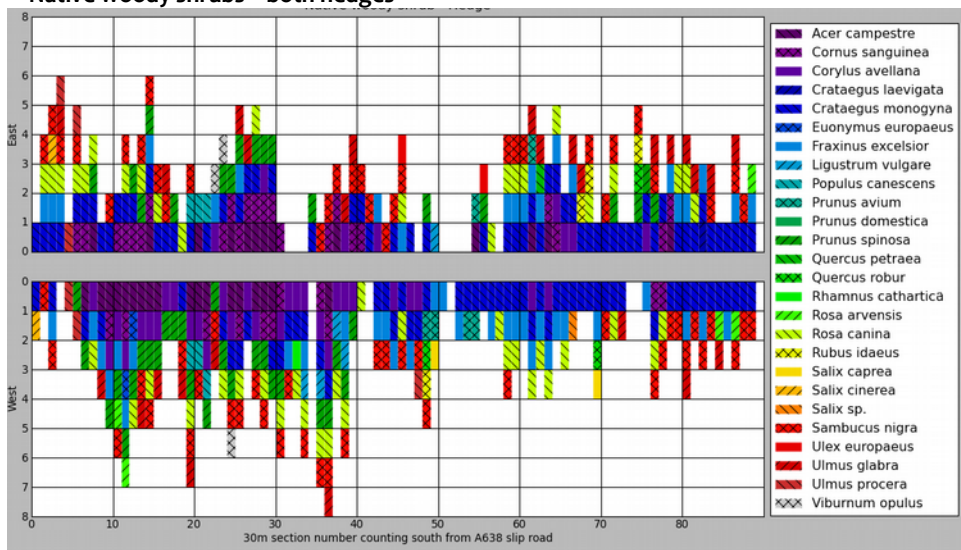


Figure 2. Woody shrubs found in both hedges from Redhouse to Tithe Barn.

Limestone species such as Field Maple *Acer campestre*, Dogwood *Cornus sanguinea*, Wild Privet *Ligustrum vulgare* and Hazel *Corylus avellana* were abundant in the northern end of the Ridge. Between Brodsworth Colliery and Tithe Barn, these species were much less frequent and hawthorn was the ubiquitous species. South of Tithe Barn, a large specimen of Purging Buckthorn *Rhamnus cathartica* was found in the eastern hedge at SE5385306123.

The graph below (fig.3) shows the total number of species per 30m length of both hedges combined along the whole of the surveyed section. There appears to be a decline in species diversity as one approaches Scawsby. Gaps in the hedges are associated with the

disturbance due to the colliery (the old colliery entrance is at 30m section No. 52) and roads (Green Lane is at 30m section No. 113).

The highest total (10 species for both hedge combined) was section No. 12, between the Chase Park and Redhouse Interchange developments. This was one of the few sections with Spindle *Euonymus europaeus* present, in addition to the other limestone species mentioned above.

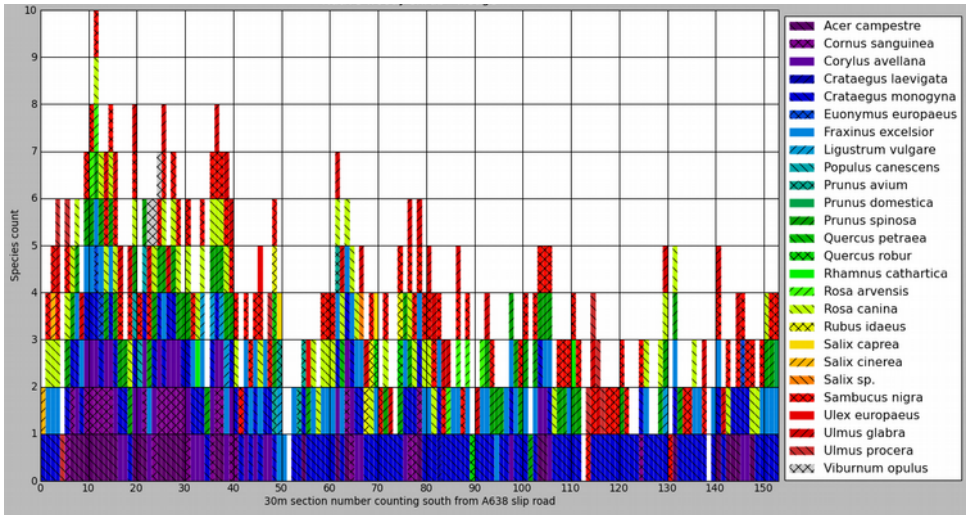


Figure 3. Species count of native woody shrubs combined for the east and west hedges from Redhouse to Scawsby.

The maximum number of non-native woody species in any of the 30m section was two. Sycamore *Acer pseudoplatanus* was absent for the northernmost fourteen of the 30m sections but was more-or-less ubiquitous throughout the rest of the hedge, being particularly prevalent from section Nos. 67 to 91 alongside Hanging Wood. Garden Privet *Ligustrum ovalifolium* was prevalent in the vicinity of Highfields housing estate.

The maximum number of native climbing or scrambling species was four. Black Bryony *Tamus communis*, the species most closely associated with limestone soils, occurred throughout the length of the Roman Ridge, with the exception of the section alongside the Woodlands housing estate where the ridge runs in a dark and shaded cutting. White Bryony *Bryonia dioica* showed a similar distribution along the length of the ridge but was slightly less frequent. Ivy *Hedera helix* and Bramble *Rubus fruticosus* agg. were ubiquitous and Honeysuckle occurred in the sections alongside the Woodlands estate.

Woodland herbs – hedge bottom

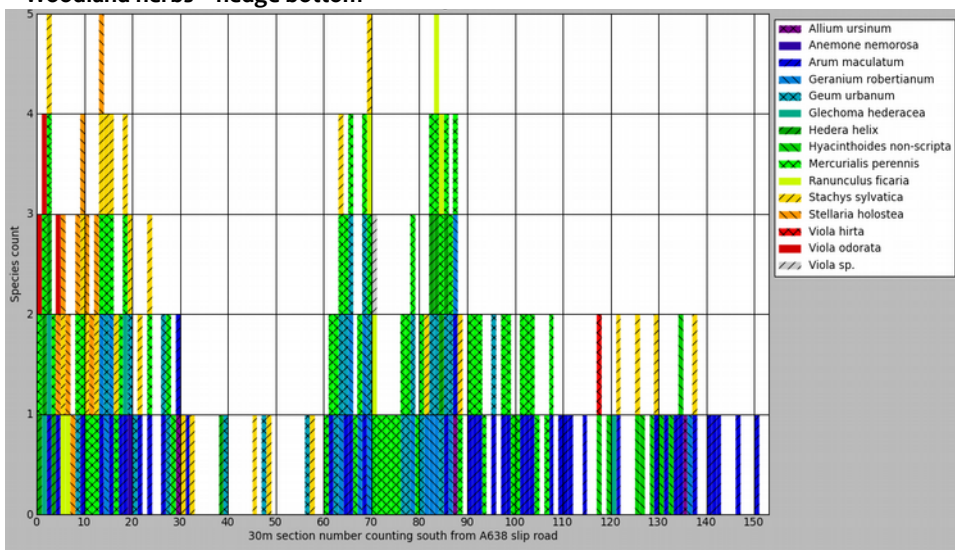


Figure 4. Species count of woodland herbs combined for the east and west hedges. Whole length from Redhouse to Scawsby.

The range of woodland herbs in the hedgerow bottom (fig.4) provides evidence of past disturbance and modification of the ridge habitat due to the effects of urbanisation. Section Nos. 30 to 60 had very few native woodland species. This section lies alongside the rear gardens of the Woodlands housing estate and the area has probably been influenced by the disturbance caused by installation of garden fences and, potentially, the use of herbicides by householders. Not surprisingly, this section had a significant count of ruderal or 'weed' species.

