The Lincolnshire Naturalist

Volume 29 Part 2

Transactions of the Lincolnshire Naturalists' Union

for 2016, published 2017

The Lincolnshire Naturalists' Union

Is the only amateur Natural History Society covering all of Lincolnshire.

◊

Exists for its members to enjoy, study and record the flora, fauna and physical features of Lincolnshire.

◊

Holds field natural history meetings throughout Lincolnshire during the spring, summer and autumn.

◊

Holds indoor talks, workshops, exhibitions and discussions during the winter.

◊

Welcomes new members and helps them to learn the skills of natural history to make study more enjoyable.

◊

Supplies wildlife information to the Lincolnshire Environmental Records Centre

◊

Publishes its findings annually in The Lincolnshire Naturalist and more often in the LNU Communique.

◊

Produces occasional books and pamphlets on Lincolnshire's natural history

Joining the Lincolnshire Naturalists' Union

If you would like to join us in studying Lincolnshire's Natural History

Please send your name, address and subscription (cheque or postal order) to:-
The Lincolnshire Naturalists' Union, c/o Lincolnshire Wildlife Trust,
Banovallum House, Manor House St, Horncastle, LN9 5HF

Ordinary Membership	£15
Family & group membership is	£18
Student/senior citizen/junior membership is	£10
Life membership	£200
Joint life membership	£250

http://www.lnu.org

ISSN 1756-1884

Printed by Lincoln Print & Copy Centre, Stonefield Park Ind. Est.
9 Clifton St, Lincoln LN5 8LQ
Edited by Phil Porter

Front Cover; Fenland scene

by Colin Faulkner

THE FENS REVISITED. AN UPDATE.

Annette Faulkner

I wonder how readers view the Fens? Flat cabbage and wheat fields that go for miles with little variation and little wildlife interest? Or do they see them as intersected by dykes (ditches) and drains that similarly go for endless miles and also of little interest, except to anglers?

When I tackled this topic sixteen years ago I was starting pretty much from scratch, the Fens having been written off as a lost cause following 17th and 18th Century drainage. Even by the late 19th Century, Wheeler, retired drainage engineer for Boston, in the introduction to his monumental study of the Lincolnshire Fens of 1894, was complaining that the fens were suffering from an image problem. My aim then was to simply put the Fens on the map, but since then I, and a great many other people, have learned a great deal, and I want to give an update on what we have learned and what is happening now - and I hope to persuade you that the Fens are a long way from being the poor relation to more charismatic habitats.

First of all, let's get out of the way what the south Lincolnshire Fens are <u>not</u> (and I am deliberately not including the Isle of Axholme fens, because, a) I know less about them, and b) their drainage history is somewhat different.

They are not Cambridgeshire – or Norfolk or Suffolk
They are not wildlife-free
They are not a ruined 'ecological disaster', as we were told by one author a few years ago

What the Fens are about is about water. Lots of it.

Let's start with 'not Cambridgeshire'. If you look at almost any book or account or exhibition (e.g. 'Fenscape' at Springfields in Spalding, a few years ago, which was all about the Cambridgeshire fens – Lincolnshire didn't get a mention!) the references are to Wicken Fen (National Trust) or Woodwalton and Holme Fens National Nature Reserves (Natural England and its predecessors), now part of the Great Fen Project being run by the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire. If you try to find out anything about the Lincolnshire fens, with one notable exception, "The Fenland" by A K Parker and D Pye published in 1976 and now out of print, you will find no references at all. To all other authors 'The Fens' means the Cambridgeshire fens, because that is what they read. Big skies, flat fields, rather bleak; even Plantlife, when they engaged a Fenland officer, got it wrong, with references to fens in Cambridgeshire, Norfolk, Suffolk – but not a word about the nearly half that's in Lincolnshire! To which I responded with a furious e-mail, marked 'for publication' – which they did – with an extremely contrite footnote!

Why is this? I suggest there are two reasons. One is geography and the other is the presence of Cambridge University.

Let's look at the geography first. If you look at a map of the fens you will see that these southern fens are completely enclosed by higher land except at the northern end, thus forming a basin into which fresh water has poured for millennia, creating sodden ground and rotting vegetation that then formed into peat, and you don't have to travel very far the other side of the A47 in north Cambridgeshire (or north Norfolk), or to travel down to London on the train from Peterborough, to see the result even today, with black land, different crops, and a very different atmosphere from the Lincolnshire fens only a few miles to the north.

You then had Cambridge University, with its botanists and apothecaries, and its University-educated

clergy, who went out into the countryside to study and collect fenland plants, or collect butterflies, to be followed by the enlightened ones, such as Charles Rothschild, who in the early 20th century began to see what had been lost to drainage, already well documented by local naturalists in the latter half of the 19th century. Drainage of these fens had started in earnest from around 1630, and as the ground dried out and the peat blew away, causing the ground to sink and the topography to change, they went out and started to record what was left. Rothschild and his colleagues made efforts to save some of it for posterity at Woodwalton and Holme Fens, as did the National Trust at Wicken Fen. As a result there is a wealth of written material to draw on and provide at least a partial picture of what some of those Cambridgeshire fens looked like and what was in them.

Later the RSPB and others took over the Ouse Washes in the Bedford Level, which run south-east of Chatteris in north Cambridgeshire north-east almost to Downham Market in North Norfolk, and south of the Lincolnshire county boundary, following the cessation of wildfowling there, which initially was only about birds, but now I believe covers all aspects of biodiversity. But no-one strayed into Lincolnshire unless they wanted to go and shoot wildfowl.

If you then look at the geography of the Lincolnshire Fens you see a very different picture. The area around the Wash is a huge delta area, much like Bangladesh with, from the south end, one Norfolk river, the Great Ouse, pouring into the sea at King's Lynn, having had most Norfolk and Cambridgeshire rivers and drains by now fed into it; then there is the Nene, partly in Cambridgeshire, which comes just into Lincolnshire to the west of Sutton Bridge, via Northampton, Peterborough and Wisbech; the Welland, via Market Harborough, the Deepings and Spalding; and the Witham via Grantham, Lincoln and Boston.

This is an awful lot of water, and efforts were being made to tame and control the wandering channels of the delta from Roman and Saxon times onwards. Even today it is possible to trace on a 1:25,000 map the course of some of these old creeks and channels.

Lincolnshire Fens do have some peat, all well inland, around the Deepings and Bourne, the East and West Fen area around Stickford and Stickney, and in the Witham fens. They also have gravels to the north and west of Market Deeping, and at Crowland. But these only form about 25% of the area. Mainly, the Lincolnshire fens are about silt. And sea levels.

Silt is formed from the tiny particles of mud, frequently clay, that is brought down the rivers and deposited on the surrounding land when a river floods, or mud brought in by the sea in storm surges. Some years ago I was at one of the Welland and Deepings IDB conservation days when an archaeologist showed us the sides of a dyke just to the west of Spalding which had recently been re-profiled. You could see really well the layers of silt, a layer of peat, and yet more silt above it, from inundations, a period of stability when peat was able to form, and yet more inundations from both sea and land.

Everything in the Lincolnshire fens has been about keeping the place dry, but the fens weren't all water, and there were areas of higher land which less frequently flooded - the so called 'hills' - at least in the summer, when cattle were taken out to pasture, as can be seen by the numerous drove roads across the

fens. These then gave rise to settlements, after drainage made winter flooding much less of an issue. Hay was made too whilst trying to avoid flooding by summer storms and so on. In the winter it was about wildfowling.

With no university, big estates, or a leisured class, life was about survival, not collecting or recording plants and animals, and the ecclesiastical houses prior to the reformation were focused on either drainage itself or on battles with each other. If their infirmaries kept records of the herbs they used at all, they are long gone. So nearly all the early records for our fens are for wildfowl, which were a major part of the economy. Once drainage became organised, from the 17th century, rather than the piece-meal efforts from the 12th and 13th centuries, by which time over 100 square miles had already been drained, this had a major impact on the livelihoods of the population as the vast numbers of ducks and geese started to decline. Nevertheless, well into the first half of the 20th century wildfowling was still carried out on Cowbit Wash, a narrow strip of flood storage land adjacent to the Welland between Spalding, Crowland and Peakirk. Today wildfowlers still go out on to the mudflats of the Wash, and, of course, with the burgeoning interest in bird watching from the end of the 19th C, so did the birders.

As already noted, what historical records we have are almost all about birds, although there are some other species recorded – and I've made previous reference to the Large Copper butterfly record from 1749 at West Pinchbeck, which John Redshaw found recorded during searches at the Spalding Gentlemen's Society library. There must also be records from Joseph Banks for the East and West Fens to which I don't have access.

With the decline of wildfowl so developed the myth that the Lincolnshire fens were wildlife-free, and this was the starting point of my address sixteen years ago, after two senior personnel from the Wildlife Trust were memorably reported, on a journey from Pinchbeck to Long Sutton, turning from one to the other and announcing they were 'now entering a wildlife-free zone'. How wrong could they be!

At the same time an appreciation by some people that the fens were a dead zone might not actually be the case was stirring elsewhere, and in the next few years a number of us were invited to three conferences which were starting to look at what the fens had to offer, One of these, the Fens Biodiversity Audit in 2012, organised by the Bedford, Cambridgeshire and Northants Wildlife Trust, with input from the University of East Anglia, and held at the Environment Agency offices in Peterborough, was set up to look specifically at species endemic to the fens which were rare elsewhere, since it was finally being recognised that the fens were, and still are, massively under-recorded. If you don't look you don't find and I well recall Roger Key, beetle specialist, former LNU president, and Crowland resident for many years, telling me that he could go from his house half a mile in any direction, poke around in the dykes and drains and commonly find Red Data Book species that were rare in the rest of the country.

Earlier, in response to the Rio Biodiversity Conference in 1992, Biodiversity Action Plans had been set up and were constantly being refined and revised, both for species and habitats. Then in 1999 a Local Sites Review Group was set up by the then Department of the Environment, Transport and the Regions (DETR - now the Department of Environment, Food and Rural Affairs - DEFRA) which concluded that Sites of Nature Conservation Interest (SNCIs), which had been notified in a very ad hoc way since the 1970s, should be resurveyed and categorised according to a fixed set of criteria, initially mainly for plants, with the onus and funding for doing this falling to the local authorities. Those sites which passed the criteria were then to be designated Local Wildlife Sites (LWS). In Lincolnshire, after pilot surveys in 2004, and Defra's published guidelines in 2006, the Wildlife Sites Panel was set up in the same year, with reviews of site surveys continuing ever since. In the southern fens Boston Borough Council was the first to commission surveys. South Holland District Council, which is my own local authority, was rather later to jump on the bandwagon, but thus it was that in the summer of 2012, I was one of several who had the privilege of going out botanising with Jeremy Fraser, as an assistant, to survey some of our many local water courses, since I live in Spalding. South Kesteven District Council was the last to commission

Botany survey locations

surveys of their fens, but these have now also been completed.

This to me was an eye opener. I think it's fair to say I'm a reasonable terrestrial botanist, and can identify a lot of the emergent plants, but with aquatic botany I am a near-beginner. The surveys continued the following year with other helpers, but by the time the money had run out, Jeremy had surveyed 87 sections of drains of various sizes, and 56 LWSs had been notified for at least some sections of these in South Holland alone.

With my original address I had noted that people were looking in the wrong place, and that they should be looking below their feet, not at arable fields, but I think the richness of the aquatic flora stunned everybody. Altogether in the southern fens, a total of 135 parts of drains, parts of some of the rivers, and a small number of other sites have been notified as Local Wildlife Sites. Not bad for somewhere supposedly wildlife-free!

Meanwhile in 2014 the Welland and Deepings Internal Drainage Board, which covers a part of the southern fens from Spalding west and north, was commissioning surveys from other professionals, including invertebrate studies of the two drains across Deeping Fen, one of which also qualifies as a LWS. The reports comment on the 'high biodiversity value' and the 'high numbers of rare and endangered species' which were found there and the fact that no similar studies had ever been carried out. Elsewhere Owen Mountfort and Jonathan Graham had started their monumental project to record the botany of every tetrad of all the fens as 'The Fenland Flora', with publication hoped to be in 2018.

Things were looking up. Investigations were made into whether it would be possible to do some wetland creation on Cowbit Wash, which I referred to in my previous address and was the very last area to be permanently dried out, with a new pumping station operational from 1968, following the digging of the Coronation Cannel around Spalding in the early 1950s. Unfortunately, with multiple owners, and tenants on Crown land, this proved too complicated and to my knowledge has had to be abandoned.

Around the same time the Lincolnshire Wildlife Trust had come on board, with plans, mooted for some time, to create a new fenland reserve (already having Baston Fen (1967) and Thurlby Fen Slipe (1988), which were existing relics), if they could find a suitable site. This was finally found and in 2009 a triangular 274 acre piece of land between Spalding and Tongue End, between the River Glen and the Counter Drain, was purchased, comprising an outlying piece of land from his main farm that the farmer had had great difficulty keeping dry. Perfect! This is now the Willow Tree Fen Reserve.

At a less than 10 minute drive from Spalding we have been visiting the site almost from the beginning. In the past the received wisdom was that you dig scrapes. There was to be no earth moving here, although when additional land was bought at Spalding Golf Course at Surfleet in the early 90s, and earth moving to create ponds and bunkers started on a field that had been in arable cultivation for years, Common Spotted Orchids *Dactylorrhiza fuchsii* and Greater Bird's-foot Trefoil *Lotus pedunculatus* soon appeared

along the pond edges; and since construction of the new A16 on the disused Boston railway line quantities of Common Alder *Alnus glutinosa* have appeared along the roadsides in the Surfleet area, showing how much seed can lie dormant and still viable in the buried seed bank. At Willow Tree Fen, all that was to be done was that the water table was to be raised in a joint project with the Welland and Deepings Internal Drainage Board and others. In addition South Holland District Council required an archaeological investigation before any of this was to start. This in itself proved to be instructive: apart from quantities of Roman pottery there was clear evidence of salt-making activity, not even very far below the surface, showing that at that time the coast was at least 15 miles inland from the present coastline. Once the archaeological survey was done, work on water management started in earnest, and the transformation of bean and cereal fields into seasonal wet fen was underway.