All non-ruderal species – hedge bottom

The number of non-ruderal grasses and herbs in the verges of the Ridge varied widely along its length (fig.5). Many sections had no non-ruderal species whereas some hotspots, such as section No. 70 (where the Ridge runs parallel to Underhills Drain), had twelve species, including greater Burnet Saxifrage *Pimpinella saxifraga*. In addition, this section had the only occurrence of Sweet Violet *Viola odorata*.

Another hotspot with 11 species occurred in Section No. 130 where Wild Marjoram *Origanum vulgare*, Crosswort *Cruciata laevipes* and Rough Chervil *Chaerophyllum temulentum* were present. A colony of garlic *Allium* sp. occurred in Section No. 119 SE 53995 05917. This species could not be identified to species level, as the specimen was not found in flower in May 2005.

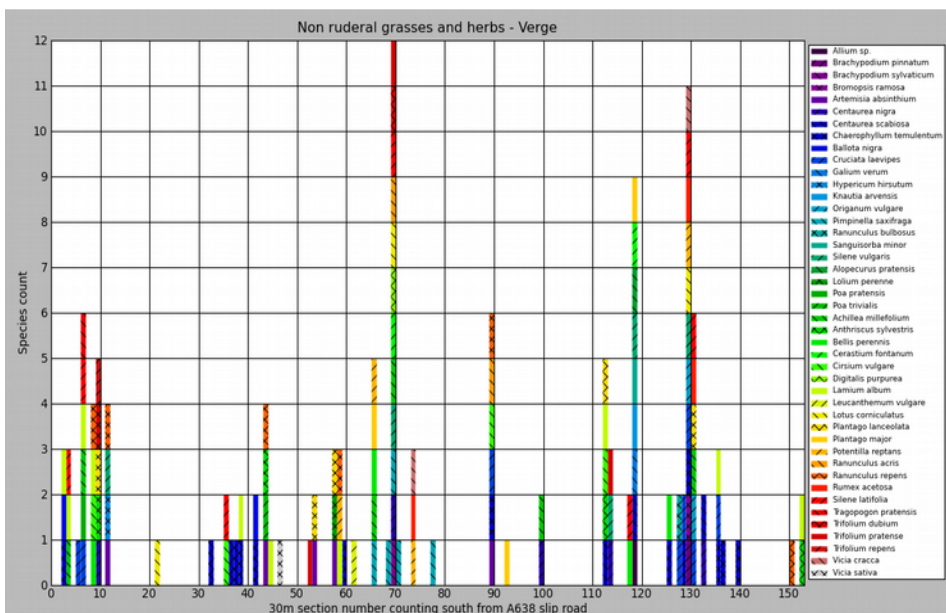


Figure 5. Species count of all non-ruderal species found in the hedge verges combined for the east and west hedges. Whole length from Redhouse to Scawsby.

This section also included Salad Burnet *Sanguisorba minor*, Field Scabious *Knautia arvensis*, Lady's Bedstraw *Galium verum* and Greater Knapweed *Centaurea scabiosa*. These are also species which are calcicoles, and this indicates that the soils in this section may be quite thin, and possibly cut into the underlying limestone geology.

To provide more detail on the nature of the habitats, the species particularly indicative of different soil types were also plotted and analysed separately. Unlike the graph for woody species indicative of calcareous soils, which are most abundant in the northern section of the Ridge, the calcareous grasses and herbs have their greatest diversity towards the southern section (Fig. 6).

The underlying geology throughout the Roman Ridge is calcareous (Dolomitic Magnesian Limestone of the Brotherton Formation). So what might be the cause of the variation in prevalence of calcicolous woody and grassland species? One possible answer is that the differences may indicate the historic land-uses which have occurred adjacent to the ridge.

Perhaps the northern end once ran though an area of diverse limestone woodland? The southern end of the ridge now runs between arable fields and has today a more-open aspect with lower hedges than the northern end. This might explain why calcareous grass and herbs are prevalent in this area but could the diversity hotspots also indicate where the ridge once passed through a clearance in the wooded landscape where species-rich limestone grasslands occurred?

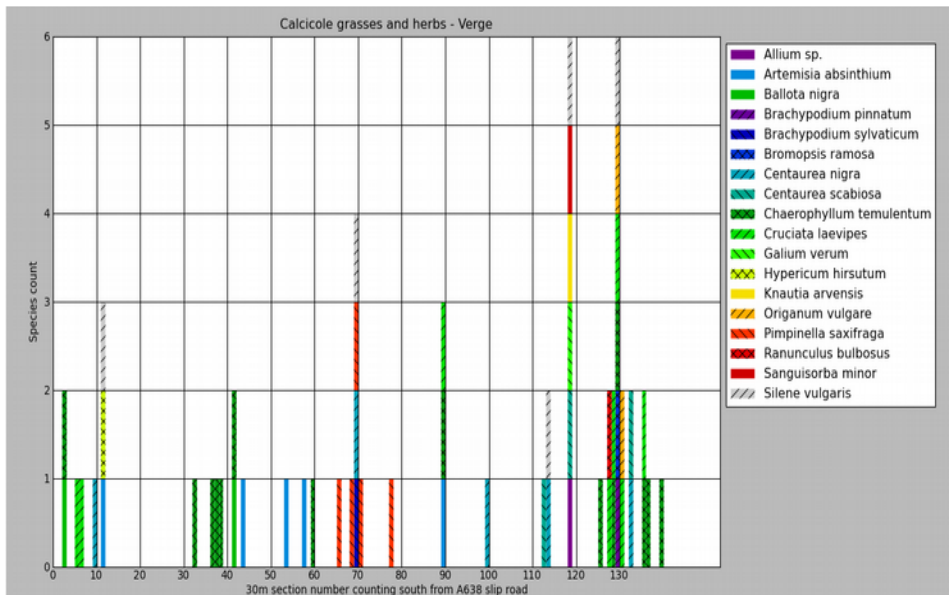


Figure 6. Species count of calcicole grasses and herbs combined for the east and west hedges. Whole length from Redhouse to Scawsby.

The Roman Ridge Cycleway

Following the construction of a surfaced cycleway along the Roman Ridge, in 2013 Doncaster Metropolitan Borough Council undertook some replanting of hedgerows where hedges were missing or shrubs had had to be removed during the creation of the cycleway. Most of the plant material was hawthorn and some of the plants used were local provenance limestone hedgerow species donated by the author, having been grown on from seeds gathered near Stainton on Austwood/Ruddle Mill Lane. The saplings included 35 Ash *Fraxinus excelsior*, 20 Spindle, 5 Holly *Ilex aquifolium*, 5 Dog Rose *Rosa canina* agg., 15 Wild Privet, 20 Field Maple, 1 Hazel and 4 Purging Buckthorns (the last grown-on from berries gathered from Roman Ridge during the survey in September 2009). The shrubs were planted in February 2014, mainly on the section immediately south of Green Lane.

It will be interesting to revisit the Roman Ridge following the construction of the cycleway to see whether the shrubs have survived and how the habitats have altered. Will the notable limestone species have survived the construction works and loss of verge habitat or has the disturbance of the soils allowed long-dormant species to recolonise from the seedbank? Perhaps it's time for the Nats to revisit the site this summer.

References

DMBC 2010 Doncaster Local Wildlife and Geological Sites System Appendix A – Local Site Selection Guidelines Supplementary Planning Document
Geology of Britain viewer. <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

New Galls

Tom Higginbottom



Figure 1. Ram's-horn Gall *Andricus aries*.



Figure 2. *Andricus gemmeus*.