The change has been dramatic. The site is part of another washland, as is Baston Fen further to the west, which formed a flood storage area for when the River Glen overflowed, as it once did regularly, with the water then draining off into the Counter Drain on the far side and fed into the Vernatt's Drain at Pode Hole. With the raising of the Glen banks, the risk of flooding receded. The washland became redundant in the late 18th century, and the Counter Drain was moved to its present location. It is one of the richest drains in the area, being already part SSSI and the rest now a LWS. However, with rising sea levels, flood control and water storage is once more becoming an issue, hence the Drainage Board's involvement.

With the installation of a new sluice on the small drain that runs north-south across the reserve, and the blocking up of two dykes across the site, it has been possible to manage water levels with some accuracy, with summer grazing and seasonal flooding over the winter. This replicates much of how the undrained fens would have been in the past, and it is fascinating to see how the site is changing, with considerable monitoring from the outset. Just looking at the figures for 2012 and 2014 the number of records has doubled in that time, from 464 for the main groups (birds, plants, invertebrates, mammals) to 946 in 2014 and no doubt it will have increased again in 2016.

Willow Tree Fen in summer

Picture Colin Faulkner

With the conversion of most of the reserve to pasture large parts of it are now dominated by rushes *Juncus* spp, with some parts permanently wet, and last September we had the opportunity to do some botanising ourselves, discovering a number of the wetland spp. that had become established, and adding Trifid Bur-marigold *Bidens tripartita*, a rare species in our southern fens, to the plant list.

We ourselves have been monitoring the bat population, with now four species recorded. Both Common and Soprano Pipistrelles *Pipistrellus pipistrellus* and *P pygmaeus* respectively, roost in nearby houses, and by working with one of the land owners we established that whilst the Common Pipistrelles were commuting along the road and entering the reserve at the western end, the Soprano Pipistrelles were following a similar route parallel to the road, but then turning south into a stretch of disused rail-

way line. Until the summer of 2015, that is, when we started to record them for the first time on the reserve. Daubenton's Bats *Myotis daubentonii* are recorded in low numbers over the permanent ponds, being a long way from their known roost sites, and it is hoped to create an artificial roost for them on the reserve, but this is a more complicated business than just installing bat boxes. Noctules *Nyctalus noctula* are also sometimes recorded foraging over the reserve.

Of course, for most people birds are the biggest draw, and at the time of writing (mid February2017), twitchers were coming from far and wide to see a visiting Bluethroat *Luscinia svecica*; but rarities for 2016 include a Great White Egret *Egretta alba*, and the reserve was hosting a population of over-wintering White-fronted Geese *Anser albifrons*. Breeding birds in 2016 included Garganey *Anas querquedula*, Cetti's Warbler *Cettia cetti* and Marsh Harrier *Circus aeruginosus*.

Willow Tree Fen in winter

Picture Colin Faulkner

What of the future?

Hot off the press at the end of January there was publicity about a proposal to create a fenland Nature Improvement Area in the area between Market Deeping, Spalding and Baston, taking in the three existing reserves, though very much in the early stages, and subject to obtaining funding. Elsewhere I understand there is the possibility of fenland restoration in the West Fen area north of Boston, although have no further information on this, and Anglian Water is working with the Lincolnshire Wildlife Trust and others on a long-term plan to create a number of water storage areas, integrating drinking water and irrigation requirements with wetland conservation and farming.

In 2001 climate change was barely being considered, although alarm bells had been ringing in some quarters since the 1970s. Now, of course, it is high on the agenda, as it should be in an area as vulnerable as the South Lincolnshire Fens.

So far I have made little distinction between 'fen' and 'marsh', but the distinction is real. Fen is created when fresh water is trapped and unable to escape. Marsh, on the other hand is created by incursion from the sea, and is here divided into untamed saltmarsh around the coast and drained, the so-called 'reclaimed' land created from embanking the saltmarsh. This was still going on well into the 20th Century, with successive banks pushing the sea further and further out, but by the 1970s it was realised that there was precious little saltmarsh left with a shallow enough gradient to continue and no further embanking took place. However, this area of drained saltmarsh, now fertile farmland, is still referred to as 'the marsh' and extends from a line formed approximately by the A52-A16-A17 from Skegness, Fosdyke and round to King's Lynn, and is just over 6 miles at its widest point to the present coastline.

With rising sea levels, somehow the marsh and its villages and farms have to be protected. Some years ago it was concluded that it was both impractical and would be prohibitively expensive to try and raise the banks all round the coast any higher, so it was agreed that the sea would have to be let in in some

areas that it was no longer going to be possible to protect, and allow saltmarsh to regenerate and act as a buffer against the damage caused to banks by the undercutting effect of the highest tides. So it was that a programme of so-called 'managed retreat' was started, with an area at Butterwick, one of the last to be drained, to be one of the first to return to saltmarsh, and a further bank created inland of it.

At the same time as this was going on, the RSPB was converting arable fields on the landward side of the seabank at Frampton Marsh to a wetland reserve, to compensate for the land lost at Butterwick. This is on previously drained saltmarsh, rather than fen, and has been re-profiled in a more traditional fashion with scrapes and reedbeds and so on. It too has transformed rapidly and is now attracting both record numbers of birds and record numbers of visitors, as was mentioned in the bird report at the Recorders' meeting in February.

However, one of the other effects of climate change is an increase in 'storminess', with storm surges being pushed down the North Sea into the bottle neck at its meeting with the English Channel, backing up and causing widespread flooding, particularly if combined with high tides. There is nothing new about this. At the base of the tower at Boston Stump there are markers showing the height of previous flooding from storm surges being pushed up the tidal River Witham from way back, but combined with rising sea levels the problem is only going to get worse, as we saw in December 2013, when a combination of storm surge, high tide and water pouring down the rivers and out of the drains from water-logged land caused widespread flooding along the coast and in a part of Boston, and was narrowly missed again this winter when, despite predictions, the combination didn't happen and flooding was avoided.

The aim of drainage always is to get the freshwater out to sea. Once the surge had passed fresh water had to be moved out of the rivers and drains to allow the land to start drying out. Just after Christmas 2013 we took some visitors to Pode Hole, where the pumps were going flat out to take water off Deeping Fen and into the Vernatt's Drain, thence to discharge into the River Welland at Surfleet Reservoir, where we next headed. The River Glen also discharges into the Welland here. When we got to the sluices the sound was deafening, as millions of cubic metres of water poured over the sluices into the Welland. When I later asked the engineer at the Welland and Deepings Internal Drainage Board how much water had been pumped out of Deeping Fen alone, he told me that according to their records, in January 2014, 8.54 *million* cubic metres of water had been pumped out into the Vernatt's Drain at Pode Hole, enough 'to 80% fill' a Yorkshire reservoir near where we happened to be shortly heading.

The fens are about water.

My earlier comparison with Bangladesh's much bigger delta may have seemed fanciful, but is quite deliberate. Without our infrastructure they are already suffering the effects of rising sea levels and flooding. Sea levels here have been going up and down for thousands of years, and rest assured this time will come again. Far from being a static man-made habitat, the fens are a dynamic ecosystem forever trying to reassert itself, and meanwhile the plants and invertebrates, so recently discovered, will continue to live out their little lives long after we are gone, as they have for millions of years, under-pinning everything else that lives in the fens, or, as the invertebrate charity Buglife so elegantly has it, being 'the small things that run the world'.

Wildlife-free and an ecological disaster the Fens are not!

References.

FAULKNER, A., 2001. The Fens: flat, boring and a 'wildlife-free zone'? Laying the myth to rest. *The Lincolnshire Noturolist* **25:3**. Lincolnshire Naturalists' Union.

HILL, M.J. et al., 2016. Aquatic macroinvertebrate biodiversity associated with agricultural drainage ditches.

PARKER, A.K. & PYE, D., 1976. *The Fenlond*. David and Charles, Newton Abbot.

ROTHERHAM, I. D., 2013 *The Lost Fens. Englond's greotest ecologicol disoster.* The History Press.

WHEELER, W.H., 1896. Reissued 1990. *A History of the Fens of South Lincolnshire*. Paul Watkins, Stamford.

LINCOLNSHIRE NATURALISTS' UNION PRESIDENT 2016-17

ANNETTE FAULKNER

Annette grew up in Leicestershire and originally trained as a nurse, but in a career switch, became a music teacher in 1967. She married Colin in 1972 and moved to Lincolnshire the following year, spending the next 22 years working as a piano teacher. A lifelong naturalist, she joined the Lincolnshire Wildlife Trust in 1974 and the L.N.U. 1988. She was first a helper and then a leader of WATCH groups from 1983-1995. She became involved in a (successful) one-woman campaign to save a section of the disused March railway line in Spalding in the mid-1980's. From 1994-2000, she set up and managed the Vernatt's Nature Reserve in Spalding for South Holland District Council which was designated a Local Nature Reserve in 1997. From the early 1990's she became involved with Colin's interest in bats, and in 1995 took over as county recorder for Lincolnshire Bat Group and the LNU. She gained her roost visitor's licence from English Nature as it was, and has since been a volunteer bat warden for them, covering, with Colin, a large area in south Lincolnshire.

KEN ROWLAND (1927 – 2016)
BIOGRAPHY

John Rowland

Ken Rowland, a true Lincolnshire man, was born in his grandparents' house in the Old Brickyard at Waddington in 1927. Because his father was in India, Ken and his mother lived with his grandparents. This gave him access to the old derelict brickyard (circa 1914) as a playground, with its owls, rabbits and fish in the old boiler reservoir. Mushrooms were always on the autumn menu!

After leaving school an apprenticeship at Ruston Iron Works as a draughtsman led in the mid-1940s to being seconded to Ruston Boiler Works as a design draughtsman of boilers where he stayed until 1951. When he left Ruston Boiler Works he joined a small team at Leys Malleable Castings to mechanise both the Lincoln and Derby foundries. He stayed with Leys Malleable Castings as a project engineer/manager until he retired in 1992.

Ken was a very skilful and clever craftsman. He was also someone who when he had decided to get involved in something, became an expert in that activity. Throughout his life he went through phases of interests. He built his own brick workshop, rebuilt an old Hillman car and did all his own car repair, designed and built tape recorder units, totally refurbished his house, including all the plumbing and wiring, produced intricately turned wooden items and made beautiful items of furniture and children's toys.

Having been introduced to photography by his father-in-law in the mid-940s photographing flowers became a special interest, as Ken said 'because they don't move'. Later mushrooms entered into his sphere of interest and not being able to identify them, he joined the LNU in 1973, where under the guidance of Jack Houghton he learned about fungi. He also joined the British Mycological Society and the Lincolnshire Wildlife Trust more or less at the same time.

In 1990 Ken was asked to become President of the LNU under the banner of Optics, then in 1995 the untimely death of Jack Houghton led him to take on the mantle of Mycological Recorder. In 2010 he was honoured with a second invitation to be President but this time under the banner of Mycology. As his interest and expertise in fungi grew, Ken became well known for leading fungus forays in some of the local and regional nature reserves including Clumber Park, Chambers Farm Woods, Hartsholme Park and Whisby Nature Park.

Ken's contribution to the field of Mycology lives on in the thousands of records he meticulously gathered and recorded. These records now from part the national database. His work also lives on in the people he influenced through his detailed and passionate understanding of the world of fungi.

KEN ROWLAND (1927 -2016)

Jane Ostler

Ken was twice President of the LNU. His Presidential address in 1990 was on Optics. In 1995 after Jack Houghton's death, he became Mycological recorder and his second Presidential address in 2010 was on this subject. He had joined the LNU in 1973 and was a member of the Committee from the late l970s including the busy time of the LNU Centenary celebrations.

As a member of the Committee he was one of five people who, having finally gained access to the Lincolnshire Natural History Collection and the LNU archives in Lincoln, discovered the appalling state of specimens kept in a building about to be pulled down to extend the City Library. In a matter of weeks, with the County Council refusing to take any responsibility, this group had to find a new home for that which could be saved. Ken photographed the damage and the wet condition of the room and then every-thing had to be sorted and listed. It was Ken who got up at dawn and spent a long day supervising the loading of a lorry and the move to Stamp End.

I first met Ken, introduced to him by Jack Houghton, when he joined the LNU in 1973. It soon became apparent that his craftsmanship in many fields meant that he had the patience and expertise to under-take the detailed microscope work to identify the difficult groups, particularly the Ascomycetes. He could take sections and stain parts of the fruiting bodies to reveal, for example, cystidia types. He measured and noted size and surfaces of spores. He was also the person to take forward the computerisation of vast amounts of data.

Like many others my memories of both Jack and Ken are of adventures and happy discoveries in the field. The yellow Bog Beacon in a Laughton Forest ditch. Horn of Plenty in Callan's Lane Wood, Earth Stars and Ear Pick Fungus at Gibraltar Point, Saffron Milk Cap at Skellingthorpe Wood, Truffle in Callan's Lane Wood, and the colourful specimens at Kirkby Moor and Ostler's Plantation. Caesar's Mushroom even appeared on Ken's lawn.

We were both tutors at a residential course where we discovered the hallucinogenic Liberty Cap or Magic Mushroom on the centre's lawns. In the morning not only all the specimens, but also a student Forest Ranger, had disappeared!

BARBERRY SAWFLY

David Shephard

2016 was a busy year for me so my garden was ignored for much longer than it should have been. It was not until 29th September that I checked on the health of my young native Barberry hedge to find that something had eaten most of the leaves on several of the plants. There are not many species that feed on Barberry and only one that defoliates the shrubs like this. It had to be the Barberry sawfly, *Arge berberidis*.

Barberry Sawfly larva *Arge berberidis*

Picture David Sheppard

I have never seen an adult of this species in Lincolnshire, although there are some Lincolnshire dots on the Royal Horticultural Society's map which has attempted to track the spread of this species across the country since it was first recorded in the UK in 2002.