Having recorded plant galls for a number of years it is interesting to reflect on how many different species have appeared in our area in recent times. The Knopper Gall *Andricus quercuscalicis*, which galls the acorn of the Pedunculate Oak *Quercus robur*, first arrived in Britain in the 1950s and has become common in Yorkshire since the 1960s. In 2017 it was abundant, galling almost every acorn of some trees. Some authorities indicate that it does not occur on the Sessile Oak *Q. petraea*, although it can be found on the hybrid (*Q. x rosacea*) of the two common Oaks. In 2011 Bill Ely recorded an old example of *A. aries*, the Ram's Horn gall (Fig.1), formed on an Oak bud when he was exploring on Lindholme Moor. This was probably the first record in Yorkshire. The Ram's Horn gall is aptly named because a curved structure reminiscent of ram's horns emerges from the bud. Recently there has been some debate about examples which are much longer, and it is thought this increase in size may be linked to the gall causer itself being parasitized. *A. aries* has become common in our local area. During visits to habitats south of Yorkshire in the early 2000s with the British Plant Gall Society, Ian Farmer and I were shown a distinctive, colourful Oak gall, *A. gemmeus* (Fig.2), which was often seen on a dormant bud emerging from the bark of some Oaks. In 2012 we found our first Yorkshire specimens in Scabba Wood. In more recent years it has never been discovered in great numbers although ten examples were recorded on a single Oak in King's Wood, Bawtry, in 2017.

Turkey Oak, *Quercus cerris*, was introduced into Britain in 1735 and planted as a specimen tree in various gardens. There are mature Turkey Oaks in Brodsworth Hall Gardens and

Sandall Park, but there are younger trees in the hedgerows around Skellow and other local areas. Leaves of Turkey Oak are longer and slimmer, although the short stalked bristly acorn cups are a feature which make identification easy. The gall *A. grossulariae* (Figs. 3 & 4)) has a spring generation on Turkey Oak catkins and a summer generation on *Q. robur* acorns. It is thought it first appeared in Britain in about 2000. The catkins of Turkey Oak galled by the first generation of *A. grossulariae* form reddish currant-like galls with a distinctive point. They were first recorded in Skellow in 2011. These galls often remain on the catkins until autumn turning brown in colour. The catkins of the Turkey Oak in Brodsworth Hall and on two other trees in the Skellow area are frequently galled. The second generation of *A. grossulariae* form galls in the acorn cup of *Q. robur*. It was first recorded in Bawtry Forest in 2009. It forms blunt rectangular spines, sometimes with lines running along each spine. On the Beech Lawn wildflower area at Brodsworth Hall *Q. cerris* and *Q. robur* grow near each other, the galls of the spring generation can be seen on Turkey Oak catkins and then later the summer generation on the acorn cups of the neighbouring *Q. robur*. In 2017 at Denaby Ings *Neuroterus saliens* was found on the leaves of a young Turkey Oak. It forms spindle shaped swellings along the central midrib on the underside of the leaf. Similar swellings can occur along young twigs.



Figure 3. *Andricus grossulariae* 1st generation on Turkey Oak.



Figure 4. *Andricus grossulariae* 2nd generation on Common Oak.

Andricus lucidus, the Hedgehog Gall, was first recorded in Britain in Regents Park in the 1990s, a similar time to the first records of *A. aries*, *A. gemmeus* and *A. grossulariae*. Unlike the other galls, it is still confined to the south of the country although in 2014 Ian Farmer found a single old example in Hurst Plantation to the east of Rossington. In 2017 it was reasonably common in Dulwich Park, London, with one example galling the same bud as *A. aries*.

One of the first galls to be seen on the buds of Oak in early spring is the first generation of the Oak Apple Gall, *Biorhiza pallida*. A well-formed example looks like a rosy crab apple. The distribution of galls can vary on an annual basis. The Oak Apple is often not that common, but in all the years I have been recording galls 2017 was exceptional for this species. I was

alerted to this by comments from Steve Robbins, a naturalist friend who lives in Durham, who had recorded the gall over many years but had never seen it in great abundance. He was overwhelmed in April 2017 to discover approximately 150 Oak Apples on a single mature tree. One of the finest Oak woods in our area is King's Wood near Bawtry. In May I discovered 50 Oak apples on a single tree. In previous years my counts had never reached double figures even when I had been recording for a whole day. It is thought that the variation in the number of galls is linked to when the asexual female lays her eggs in the dormant leaf bud. She emerges from a root gall in December or January, as she is wingless she climbs the trunk of an Oak tree and searches for a suitable bud. She drills repeatedly with her ovipositor, laying many eggs in the dormant leaf bud. The process of checking the bud and laying eggs can take up to three hours and all the while the female is exposed to high winds, cold and rain in the leafless Oak tree. The gall is fully developed in May or early June. The Met Office indicated conditions in early January 2017 may have been ideal for the emergence of the female *B. pallida*. The temperatures in January 2017 were 0.2°C above average and it was generally a dry month, quite sunny and mild in the north.

In 2013 a mite gall, *Aceria dispar*, was discovered rolling and distorting the leaves of Aspen, *Populus tremula*. In the Plant Gall Key (2011) it was referred to as being 'rare', but has been recorded frequently near Cadeby and Cusworth Park. Aspen seems to have been included in planting schemes for so many of our local reclaimed areas, providing more opportunities for the mite gall. Mite galls are often seen on Sycamore, but it was interesting to discover a midge gall, *Dasineura irregularis*, wrinkling and distorting the leaves of Sycamore saplings in Black Carr Plantation in 2014. In 1992 the DNS carried out a survey of Wadworth Wood in which Dorothy Bramley was surprised to discover a number of small examples of the Wild Service Tree, *Sorbus torminalis*. In her report she described how uncommon it is in the Doncaster area. In April 2017 many mature examples were discovered at the same site. In 1992 John Pearson recorded the mite gall *Eriophyes torminalis* which forms pimples on the leaf surface and it was again quite abundant twenty-five years later.

Walnut trees are often present in our local area. Near the church in Owston village is a mature Walnut which is always galled by the mite *Aceria erineae* which forms numerous bulges on the leaves. Silver Maple, *Acer saccharinum*, a common ornamental tree planted near the mill pond at Tickhill and in Sandall Park is frequently galled by the mite *Vasates quadripedes* forming red pimples on the leaves (Fig. 5). *Robinia pseudoacacia*, the False-acacia is present in Elmfield Park and Sandall Park. In 2016 and 2017 the midge *Obolodiplosis robiniae*, which rolls the edge of the leaf, was recorded in both localities (Fig. 6). In recent years in some places (such as in Nottinghamshire) there have been population explosions of this gall and then it seems to have disappeared.



Figure 5. *Vasates quadripedes* on *Acer saccharinum*.



Figure 6. *Obolodiplosis robiniae* on *Robinia* leaves.

The Common Reed is often galled by the fly *Lipara lucens* which swells the stem and is easy to see during the winter months. An uncommon gall *Lipara rufitarsis* was revealed by a slight swelling in a reed stem, beneath was a central chamber containing white maggots. Tufted Vetch flower pods were swollen and distorted by the midge gall larvae of *Dasineura spadicea*. Another unusual midge gall identified during the meeting was *Ozirhincus tanceti*, which slightly swells individual florets of Tansy which protrude above the normal florets. At Sprotbrough Flash and Denaby Ings flower heads of Tansy were host to a rivet-like gall midge *Rhopalomyia tanaceticola*, but none of this species were found at Potteric Carr. In the last few years, Ashley Watson, a staff member at Potteric Carr has discovered some rather unusual galls. In 2016 he found enlarged flowers of Pink Water-speedwell *Veronica catenata* caused by a weevil *Gymnetron villosulum*. There are few Yorkshire records of this weevil. In 2017 he found the stem of Cat's Ear *Hypochaeris radicata* swollen and distorted by the white larvae of the wasp *Phanacis hypochoeridis*.

It is not surprising how the movement of plants by people also leads to galls being recorded in new sites. Pip Seccombe was given the gift of some Red Valerian plants, *Centranthus ruber* by a friend in Cambridge. Later in the summer Pip discovered the leaf margins rolled and thickened by a psyllid gall *Trioza centranthi*, a gall which seems to be moving from the south coast where it has become common in recent years.

I find the study of plant galls fascinating because each year is so different from previous years; the appearance of new species, the changes in abundance and the discovery of galls on different hosts. The publication of field guides with photographs and access to helpful websites all aid identification.

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How common is the arable liverwort Common Crystalwort?