This species raises some wider questions about being native or alien. Back in the 1820's, J.F.Stephens recorded Barberry sawfly as a native species. None were subsequently found for more than 100 years; it was mentioned as footnote in the most recent key to British sawflies (1952) and would have qualified as extinct in Red Data Book terms, but then the species was found as breeding colonies in 2002. So was it

here all the time? Was Stephens' information incorrect and it was never here until 2002? Was it here pre-1820, then died out and recently made a bit of a comeback? We can never know for sure of course but it seems that there are some species that colonise the British Isles and breed here for a number of years before dying out for some reason and then colonising again some years later. So are they native or alien?

Just to make it doubly awkward, the food-plant, Barberry *Berberis vulgaris*, is variously considered to be a native, alien or neophyte depending on the botanical authority.

Anyway, so long as my Barberry bushes continue to grow and provide me with a prickly hedge along a vulnerable side of my Alford garden, I am happy to see these gorgeous caterpillars in my garden every year.

As recorder of Lincolnshire sawflies, I'd be very pleased to receive any other records of sawfly defoliation of Barberry.

GYNANDROMORPH EARWIG

David Sheppard

I see hundreds of the Common Earwig *Forficula auricularia* every year and apart from confirming the species (ever in hope of seeing *Forficula lesnei*), and because the features are so obvious, I always note whether they are male, female or juvenile. Whilst sorting through a sample from a malaise trap in Minting Wood taken between 17th September and 25th November 2016, this specimen stood out as being a bit different.

Bilateral gynandromorph Common Earwig *Forficula auricuaria*
Picture David Sheppard

It is, I suppose, a bilateral gynandromorph with the left side displaying male forceps and the right side displaying female forceps. Whether the differences are reflected in the internal organs as well, I know not. It was too good a specimen to mangle and find out.

AN ASSESSMENT OF THE IMPORTANCE OF BLOXHOLM WOOD FOR SAPROXYLIC BEETLES

Charlie Barnes

Introduction.

There are two commonly used scoring systems to assess the importance of a site for saproxylic beetles in the UK: the Saproxylic Quality Index (Fowles, Alexander & Key, 1999) and the Index of Ecological Continuity (Alexander, 2004). Although both systems are now becoming outdated as our knowledge of the fauna has improved, they still provide a useful comparative method between sites.

The two methods are also complimentary and it's suggested that both are used when assessing a site. The SQI requires a full list of saproxylic species (including both common and rare) to be compiled for a site and effectively calculates the proportion of rare species, and thus suffers with poorly recorded sites or habitats. SQI also requires a minimum of 40 species to provide a robust score. The IEC restricts its calculations to relict old forest or old growth species, rather than all saproxylic species. The usefulness of the IEC comes in that the score is always a minimum - it can only ever increase with the discovery of new species (notwithstanding a species becoming extinct) - whereas the SQI can decrease even with the discovery of new species.

Whilst both methods can be used to assess all data for a site, it is recommended to restrict the data used to a 'recent' set of data so as not to include species which may no longer occur on site. The analysis below includes all data with a date restricted review left for the future - and given the paucity of recording at most sites, perhaps best left for analysis on a site by site basis.

Lincolnshire: an overview of sites of saproxylic importance.
Only a handful of sites have been assessed against either method, and to put Bloxholm Wood into a local context required analysis of data Lincolnshire-wide. A provisional scoring of Lincolnshire sites is presented below, ordered by IEC score, from highest to lowest (restricted to the top 30 sites).

SITE	No. SPECIES	SQI SPECIES	SQI SCORE	IEC SPECIES	IEC SCORE
Grimsthorpe Park	413	150	528	53	79
Callan's Lane Wood	201	72	466	21	29
Belton Park	146	S0	448	19	2S
College Wood	280	47	357	11	14
Kirkby Moor	436	56	344	12	14
Lawn Wood	68	29	-	8	13
Hatton Wood	255	52	415	7	13
Castledike Wood	45	20	-	7	11
Rigsby Wood	49	2S	-	9	10
Moor Farm	298	39	-	9	9
Linwood Warren	331	49	291	7	8
Hagnaby	SS	16	-	5	8
Snipe Dales	202	29	-	6	7
Whisby Nature Park	344	33	-	5	6
Old Wood	144	24	-	6	6
Tunman Wood	131	21	-	6	6
Bloxholm Wood	79	23	-	6	6
Minting Park	84	17	-	5	6
Laughton Forest	147	18	-	5	6
Roughton Moor Wood	100	32	-	6	6
Skippingdale & Foxhills Plantations	33	20	-	5	6
Great Scrubbs Wood	98	20	-	6	6
Epworth Turbary	175	18	-	6	6
Blankney Fen	466	42	2S2	5	6
Ivy Wood	157	26	-	6	6
Newell Wood	18	10	-	5	6
Great West Wood	260	48	318	3	6
Wickenby Wood	2S1	37	-	4	6
Scotgrove Wood	204	26	-	4	S
Bourne Woods	58	10	-	3	5

The importance of Grimsthorpe Park for saproxylic beetles is well documented (Webb, 2014) as is the importance of the Central Lincolnshire Limewoods. However, the latter represents an aggregation of a number of discrete sites and for the purposes of this paper its constituent parts are scored separately. Whilst this may downplay the importance of the site, it is believed to allow for a more reliable comparison across the county. Recent recording work in the Limewoods has also emphasized the importance of identifying the particular area from which species are found, and it's hoped this work will continue allowing for truer comparisons.

The contrast between the SQI score and IEC score is apparent with high scoring SQI sites such as Great

West Wood and Blankey Fen appearing well down in the list when graded according to their IEC score. That Blankney Fen is one of the highest scoring sites using SQI is perhaps a justification for using both methods when assessing sites - and a testament to the amount of recording that has taken place there.

Grimsthorpe Park, Callan's Lane Wood and Belton Park are all of national importance according to the IEC criteria (indeed, Grimsthorpe Park is almost at international importance). As the criteria are intended for use at a regional to international scale, no attempt is made to define sites of local importance. Looking at the data provided above, it is suggested a score of between 5 and 15 is adopted for sites of local importance, although further work may refine this.

Assessment of Bloxholm Wood for Saproxylic Beetles.
As can be seen from the table, Bloxholm Wood ranks 17th and can be considered of local importance for saproxylic beetles. That this analysis is based on just two main visits (see Appendix 1) suggests that the site may support a relatively richer than expected saproxylic beetle fauna.

The fauna of saproxylic beetles can probably be attributed to the sites history as parkland and 'amenity' woodland. Nationally, 9 of the top 20 sites (by IEC) have the word 'park' or 'estate' in the their name, with 'common' and 'forest' making up a further 8 (Fowles, 2016). This suggests that sites associated with consistent, on-going management over a long period of time have a richer fauna; whereas individual or discrete woods which perhaps receive more intermittent management (such as the cessation of coppicing or clear felling) are less favourable. Permanence of management regime is a key factor in retaining invertebrate species assemblages with any interruption being detrimental to many species.

The presence of amenity and non-native tree species in managed sites also increases the interest to saproxylic beetles. Not only do these species increase the variety available, but such species tend not to thrive and often present more favourable targets for colonisation by saproxylic beetles - a prime example being Sycamore *Acer pseudoplatanus*, and in Lincolnshire, Beech *Fagus sylvatica*.