Steven Heathcote

Common Crystalwort *Riccia sorocarpa* is a thallose liverwort of open ground. This species is often found in arable fields as part of an assemblage of bryophytes that complete their lifecycles over winter. Common Crystalwort is usually part of a species-rich arable community and is therefore a useful good indicator of high bryophyte diversity (Preston *et al.* 2010). The species has a distinctive appearance, only likely to be confused with Glaucous Crystalwort *Riccia glauca*. These two species therefore lend themselves to rapid survey compared to other arable bryophytes, most of which require examination of microscopic features for confirmation.

The national survey of bryophytes on arable land (SBAL; Preston *et al.* 2010) found Common Crystalwort in 31.5% of samples, although some recording was targeted at known ‘special’ fields meaning the detection rate is likely to be higher than a fully random sample. Two other thallose liverworts that do well in arable fields were not as common (Glaucous Crystalwort 25.5%; Common Liverwort *Marchania polymorpha* subspecies *ruderalis* 8.9%). The species entry for Common Crystalwort in the BBS Atlas (Blockeel *et al.* 2014) shows the species was recorded in 606 hectads in Britain since 1990, including 67 records in South Yorkshire (VC63). In the atlas the authors describe a “general downward trend” in the species, although not significant enough to cause conservation concern. The decline was attributed to the move to autumn-sown crops which reduces the amount of stubble left over winter.

This study aims to provide an unbiased estimate of how often Common Crystalwort occurs in the arable landscape in a small area of central Yorkshire. This will provide a proxy for the occurrence of species-rich bryophyte assemblages in stubble fields in the area. This is of particular interest given the increasing use of autumn-sown crops and of winter cover crops. These reduced number of years in which stubble is left long-enough for arable bryophytes to complete their life cycles, and may ultimately lead to significant declines in previously common, widespread species.

Methods

In November and December 2017 stubble fields around Balne (VC63) were surveyed from public rights of way (PRoW). Each stubble field was searched along the route of the PRoW at a slow walking pace for the presence of thallose liverworts. One specimen from each field was taken for confirmation of identification using microscope characters. Data on soil type were taken from the soilscape viewer (Farewell *et al.* 2011).

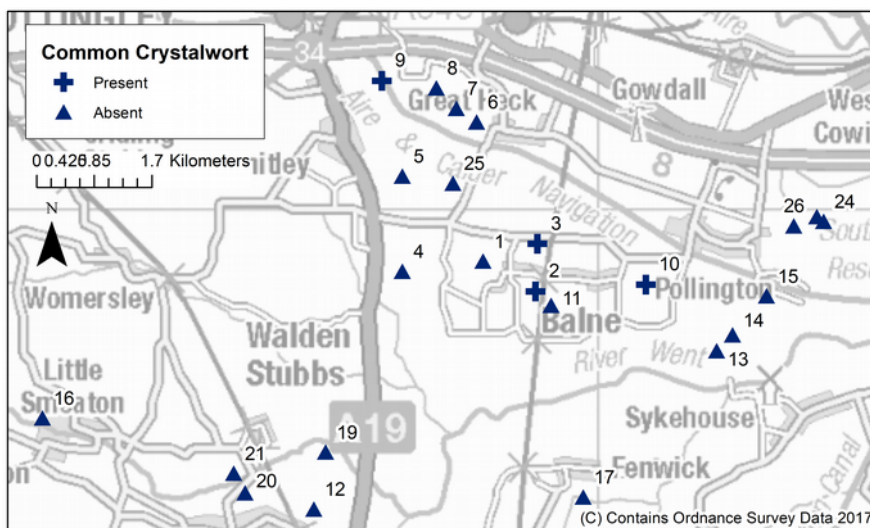


Figure 1. Location of the stubble fields showing locations where Common Crystalwort is present (two fields are omitted from the figure). Two records (18, 22) not shown.

Only fields with stubble from wheat or barley were included. Fields that had been planted with a winter cover crop were excluded. Fields were not counted as an absence if a path of less than 25m could be searched. However, presences were counted as soon as the species was found, even if the search area was less than 25 m. Each field was assessed only from the public right of way so it is possible some populations were overlooked (e.g. where they are limited to one field corner). The frequency of occurrence of species was compared to the frequency reported in the SBAL study (Preston *et al.*, 2010). This was done using two-tailed chi-squared test (χ^2), with the SBAL frequency used determine the expected values.

Results

Common Crystalwort was encountered in five out of the twenty-six fields surveyed (19%). This is not statistically different from the occurrence in the SBAL study ($\chi^2=1.8$, $p=0.17$). Of the five fields where Common Crystalwort was found four of them have 'slightly acid but base-rich' soil which was the most common soil type for the fields examined. The remaining record was from 'freely draining slightly acidic sandy' soil in Brayton. No records of Common Crystalwort were found from the third broad soil type: loamy. Surveyed fields with a loamy soil are all distributed in the south and east of the sample area. Otherwise occurrences appeared to be randomly distributed and not clustered (Figure 1).



Figure 2. Images of the three liverworts, Glaucous Crystalwort *Riccia glauca* (top), Common Liverwort *Marchania polymorpha* (bottom left) and Common Crystalwort *Riccia sorocarpa* (bottom right).

Two other common arable liverworts were recorded: Common Liverwort occurred in 5 fields (19%) which is not significantly different from SBAL ($X^2=3.4$, $p=0.06$) and Glaucous Crystalwort occurred in a single field which is less than expected from SBAL ($X^2=6.4$, $p=0.01$).

Discussion

Common Crystalwort is present in scattered locations around the area surveyed. The occurrence of Common Crystalwort in particular fields appears to be relatively random; with no particular association with soil type but there is not a sufficiently large enough sample size to test this. Of the fields surveyed the proportion in which the species occurs is not significantly different from the national survey. This suggests that where stubble fields are present, Common Crystalwort and the species-rich assemblage it is often associated with, are no less common in the study area than nationally. This might suggest that the species is able to survive despite the shift to autumn-sown crops seen in recent times and increasingly winter cover crops. However, shifts in agricultural practice may have a delayed

effect on arable bryophyte assemblages through long-term reduction in population viability. The occurrence of Common Liverwort in a high number of fields is not surprising given it is very widespread away from arable land and so is less reliant on stubble habitat for persistence in the landscape. Overall this survey has shown that Common Crystalwort, and by proxy a rich assemblage of arable bryophytes, persists in the local landscape around this area of Yorkshire.

Acknowledgements

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Table 1. Location, liverworts present and soil types for each site surveyed.

ID	Parish	Grid reference	Liverworts	Soil
1	Balne	SE583192	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
2	Balne	SE58931877	CC	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
3	Balne	SE591195	CC	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
4	Balne	SE571191	Absent	Loamy soils with naturally high groundwater
5	Whitley	SE571205	Absent	Freely draining slightly acid sandy soils
6	Heck	SE582213	CL	Freely draining slightly acid sandy soils
7	Heck	SE579215	Absent	Freely draining slightly acid sandy soils
8	Eggborough	SE576218	Absent	Freely draining slightly acid sandy soils
9	Eggborough	SE568219	CC	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
10	Pollington	SE607189	CC, GC	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
11	Balne	SE593186	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
12	Norton	SE5579415598	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils

13	Balne	SE6183318052	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
14	Balne	SE6178318189	CL	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
15	Pollington	SE62351872	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
17	Fenwick	SE59771575	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
18	Rawcliffe	SE705197	Absent	Loamy and clayey soils of coastal flats with naturally high groundwater
19	Norton	SE5597016438	Absent	Loamy soils with naturally high groundwater
20	Norton	SE5478215839	Absent	Loamy soils with naturally high groundwater
21	Stubbs Walden	SE5461416126	CL	Loamy soils with naturally high groundwater
22	Brayton	SE5879830386	CC, CL	Freely draining slightly acid sandy soils
16	Little Smeaton	SE5179116941	Absent	Freely draining lime-rich loamy soils
23	Snaith & Cowick	SE63211990	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
24	Snaith & Cowick	SE63311983	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
25	Whitley	SE5813620371	Absent	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
26	Pollington	SE6288019770	CL	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils

¹ Abbreviations: CC = Common Crystalwort, GC = Glaucous Crystalwort, CL = Common Liverwort.

A review of Odonata at Thorpe Marsh, 1983 to 2017

Mick Townsend, *volunteer warden*

Since Thorpe Marsh Nature Reserve was opened in 1980 twenty species of Odonata have been recorded. However, one of these, Black Darter, was recorded only in 1984 and another, Golden-ringed Dragonfly, was reported only in 1987, 1988 and 1991. During the most recent five years, 2013 to 2017, eighteen species have been recorded, with several species having been recorded for the first time in the last five to ten years.

Thorpe Marsh Nature Reserve occupies 73 hectares over most of grid square SE5809 and the eastern edge of SE5909 but for recording purposes the whole of square SE5909 is

included. References to “the recording area” mean the nature reserve and the rest of square SE5909. The recording area has a range of habitats including two large still-water bodies, several small ponds and scrapes, land drains and narrow borrow pits (named L-ponds by wardens). The large ponds, the scrape and the borrow-pits all have *Phragmites* beds as well as open water.

Odonata recording

From 1983 until 1986 records were kept by a paid part-time warden, Michael Betts, and by volunteer wardens. Volunteer wardens have maintained records since then. Between 1996 and 1999 almost all Odonata records were made by Doug Parker. From 2006 onwards I have collated the records made by me and by some of the other volunteer wardens. Numbers recorded should be used as a guide rather than a precision instrument because different areas are recorded on different visits and because the expertise of observers varies.

Visits by Yorkshire Naturalists' Union members in 2014, 2015 and 2016 and by Goole and District Naturalists' Society (G&DNS) in 2014 boosted the maximum numbers recorded for some species.

From 2011 onwards records have been made of teneral, wheel pairs, tandem pairs and ovipositing individuals.

Species accounts

Zygoptera

Banded Demoiselle *Calopteryx splendens*

First recorded in 2006 and seen every year since. All counts have been in single figures except for 12 once in each of 2015 and 2016 and a 2015 report of a tandem pair east of the recording area at the site of the demolished Thorpe Marsh power station.

Most sightings are from the River Eaubeck and the nearby L-ponds. The Eaubeck is a slow-flowing land drain also called Thorpe Marsh Drain, typical Banded Demoiselle habitat. They are also recorded over much of the nature reserve itself.

Emerald Damselfly *Lestes sponsa*

Recorded every recording year from 1984 to 1991, in 2007 and every year from 2009 onwards. All counts have been in single figures except for 11 in 2014 and 2016 and 30 also in 2014 when a group from G&DNS visited. Tandem pairs were seen in 2014 and 2016.

The variety of ditches, ponds and the Eaubeck, all with plenty of emergent vegetation, provides ideal habitat for larvae.

Large Red Damselfly *Pyrrosoma nymphula*

Reported all years except two. Most counts were in single figures though 2005 had a 65 and 2015 had a 25 and 35. Most sightings have been in the North Mere/Mere Scrape/Field Station Road west/Sicklecroft area, with the L-ponds and L-ponds south featuring. These areas have suitable larval habitat and Field Station Road west comprises a double line of silver birches with verges containing bramble patches for perching adults.

Wheel or tandem pairs were seen during four of the six years from 2011.

Azure Damselfly *Coenagrion puella*

Recorded every year except one. Nearly every year has had a maximum of more than 40 adults. 2013 to 2015 had maxima in excess of 100 adults including an impressive 257 in 2013. Seen throughout the recording area with its variety of water bodies. On 22nd July 2013 at least 180 adults were criss-crossing Applehurst Pond, including at least 25 pairs in tandem and ovipositing.

Tenerals and wheel and tandem pairs have been seen in each of the last six years and oviposition has been observed during five of those years.

Common Blue Damselfly *Enallagma cyathigerum*

Recorded most years and every year from 2008 onwards. Most counts were of up to 10 adults. The overall maximum of 40 in 2014 was a result of a visit by a group from G&DNS. Seen throughout the recording area with the L-ponds particularly frequented.

Wheel or tandem pairs have been reported during four years since 2011 and oviposition in three of those years.

Blue-tailed Damselfly *Ischnura elegans*

Recorded every year except two and every year from 2007. Most counts were of up to 10 adults, although 2014 and 2015 had most counts up to 20 with maxima of 33 and 35 respectively. Seen widely throughout the recording area but predominantly in the L-ponds area, Applehurst Pond and the Field Station Road west/Sicklecroft area.

Tenerals and wheel pairs were seen during each of the last six years and oviposition occurred in 2015.

Red-eyed Damselfly *Erythromma najas*

First recorded in 2013 (a single adult). In 2014 there were 12 at the southern end of Applehurst Pond and in 2015 a female and a male were within two metres of each other near the drain into Thorpe Mere. 2016 and 2017 had no sightings.

Applehurst Pond has an area of water lilies that this species favours.

Anisoptera**Hairy Dragonfly** *Brachytron pratense*

First recorded in 2007 and in every year since. Generally up to 4 individuals seen but there was one count of 7 in 2012. Seen widely in the recording area and particularly at the L-ponds and the Thorpe Mere north/Mere Scrape area. One was seen ovipositing in 2009.

Common Hawker *Aeshna juncea*

Seen during most years up to 2007 but since then recorded in 2014 only, with five sightings of up to 3 adults.

Migrant Hawker *Aeshna mixta*

A maximum of 14 was reported in 1983 and there is a record from 1985 but the next report was from 2006. They have been recorded in every year since then. Most yearly maxima are 6 to 10 but there was one count of 16 in 2012. Seen throughout, especially around Thorpe Mere, at the Mere Scrape, in Reedholme and in the bridle path/Smallholme area. The variety of water bodies is ideal for this species.

A teneral was seen in 2011, a tandem pair was reported in 2013 and wheel pairs in 2011 and 2014.

Southern Hawker *Aeshna cyanea*

There were no reports before a possible sighting in 2007. Recorded every year from 2009 onwards. Generally 1 or 2 seen but there are a few counts of up to 5.

Seen across most of the recording area. Adults are seen most often in areas bordered by hedgerows, such as Field Station Road west/old field station area, the bridle path near to Smallholme and east and north Reedholme. The L-ponds also feature.

Brown Hawker *Aeshna grandis*

Reported in every year except 2005. Maxima range up to 11, although a group from the G&DNS counted more than 20 on a visit in 2014. Found throughout the reserve and recording area. The range of water bodies suits this dragonfly.

Oviposition was seen in 2011 and an exuvia was found at Applehurst Pond in 2015.

Emperor Dragonfly *Anax imperator*

First recorded in 2008 and subsequently every year except 2012. No more than 2 have been seen on any single day. Almost all records are of 1 or 2 males at the L-ponds. The exceptions are a female at rest in Smallholme (a hay meadow) in 2008, a male at the Mere Scrape in 2009 and single males at the River Eaubeck, Thorpe Mere View field and Applehurst Field in 2015 and a female ovipositing in the tip area in 2016.

Golden-ringed Dragonfly *Cordulegaster boltonii*

Recorded in 1987, 1988 and 1991. No numbers were recorded. Seen in Sicklecroft and Smallholme in 1987.

Reported by reliable recorders so these are considered to be valid records even though Thorpe Marsh does not match the breeding habitat of acidic rivers and streams.

Four-spotted Chaser *Libellula quadrimaculata*

Recorded up to 1991, in 1998 and then every year from 2007 onwards. Maxima are in the range of 7 to 9 but 2009 had a 13 and 2013 had an 11.

Ranges widely including the pastures and meadows but favours the L-ponds and Mere Scrape in particular. Oviposition was observed in 2011, 2012, 2014 and 2015.

Broad-bodied Chaser *Libellula depressa*

Recorded in 2009, 2011, 2014 and 2015. All counts were of 1 or 2 adults including a wheel pair at the Mere Scrape on 24th June 2011. Adults have been seen in east Reedholme, adjacent to Applehurst Field, at Louis's Pond in 2014 and 2015 and the north Thorpe Mere/Mere Scrape area in 2011.