Management recommendations for the benefit of saproxylic beetles.
Given the time it takes for a suitable habitat to develop for saproxylic features, it is not recommended to try and encourage new species to colonise but rather ensure that the current fauna is able to persist. As suggested above, this usually consists of continuing or re-instating management regimes. As the site supports a limited number of saproxylic beetles it is not yet possible to identify a particular clade or group of species and therefore a main requirement (for example, heartwood decay or wood mould).

A broad recommendation would be to maintain a range of ages of trees, both dead and alive, to allow for a continuation of habitat for saproxylic beetles. This includes leaving, wherever possible, dead, and - importantly, dying trees (including non-native species) as well as ensuring there is a suitable recruitment crop coming through to replace them. Long Plantation in particular, although well represented by dead and dying trees at the moment, would be a target for ensuring there are suitable replacements in the short to medium term; natural recruitment is limited to its narrow shape and constant disturbance.

Bloxholm Wood is also isolated by a predominantly arable landscape and the importance of the connections between it and The Rookery, Springwell Plantation and Bloxholm Hall itself should not be underestimated. These sites were once more closely connected by wood-pasture parkland and are likely to share a similar fauna. Any opportunities for re-enforcing the now relatively tenuous link between the meta-site (including the remnant of Ashby Hall to the north) should be investigated - for example by encouraging the growth of more isolated old trees, that were once present in the parkland.

Suggestions for further recording work.
Further recording work is only going to increase the importance of Bloxholm Wood for saproxylic beetles, and given a sufficient assemblage it would be possible to identify the species requirements and

therefore provide more specific management recommendations.

Visits at different times of year and including other saproxylic invertebrates (such as flies) would help improve the understanding of the site. Systematic sampling, such as with a malaise trap, would allow for investigation of species throughout the year and include those species with are often missed by other sampling methods. Investigation of those species dependent on fungi would also likely prove fruitful.

An assessment of the current age structure of trees within the site would also be useful in determining which age structures, if any, are or will be lacking.

Acknowledgement.
Thank you to the Lincolnshire Wildlife Trust for granting permission to survey Bloxholm Wood.

References

ALEXANDER, K.N.A. 2004. Revision of the Index of Ecological Continuity as used for saproxylic beetles. *English Noture Research Reports*. **574**.
FOWLES, A.P., ALEXANDER, K.N.A. & KEY, R.S. 1999. The Saproxylic Quality Index: evaluating wooded habitats for the conservation of dead-wood Coleoptera. *The Coleopterist*, 8: 121-141
FOWLES, A.P. 2016. Saproxylic Quality Index: Evaluated sites ranked by SQI. http://khepri.uk/main
WEBB, J. & PERRY, S. 2014. Saproxylic Coleoptera of Grimsthorpe Park, South Lincolnshire. The *Coleopterist*, **23**: 116-127

Appendix 1

Key: IEC scoring species **SQI scoring species**

Species recorded on 25 June 2013 by Alan Lazenby

FAMILY	SPECIES	COMMENTS
Anthribidae	**Platystomos albinus**	**Notable B**
Apionidae	Holotrichapion (Apiops) pisi	
Apionidae	Perapion (Perapion) curtirostre	
Apionidae	Perapion (Perapion) violaceum	
Byturidae	Byturus ochraceus	
Cantharidae	Cantharis cryptica	
Cantharidae	Cantharis nigra	
Cantharidae	Cantharis pallida	
Cantharidae	Cantharis rustica	
Cantharidae	**Malthodes minimus**	
Cantharidae	Rhagonycha limbata	
Carabidae	Amara (Zezea) plebeja	
Carabidae	Bembidion (Metallina) lampros	
Carabidae	Leistus (Pogonophorus) spinibarbis	
Carabidae	Loricera pilicornis	
Carabidae	Pterostichus (Omaseus) melanarius	
Cerambycidae	**Clytus arietis**	
Cerambycidae	Phytoecia cylindrica	Notable B
Chrysomelidae	Cassida rubiginosa	
Chrysomelidae	Crepidodera aurata	
Coccinellidae	Adalia bipunctata	
Cryptophagidae	Atomaria (Anchicera) atricapilla	
Curculionidae	Pentarthrum huttoni	
Curculionidae	**Phloeophagus lignarius**	**Known from one other site: Grimsthorpe Park. Develops in rotten wood.**
Curculionidae	Phyllobius (Metaphyllobius) pomaceus	
Curculionidae	Rhinoncus pericarpius	
Curculionidae	Sciaphilus asperatus	
Curculionidae	**Scolytus scolytus**	
Elateridae	Agriotes pallidulus	
Elateridae	Athous (Athous) haemorrhoidalis	
Elateridae	**Denticollis linearis**	
Malachiidae	**Malachius bipustulatus**	
Nitidulidae	Meligethes aeneus	
Pyrochroidae	**Pyrochroa serraticornis**	
Staphylinidae	Omalium caesum	
Staphylinidae	Oxytelus laqueatus	
Staphylinidae	Quedius (Raphirus) semiaeneus	Widespread, but Bloxholm Wood is it's only known location in South Lincolnshire (VC53). Found in a variety of environments on damp soils.
Staphylinidae	Stenus (Metatesnus) nitidiusculus	

Species recorded on 9 January 2016 by Charlie Barnes, Richard Davidson & Hugh Dorrington

Family		Species	Comments
Anobiidae		**Grynobius planus**	**A dead wood specialist, in broad-leaved species. Recent records only from Callan's Land Wood in South Lincolnshire (VC53).**
Anthribidae		**Platyrhinus resinosus**	**Notable B**
Carabidae		Bembidion (Philochthus) aeneum	
Carabidae		Bembidion (Philochthus) biguttatum	
Carabidae		Bembidion (Philochthus) guttula	
Carabidae		Calodromius spilotus	
Carabidae		Leistus (Leistophorus) fulvibarbis	
Carabidae		Nebria (Nebria) brevicollis	
Carabidae		Pterostichus (Lagarus) vernalis	
Cerylonidae		**Cerylon ferrugineum**	
Chrysomelidae		Bruchus rufimanus	
Chrysomelidae		Phyllotreta nigripes	
Cleridae		**Thanasimus formicarius**	
Colydiidae		Cicones undatus	An RDB1 species (although no longer deserving of that status). Was known only from the 'top 3' - Grimsthorpe, Callan's Lane Wood and Belton Park. In addition to Bloxholm Wood, also now known from Elsham Wolds and likely to expand its range. Possibly a recent immigrant associated with fungus-infected dead wood, under dry bark.
Curculionidae		Acalles misellus	
Curculionidae		Anthonomus (Anthonomus) pedicularius	
Curculionidae		Ceutorhynchus pallidactylus	
Curculionidae		Euophryum confine	
Curculionidae		Hypera (Hypera) nigrirostris	
Curculionidae	S	ciaphilus asperatus	
Erotylidae		**Triplax aenea**	
Leiodidae		Nargus (Nargus) velox	Found in moss and leaf litter in woods. Widespread but recent records only from Whisby Nature Park in South Lincolnshire (VC53).
Monotomidae		**Rhizophagus (Rhizophagus) dispar**	
Mycetophagidae		**Mycetophagus atomarius**	
Salpingidae		**Vincenzellus ruficollis**	
Staphylinidae		**Dropephylla ioptera**	**Known only from Grimsthorpe Park in South Lincolnshire (VC53). Associated with rotten bark of deciduous trees.**
Staphylinidae		Gabrius splendidulus	
Staphylinidae		Leptusa fumida	
Staphylinidae		Stenus (Hemistenus) impressus	
Staphylinidae		Stenus (Hemistenus) ossium	A widespread wetland species not recorded in South Lincolnshire (VC53) before.