During 2010 there were two developments that may have benefitted this species, which often uses recently-created ponds. Louis's Pond was excavated in Applehurst Field and half of the Mere Scrape was opened up by the clearance of Phragmites and Typha.

Black-tailed Skimmer *Orthetrum cancellatum*

First recorded in 2010 and in every year since except for 2014. Usually single adults but 2011 and 2016 each had 2 on one occasion. Males and females have been seen in most parts of the recording area.

As with Broad-bodied Chasers this is a species that favours newly-created ponds.

Common Darter *Sympetrum striolatum*

Reported during every year that has had a full set of records. Most counts were of up to 25 adults with year maxima generally between 20 and a high of 60 in 2014. Wheel and/or tandem pairs were seen on five of the last six years and oviposition was observed on four of those years.

The wide range of water bodies provides plenty of habitat for this species.

Ruddy Darter *Sympetrum sanguineum*

Recorded every year from 2013 to 2017. All counts have been in single figures except for 50 seen by G&DNS in August 2014 and up to 8 in 2017. It is possible that this species was present before 2013 but that some individuals were misidentified as Common Darters. The use of digital cameras has been a great help in distinguishing the two species.

Seen throughout the recording area especially in Reedholme, at Applehurst Pond and at the L-ponds. A wheel pair was seen in 2014.

Black Darter *Sympetrum danae*

As reported by Michael Betts, YWT nature reserves officer, “A male specimen of *Sympetrum danae*, a semi-migratory species more typical of acid marsh, was found in the New Drain on 29th August 1984.”

New Drain is now referred to as the Mother Drain.

This article is largely based upon one printed in the 2017 edition of *Skimmer*, the annual magazine of the Yorkshire Dragonfly Group <http://www.yorkshiredragonfly.org.uk>

Royal fish sold for Miners' Children's Distress Fund

Colin A. Howes

Prior to the 2nd World War huge fishing fleets working the North Sea, particularly the Dogger Banks operated out of the Humber ports of Grimsby and Hull. Whereas the main catches were of cod and herring other more exotic species were occasionally landed. One of the largest was the now almost extinct Sturgeon *Acipenser sturio* local specimens of which, according to ancient statute, have to be offered to the reigning monarch.

On 18 March 1932 a particularly large sturgeon was landed at Hull which ended up having beneficial links with the Doncaster region, the story featuring in the *Hull Daily Mail* (19 March 1932) as follows:

“Giant Fish to be sold in Hull for Charity: The sturgeon caught by the Hull trawler *Forward-Ho!* and which was landed at Hull yesterday [18 March], is to be sold on behalf of the Miners’ Children’s Distress Fund, Moor Ends [Thorne] and Stainforth [Hatfield] Collieries.

As reported yesterday, the fish was purchased by Mr. David Kean, the well-known Hull fish merchant, who wired to Buckingham Palace asking the Prince of Wales to accept the sturgeon. Last night Mr. Kean received the following message from the Prince’s private secretary: ‘The Prince of Wales much appreciates the kind offer but his Royal Highness is not returning to London till early next week and is unable therefore to accept’.

Mr. Kean replied expressing his thanks for the telegram, adding that the sturgeon which weighed 19 stones and was 8½ ft. in length would be sent to Mr. W.W. Cupitt of Barber and Sons, to be sold for the fund.” How much the sale of the fish finally realised for the miner’s children’s charity is not recorded but the fish must have been placed on the next train to Thorne, the *Doncaster Chronicle* (25.iii.1932 p.13) noting the following in its District News section:

“Moorends A Sturgeon – A royal sturgeon weighing 19st. 7lb. and measuring 8ft 8 inches was on exhibition by a fish company outside the Winning Post Hotel last Saturday [19 March]. Children found it a source of much interest”.

Sturgeon steaks would have been quite a change from the usual Saturday night cod-and-chips but who finally bought the sturgeon steaks and how much they cost per pound is sadly not recorded. I wonder if memories of its flavour ... and smell ... still survive in the folklore of Moorends and Stainforth?

Tunny in Doncaster

Colin A. Howes

Prior to the First World War, trawler and herring drifter skippers operating out of Yorkshire harbours began to notice the presence of huge fish attracted to fishing catches as they were being hauled aboard. In fact these mystery fish were considered a nuisance since they split or frightened off the shoals of spawning herring which formed the basis of the summertime fishing economy.

When eventually it was discovered that these mystery nuisance fish were Tunny, Scarborough Corporation and Scarborough Harbour Commissioners promoted the idea of hunting these fish for sport. Quickly a frenzy of interest was generated within the international ‘Big Game’ sea angling fraternity and from the 1920s to the 1950s the resorts

of Scarborough and Whitby became a mecca for the rich and famous to take part in or be associated with competitive Tunny fishing.

1933 saw the formation of the British Tunny Club (BTC) based in premises on Sandside*, Scarborough, which formed a focus for big game Tunny fishing. It prescribed rules for fishing methods, standards for equipment and protocols for verifying methods of capture and the weighing of specimens. It also awarded the much sought after BTC certificates for fish caught and weighed according to the prescribed methods. Cups and trophies were presented annually for the heaviest fish of the season and for the heaviest fish caught by women anglers and by novices. The greatest motivating theme throughout was to beat previous records and to achieve the UK or even the world record for the heaviest Tunny caught on rod and line from a rowing boat. Interest was further fanned by the plethora of press coverage in regional and national newspapers and in sea angling and society magazines (Howes, 2016). (* the Tunny Club premises still exist, now forming one of the town's sea front fish-and-chip restaurants and is appropriately adorned with Tunny fishing ephemera and collectables).

Lasting trophies in the form of taxidermy specimens, trophy heads and tails were commissioned by moneyed aficionados. This led to fish being transported to the specialist London-based taxidermy firms, notably Edward Gerrard & Son of 61 College Place, Camden Town, London NW1 and Rowland Ward, The Jungle, Piccadilly, London W1 (Howes, *loc. cit.*).

The first example of the rapid transport of a fresh specimen from Scarborough via Doncaster to London was reported in the *Doncaster Gazette* (19.ix.1930) as follows "Tunny Fish as Passenger - The LNER report that a Tunny fish weighing 591lb which was caught off Scarborough on September 9 was conveyed by passenger train to King's Cross. The Tunny fish was destined for the Natural History Museum [South Kensington] and is the first to be conveyed by train in this country". The specimen, measuring 8ft 9inches in length, had been caught 12 miles off Scarborough by F.B. Hannam. A full body cast was made at the museum plus a copy for the British Sea Anglers Society in Fetter Lane, London. The museum's cast still exists in the collections (Acc. No. 2012.11.23.1 NHMUK:ecatalogue:2651012) along with the hook, the trace and a sample of line used to catch the fish (Howes, *loc cit*).

Numerous specimens were caught during each summer season, though after certificates and trophies had been awarded and ego-driven photographs posed for, little thought was put into the disposal of the corpses. Some were exhibited in Scarborough and Whitby to raise funds for charitable purposes but it didn't seem to occur to anyone to use them as food, even though there had long been a demand by 'Johnny foreigners' particularly in Mediterranean countries and thriving canning industries existed abroad.

During the early 1930's Tunnies began to enter the UK human food chain with specimens being sent to markets around Yorkshire. The first to appear in Doncaster was noted in the *Doncaster Gazette* (31.viii.1933) as follows "A Tunny: Great interest has been taken in the tunny which has been on exhibition and sale at a High Street Fishmongers. The fish weighed 700lb and was caught on rod and line off Scarborough".

Ernest Philips, editor of the *Doncaster Chronicle* and a keen angler, provided a more extensive coverage "I saw my first Tunny at close quarters on Tuesday. It reposed in great dignity on the slab at Newby's fish shop in [10] High Street and a bill nearby intimated that it was a 700lb specimen and that it was one of half a dozen caught on rod and line off the East Coast [Scarborough] over the week end. Two things struck me as one used to handling fish. The first was the immense girth of the body compared with the length. For a 700lb fish it was remarkably short, all the weight being in a stocky-built body shaped like a barrel. The second point of interest was the smallness of the fins remembering that a Tunny of this size could tow a rowing boat containing three or four men at a terrific speed over the sea and that it could keep up this pace for hours and hours on end. I was left wondering where it derives its enormous power of propulsion, for its fins were so small they conveyed no indication whatever of speed and power. It was an interesting sight and I congratulate Newby's on being the first to present such a spectacle to Doncaster people. Hundreds stood before the shop during the day and it was amusing to hear the comments. One youth of the know-all type flatly denied that it had been caught on rod and line. He knew, you see, for he had been to Bridlington and caught a few 'flatties' and mackerel!"