FIRST RECORDS OF LABOULBENIALES (Ascomycetes) FOR LINCOLNSHIRE.

Alan Lazenby

The Lincolnshire Naturalist Vol. 29 part 1

Omissions and corrections

The species describer, Peyritsch, was misspelt as Paytritsch.

The title of the *Laboulbenia* drawing at bottom right on page 30 should read *Laboulbenia vulgaris*.

Unfortunately, the references to this paper were not included. These are published here as follows.

References

HAELEWATERS, D., van WIELINK, P., van ZUIJLEN, J.W.,VERBEKEN, A. & de KESSEL, A. 2012, New Records of Laboulbeniales (Fungi, Ascomycota) for the Netherlands. *Entomologische Berichten* **72(3)**.
HULDEN, L. 1983, Laboulbeniales (Ascomycetes) of Finland and adjacent parts of the USSR. *Korstenio, Societos Mycologico Fennico* **23(2)**.
HULDEN, L. 1985, Floristic notes on Paleartic Laboulbeniales (Ascomycetes). *Korstenio, Societos Mycologico Fennico* **25** 1-16.
LAZENBY, A.S. 2016, First Records of Laboulbeniales (Ascomycetes) for Lincolnshire. *Tronsoctions of the Lincolnshire Noturolist Union* **29(1).**
LOTT, D.A. & ANDERSON R. 2011, The Staphylinidae of Britain and Ireland. R.E.S. *Hondbooks for the Identificotion of British Insects* **12(7,8).**

LUFF, M.L. 2007, The Carabidae (Ground Beetles) of Britain and Ireland.R.E.S. *Hondbooks for the identificotion of British Insects* **4(2)** (2nd edition).
ROSSI, W, MACA, J. & VAVRA, J. 2010, New Records of Laboulbeniales (Ascomycota) from the Czech Republic and Slovakia. *Polish Botonicol Journol* **55(2)**.
TAVARES, I.I. 198S, Laboulbeniales . *Mycologio Memoir* No 9.
THAXTER, R. *Monograph of the Laboulbenioles* Pt 1-2 Reprint 1971.
THAXTER, R. *Monograph of the Loboulbenioles* Pt 3-4.
WEIR, A. & BEAKES, G.W. 1993, New British Laboulbeniales, *Mycologicol Reseorch* **97** 1045-1055.
WEIR, A. 1994, Further records of Laboulbeniales from collections of British Coleoptera. *Mycologicol Reseorch* **98(4)** 433-444.
WEIR, A. 1996, A preliminary Host Parasite List of British Laboulbeniales. *The Entomologist* **115**, 50-58.

The Editor apologises for these errors and omissions.

As a subsequent addition, please insert the following 2 sentences before the table **List of host beetles and parasites for South Lincolnshire VC53 and North Lincolnshire VC54.** on page 27.

The ground beetle until recently known as *Ocys (Bembidion) harpaloides* was found to be two closely related species, *O. harpaloides* (Audinet in Serville) and *O. tachysoides* (Antoine). All those I have reference to have been the latter. It remains to be seen which is the more common British species.

NOTES AND RECENT ADDITIONS TO THE ACULEATE FAUNA OF LINCOLNSHIRE

David Sheppard

The history of the study of bees, wasps and ants in Lincolnshire was summarised by Archer (1997). He compiled a list of 270 species, about 46% of the British list at the time. This was an increase of 20 species in the four years since 1993 (Archer, 1993). Annual reports in The Lincolnshire Naturalist by Michael Archer (1993 – 2011) and Alan Phillips (2012 – 2013) added a further 47 species in 20 years.

Thorough reviews with accounts of each species were published in parts in The Lincolnshire Naturalist over 12 years between 1999 and 2010. These were: Eumenidae (Archer 1999); Apidae (*Colletes*, *Epeolus*, *Hylaeus*) (Archer, 2003); Megachilinae (Archer, 2004); Pompilidae (Archer, 2005); Sphecidae (Archer, 2006); Dryinidae, Bethylidae, Chrysididae, Tiphiidae, Mutilidae, Sapygidae, Vespidae (Archer, 2007); Andreninae (Archer, 2008); Halictinae (Archer, 2009); Anthophorinae (Archer, 2010); Formicidae (Phillips, 2010); Apidae (*Bombus* & *Apis*) (Archer, 2011).

By the time of Alan Phillips' last annual report in 2013 (Phillips, 2014), the Lincolnshire list of Aculeate Hymenoptera stood at 318 species. All data available to him had been digitised into an Excel spread-sheet in a consistent and very detailed format and is now deposited in the Lincolnshire Environmental Records Centre. Alan has very kindly allowed me to have a copy of this dataset.

Since then a further 10 species have been added to the Lincolnshire list bringing the total to 328 species, 54% of the 601 species recorded from the United Kingdom.

Recent Additions to the Aculeate Fauna of Lincolnshire

Dryinidae
Anteon ephippiger
A single male was taken in a Malaise trap at Gibraltar Point in July 2016 (DAS).

Anteon gaulei
Eight males were taken in a Malaise trap at Gibraltar Point in June 2016 and a single female in the same trap in July 2016 (DAS).

Anteon pubicorne
A single female was taken in a Malaise trap at Gibraltar Point in July 2016 (DAS).

Anteon tripartitum
Five males and one female were taken in a Malaise trap at Gibraltar Point in June 2016 (DAS) and a further 2 males and one female in the same trap in July 2016 (DAS).

The taxonomy of the Dryinidae has changed remarkably over the past 20 years. Although all of the above species are widely distributed in the UK and would be expected to occur in Lincolnshire, it is very likely that the Lincolnshire Dryinid records will need to be thoroughly revised in the near future.

Vespidae
Microdynerus exilis
By far the smallest of the eumenid wasps, a single male was taken during the LNU Bioblitz at Willow Tree Fen on 21st June 2014 (DAS).

Colletidae
Colletes hederae
Added to the Lincolnshire list by Richard Davidson in 2015, (Davidson, 2016), there is a strong colony at Chapel St Leonards and another at Sutton-on-Sea. This species is expanding northwards and more colonies may be expected where large stands of flowering Ivy *Hedera helix* and suitable exposed sandy soils are present in close proximity.

Andrenidae
Andrena similis
This is a southern species with isolated records from Yorkshire and parts of Scotland. It is associated with legumes and labiates in flower-rich grasslands. Single females were taken at Sutterby on 31st May 2014 (DAS) and at Heaths Meadows on 10th June 2014 (DAS).