A New Industry – Curiously enough, the same day I saw this tunny I received a letter from my old Doncaster angling friend Mr. F.S. Dunn now living in retirement near Darlington. He told me that a Whitby Tunny had been on sale at Darlington, and that he himself had any amount of tinned tunny in the Mediterranean – and liked it – he went out and bought a slice at 8d. a pound. He cut it into steaks about an inch and a half thick and after cooking it he came to the conclusion that it tasted like a very superior mackerel. Mr. Dunn having seen what was done abroad with tunny and having tasted an English specimen arrived at the conclusion that we have in our hands a new English industry – the canning of tunny as an article of cheap and wholesome food ...” (Philips 1933). Sadly there was no mention of what became of the Doncaster specimen, how much its flesh was sold for and what Doncastrians thought of its taste.

The same issue of the *Chronicle* also featured a photograph of 'The Tunny Fleet at Anchor' showing that lying among the fishing fleet in Scarborough's South Bay were three yachts belonging to celebrated tunny anglers who were making Scarborough their headquarters for the 1933 season. The Yachts were the St George (Colonel E.T.Peel), the Nahlin (Lady Yule) and the Vita (Mr. T.O.M. Sopwith).

Further evidence of east coast Tunny fish slowly making their way onto the extremely conservative British food market was a 720lb specimen caught by T.O.M. Sopwith in September 1933 sold to the British Fish Cannery, Leeds and becoming the first Tunny to be canned in this country (*Daily Sketch* 13 September 1933). Specimens were also being disbursed through the wet fish trade, a sepia picture postcard dated 8 October 1933 (*pers. comm.* C.I.Massey, late curator of Wood End Museum, Scarborough) showed a large Tunny displayed outside the frontage of G.E. Clark Fishmonger, Goole, with a chalkboard notice advertising the following "This Tunny 500lb was the largest of 4 caught yesterday off Scarborough. The other three went to London, Hull and York. Goole got the best. The Tunny will be cut up at 8.30am. Order now to avoid being disappointed. You may never have another chance again. 9d per lb."

Today we refer to Tunny as Tuna, the North Atlantic Bluefin Tuna *Thunnus thynnus*, one of the species high in Omega 3 fatty acids. Nowadays specimens of the sizes caught off the Yorkshire coast in 1933 would each be worth tens if not hundreds of thousands of pounds.

Acknowledgements

Thanks are due to Martin Limbert for drawing my attention to references in the *Doncaster Gazette* and the *Doncaster Chronicle* and to the staff at Doncaster MBC Local Studies Library and Archives for access to Microfilms and originals of these papers.

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Table 1: Tunny weighing at least 700lbs caught off the Yorkshire coast in 1933.

Date	Captor	Weight (lbs)	Reference/notes
Unknown	Baker, Col. G.	762	Head mounted by Gerrards weight given as 763lbs (Chinnery 2004)
Unknown	Sopwith, T.O.M.	740	
26 Aug	Leigh, D[avid] Master.	763	Photo in Ross (2010) p. 67.
26 Aug	Hannam, F.	705	(Russell 1934) 26 Aug. 1933. (Off Whitby)
30 Aug	Stapleton-Cotton, Lt.Col. R.	714	(Russell 1934) 30 Aug. 1933.
11 Sept	Mitchell-Henry, L.	851	40 miles off Whitby Photo in Ross (2010) p. 66 & referred to on p. 85. A World Record at the time.
13 Sept	Sopwith, T.O.M.	720	<i>Daily Sketch</i> 13 September 1933 Photo of this fish at British Fish Cannery, Leeds - the first Tunny to be canned in this country.

'Weeds'

Tricia Haigh

All weeds are in fact wild plants. It is because they are growing where they are not wanted and competing with those that are wanted that makes them 'weeds'. The churchyard could be said to be full of weeds but I prefer to call them wild flowers. However here I will look at 3 of our wild flowers that might be thought to be weeds.

Stinging Nettle, *Urtica dioica*, is one, its leaves covered with many hairs that act like hypodermic needles, injecting chemicals that produce a stinging sensation when you come into contact with them. It grows vigorously and spreads by its roots underground as well as by seeding around. In the churchyard we have several patches of nettles but most of them are out of the way around the edges and do not cause too much of a problem in the meadow areas. However this is not the case in the western end of the churchyard where the more recent graves that are still tended are situated. Here nettles have established over the years in and around the kerbed graves, where they punish those of us that dare to pull them out however well we may cover ourselves up to protect against their stings.

But nettles have many uses. They can be used in cooking, made into soup, can be made into beer, are used in shampoos, can be used to make into a cloth or to create a dye to colour the cloth. They are useful too in the garden as a compost activator (though do not add the flower heads or roots) or made into a liquid fertiliser.

I would not wish to be without Stinging Nettles in the churchyard for they are the larval food plant of many of our more colourful butterflies, such as the Small Tortoiseshell, Peacock and Comma and many of our moths feed on them too, some with wonderful names such as Setaceous Hebrew Character, Angle Shades and Buff Ermine. Aphids also feed on nettles, attracting ladybirds that then lay their eggs next to the aphid colonies.

Another 'weed' is Common Ragwort *Senecio jacobaea*, a biennial that grows in the more open meadow areas all around the churchyard. The problem with this plant is its toxicity. It is poisonous to animals and for this reason all our churchyard hay is composted. If left Ragwort can seed around prolifically but when it starts to get too abundant I simply pull it out (with its roots if possible) before it goes to seed.

But it is a colourful addition to our meadows with its cheerful, if rather brassy, yellow flowers and the reason that I do not consider it a weed is because it too attracts a great variety of insects, providing a home and food source to at least 77 insect species. Some of our prettiest small butterflies feed on its nectar, such as the Small Copper and Common Blue as well as bees, hoverflies, moths and beetles. But one species that is totally reliant on Ragwort for its survival is the Cinnabar Moth *Tyria jacobaeae*. The larvae of this attractive cerise and black coloured moth feed on the ragwort taking in some of the plant's toxins. The bright orange and black striped caterpillars and the brightly coloured moths warn birds that they are poisonous to eat. I once watched a Starling take a Cinnabar moth in flight but it quickly dropped it although, sadly, the moth did not survive the attack.

My final ‘weed’ is the one that I really struggle to call a wild flower. It is Cleavers, or Goosegrass, *Galium aparine*, the latter name derived from the fact that it is a food enjoyed by geese. It has tiny, star-shaped, pale whitish flowers, typical of the bedstraw family, that are easily overlooked by the human eye. It is self-pollinating producing seeds in abundance, each plant capable of producing 300 – 400 seeds. But the main problem I have with this plant is its habit - it is an annual that scrambles up through everything around it, smothering all that gets in its way. What makes it so successful is the fact that the whole plant is covered with hooked bristles that catch onto neighbouring plants and also onto anything that brushes past it. Its seeds are bristly burrs that cling to animal fur or clothing and so it successfully disperses them.

In the churchyard I try to limit its spread by pulling it up before it sets seed. Because of its hooks it is quite easy and very satisfying to roll it up into a great ball thus freeing its neighbours from its grip, but whilst I can remove it from shrubs and woody plants it is almost impossible to remove it from the soft plants and grasses in the meadow areas without pulling them out too. My only consolation is the knowledge that it is the food plant of the pretty Yellow Shell and Green Carpet moths, but whilst I see these occasionally they are hardly going to reduce its relentless attack upon our more attractive wild flowers. Perhaps we need to get some geese!



7 spot Ladybird on Stinging Nettle



Small Copper butterflies on Ragwort

Peter Bullock 1938-2017

Peter was born in Balby in 1938 and lived in Doncaster all his life. Although his first job was at the Plant Works, he soon moved on to working on a local golf course and from there to the Parks Department of the Council. He was a lover of the great outdoors and a keen observer of the natural world.

Colin Howes remembers Peter “as one of the early ‘pioneer’ volunteers on Lindholme Old Moor [Jack’s Piece], in the early 1990s when we were making access routes and Nightjar glades from the dense jungles of birch trees. Whereas we ‘enthusiasts’ would cut, flail,



Peter with a Grass Snake

expend vast amounts of energy and were a danger to ourselves and each other, Peter, being a professional gardener, used saws with skill and economy. He would quietly make more progress than us, leaving the cut stools of tree stumps neat, tidy and safe.”

On one occasion, while on a YNU VC65 excursion on 2 July 1983, to Baldersdale in the northern Yorkshire Dales, Peter and Derek Allen became separated from the general gathering and by chance ended up at the remote farm of Low Birk Hall, where they came across the sainted Hannah Hauxwell from whom they asked directions and ended up chatting. (Hannah became a national heroine after being the subject of Yorkshire Television documentaries during the 1970s showing her toiling alone on the derelict farm on an income of £170 per year).

For several years, Peter and Derek went on camping holidays together in the Scottish highlands, initially in somewhat antique tents supplied by Peter. Derek’s was a bell tent with a central pole while Peter slept in a ridge tent. On a particularly stormy night, Derek’s tent pole snapped in two. Typically Derek was able to carry out an emergency repair using a couple of spare tent pegs and spent the rest of the night wrapped round the tent pole to prevent his temporary home from blowing away during the increasingly violent gales. He emerged in the morning to see Peter climbing out of the car after a comparatively good night. Peter’s problem was the weight of rain water on his tent causing the ridgepole to bend and let the water in. By the next Scottish adventure they had invested in new tents!

I remember a field trip to Insley Plantation by the River Torne. It was a delightful warm and sunny day in early spring and we spotted a large grass snake basking in the sun, presumably fresh from hibernation. Grasping the snake just behind the head and holding it well away from his body, Peter held it out for the rest of us to have a good look. We were taken completely by surprise when the snake ‘voided’ a truly evil smelling substance from the lower half of its body – Peter knew exactly what would happen but I don’t think the rest of us will ever forget the incident.

After Peter retired at 65 he took up water colour painting and wood carving. He travelled all over the country and even went on safari in Africa. He took loads of photographs on these trips and spent a great deal of time producing paintings of the beautiful landscapes and scenes he had recorded on his camera.

During these years we didn’t see much of Peter but he still loved getting out and about to places like Potteic and Thorne and Hatfield Moors when he enjoyed engaging passers by about the natural world. Then one day, in early April 2015, he turned up at a field meeting on Hatfield Moors where we had gathered to look for adders and rejoined the Nats.

Towards the end of his life, when he could no longer drive, he had a carer who took him to Potteric regularly. Peter's face would light up when old friends turned up and had a chat.

Several Nats attended his funeral where the arrival of his coffin was accompanied by a recording of the dawn chorus and we left to the beautiful notes of a blackbird in a forest setting. A very suitable farewell.

PS

President's Report Jan 2017 - Jan 2018

Louise Hill

The Society has maintained strong links with the Doncaster Museum Service through the work on the Natural History Archive, collections and enquiries. Cataloguing of the Natural History Archive continues over the winter months and is a task akin to the painting of the Forth Bridge. Despite no formal memorandum we continue to field enquiries and offer access to researchers. The archive room may be affected by rearrangements to accommodate Library and Archive staff. Dorothy Bramley's paintings were shown at the Museum in the Summer of 2017. Rather than offering them for sale, it has been decided to make them available for long-term loan to members.

We continue to maintain links with other groups. A select number of members (i.e. Derek with his trusty rope) help the South Yorkshire Bat Group with their hibernation surveys of tunnels in the Don Gorge. The South Yorkshire Botany Group visits to Cadeby Rattles and Lindholme (in 2016) and Sandbeck and Roche Abbey (in 2017) were joint meetings, as was a meeting at Kiveton Park in 2016 where several members of the Rotherham Nats attended. The Society has been well-represented on local YNU Field Excursions such as the VC63 meeting at Austerfield (2016), and the VC63 meeting at Wogden Foot and a Botany Section meeting to Carlton Marsh in 2017. Pip Seccombe and I guided the Friends of Quarry Park, Dunsville, around their site in late summer, following this with an illustrated evening talk a few weeks later. Society members also joined the Bradford Botany Group on a visit to Nat's member John Scott's farm at Moss.

Special site visits made at the request of other organisations in 2016 – 2017 included Wadworth Wood (surveyed over the past two years at the request of the new owner), the YWT's new reserve at Thorpe Marsh Power Station and the Bentley Community Woodland (surveyed at the request of YWT and TCV respectively). Lindholme Old Moor & Hatfield Moors were re-visited for adder counts (see below), mothing visits and a Bog Bush Cricket hunt. Owston Meadows SSSI & YWT Reserve and the nearby Owston Wood were both visited. The latter visit was an unsuccessful search for the Argent and Sable moth, but visitors were rewarded with an excellent view of a 'branching' tawny owl chick doing a very good impression of a gonk (see front cover).

Regular annual events have continued to be held, including the Dawn Chorus survey at Sandall Beat Wood each May. Kevin and Hiram held guided Fungus forays, and in 2016 we had a harvest mouse hunt at Potteric – and found both harvest mice and water voles. A new tradition of the New Year Walk and Lunch has developed. In 2017 we visited Barrow Hills and this year's visit was to the Idle Wetlands Centre. Birch-bashing sessions at Lindholme Island have also taken place over the Winter months.

Venturing further afield, the society visited the floodplain meadows at Cattal, Oakhill Nature Reserve and Oxclose Wood, in 2016, and North Cave Wetlands, Adlingfleet (Old River Don) and Ulley Country Park, in 2017. It has, however, been noticeable that the later summer outings, locally, were very poorly attended, especially in 2017.

Despite a lack of a publicity officer, we have used events such as the South Yorkshire Natural History Day, Lindholme Fete and YNU Conference to advertise our activities and try to attract new members. As President, I have continued to represent the Society at various meetings such as the Doncaster Biological Records Centre Steering Group and Local Sites Partnership meetings each April. In 2016 Bob Marsh retired as BRC officer only to return to the post in 2017. I also try to attend of Thorne and Hatfield Moors Conservation Forum events and Potteric Carr Monitoring Group Meetings.

The activities of the Society and interests of its members are reflected in the contents of this latest edition of the Doncaster Naturalist Journal and in the twice-yearly newsletter prepared by Nora Boyle. There are still three copies of The Doncaster Naturalist – Vol 2 Number 4, available. Many thanks are due to Paul Simmons for all his work in producing past and current editions.

The Winter programme of indoor meeting at the Museum and at Parklands is still working well, particularly the afternoon Museum meetings which continue to be very well attended. I hope to see as many members joining us on our summer outings in 2018. Membership is steady and the society continues (just) to defy national trends in falling Society membership.

I will sign off with a reminder to members of the range of equipment that is available to loan. Contact me (or, Pip, for items marked *) to borrow anything listed below.

Literature: Guide to British Moths and Butterflies, Field Guide to the Moths of Britain and Ireland. A pack of Photographic Slides of Entomological Specimens* and Field Study Council Fold-out Guides* (various invertebrates, mammals and herptiles).

Field Equipment: Hand-held GPS, Amphibian nets (2), Halogen torches (4), Bat Detector - Batteries and Charger, Moth Trap Kit (including spare bulb, new generator and petrol can), large plastic viewing pots with magnifying lids, bag of clear plastic viewing pots (12).

Display Equipment: Folding Projector Screen and Carrying Case, Table-top Fold-out (3 x A1 Size) Display Board (1) and a Free-standing double height Fold-out Display (6 x A1 Size) (1) both with velco-suitable fabric panels.