Halictidae
Lasioglossum brevicorne
This is another southern species which has increased its range northwards in recent years. It is associated with yellow composites in flower-rich grasslands. Single females were taken at Heath's Meadows on 10th June 2014 (DAS) and at Spendluffe Meadows on 4th July 2014 (DAS).

Lasioglossum laevigatum
Associated with unimproved grassland, single females were found in a water trap operated in my back garden in Alford on 23rd April and 28th April 2014 (DAS) and two females were taken in a Malaise trap in Sutterby churchyard in June 2014 (DAS). This species appears to have declined in its strongholds in southern England.

Melittidae
Melitta leporina
Associated with legumes in flower-rich grasslands. One female was taken by Richard Davidson in the RSPB reserve at Frampton Marsh on 21st July 2016

Notes on Other Species
Colletes halophilus
This species is associated with its major pollen source of Sea Aster *Aster tripolium* growing on salt-marshes adjacent to its nesting habitat on lightly-compacted areas of open sand on sand dunes. Its total world distribution is confined the margins of the North Sea, making our Lincolnshire colonies of international significance. Colonies occur in suitable localities along the coast from Moulton Marsh to

Cleethorpes.

Colletes hederae
The appearance of this species in Lincolnshire was no surprise because its spread northwards following its first discovery in Dorset in 2001 has been well recorded. It would be very interesting to plot its further expansion in the county. Will it continue to spread along the coast or will colonies be found further inland?

Colletes fodiens
Although recorded from sandy areas inland, this species appears to have its stronghold on the coastal sand dunes between Gibraltar Point and Saltfleetby-Theddlethorpe. A single male was taken at Donna Nook on 22nd June 2017.

Megachile leachella
This species was previously known in Lincolnshire only from Gibraltar Point. It was found at Donna Nook on 22nd June 2017 (DAS) and on the Dunes at Anderby Creek on 16th July 2017 (Richard Davidson).

Osmia spinulosa
First found by Michael Archer at Rauceby Warren in 2013, A female specimen was found in a collection made by volunteers at an invertebrate identification training day at Rimac on 15th August 2016 and another female was taken by Richard Davidson at Chapel Point Dunes on 4th September 2016. A male was taken at Donna Nook on 22nd June 2017 (DAS).

Lasiglossum malachurum
Formerly quite a rarity even in southern England, this species seems to have expanded its range quite rapidly northwards into the English midlands and beyond. It was first recorded in Lincolnshire at Navenby in 2012 by Charlie Barnes and later in the same year by Alan Phillips at Holton Grange. It was found at 4 localities in 2014, a further 2 localities in 2015 and a further 3 localities in 2016. By which time it could be found in some numbers along arable field margins (Sheppard, 2016). Maybe the new field margins required by the various agri-environment schemes has facilitated the rapid spread of this species.

Chelostoma florisomne
Previously recorded only once in Lincolnshire, by Marcus Graham at Old Bolingbroke in 1941, a single male was taken by Richard Davidson during the LNU meeting at Corringham Scroggs on 27th May 2017.

Bombus hypnorum
First discovered in England in 2001, it first appeared in Lincolnshire in 2008 at Gosberton Clough but had reached Laughton Forest by the following year. It is now probably the most frequently recorded Bumblebee in Lincolnshire, although this may because of its habit of nesting in bird boxes. This species has spread extraordinarily rapidly across the country but, possibly because of its nesting requirements, does not seem to have impacted on other Bumblebee species.

Acknowledgements
Thanks go to Alan Phillips for giving me a copy of his database; to Richard Davidson for passing on so many interesting species that I never seem to find; to the many people who service my Malaise traps and to Charlie Barnes for constant help and encouragement.

References
ARCHER, M.E., 1993. The Aculeate Wasps and Bees (Hymenoptera: Aculeata) of Risby Warren in Watsonian Lincolnshire. *Tronsoctions of the Lincolnshire Noturolists' Union* **23(2)**: 123-131.
ARCHER, M. 1997. Aculeate Hymenoptera (Bees, Wasps & Ants). *The Lincolnshire Naturalist* **24(2)**: 126-128.
ARCHER, M. E., 1999. The Mason Wasps (Hymenoptera: Eumenidae) of Watsonian Lincolnshire. *The Lincolnshire Noturolist* **24(4)**: 244-246.
ARCHER, M. E., 2003. The Bees (Hymenoptera: Apidae) of Watsonian Lincolnshire. 1. Silk Bees (*Colletes*) with their Cuckoos (*Epeolus*) and Yellow-faced Bees (*Hylaeus*). *The Lincolnshire Noturolist* **25(4)**: 207-211.
ARCHER, M. E., 2004. The Bees (Hymenoptera: Apidae) of Watsonian Lincolnshire. 2. Megachilinae: Carpenter (*Chelostomo*), Mason (*Osmio*)

and Leaf-cutter (*Megochile*) Bees. *The Lincolnshire Noturolist* **26(1)**: 1S-19.
ARCHER, M. E., 200S. The Wasps (Hymenoptera: Aculeata) of Watsonian Lincolnshire. 2. Pompilidae, Spider-hunting Wasps. *The Lincolnshire Noturolist* **26(2)**: 80-87.
ARCHER, M. E., 2006. The Wasps (Hymenoptera: Aculeata) of Watsonian Lincolnshire. 3. Solitary Wasps, Sphecidae. *The Lincolnshire Noturolist* **26(3)**: 1S3-16S.
ARCHER, M. E., 2007. The Wasps (Hymenoptera: Aculeata) of Watsonian Lincolnshire. 4. Chrysidoidea, Tiphiidae, Mutillidae, Sapygidae and Vespinae. *The Lincolnshire Noturolist* **26(4)**: 222-237.
ARCHER, M. E., 2008. The Bees (Hymenoptera: Aculeata) of Watsonian Lincolnshire. 4. Mining Bees, Andreninae. *The Lincolnshire Noturolist* **27(1)**: 17-22.
ARCHER, M. E., 2009. The Bees (Hymenoptera: Aculeata) of Watsonian Lincolnshire. Mining or Sweat Bees and their cleptoparasites, Halticinae. *The Lincolnshire Noturolist* **27(2)**: 80-86.
ARCHER, M. E., 2010. The Bees (Hymenoptera: Aculeata) of Watsonian Lincolnshire. Athophorine or Nomad Bees (*Nomodo*, *Anthophoro*, *Melecto* and *Xylocopo*). *The Lincolnshire Noturolist* **27(3)**: 1S0-1S6.
ARCHER, M. E., 2011. The Bees (Hymenoptera: Aculeata) of Watsonian Lincolnshire. Social Bees (*Bombus* and *Apis*). *The Lincolnshire Noturolist* **27(4)**: 239-24S.
DAVIDSON, R., 2016. Ivy Bees arrive on the Lincolnshire Coast. *The Lincolnshire Noturolist* **28(1)**: 2S-26.
PHILLIPS, A.L., 2010. The Ants (Hymenoptera: Formicidae) of Lincolnshire. *The Lincolnshire Noturolist* **27(3)**: 168-179.
PHILLIPS, A., 2014. Aculeate Hymenoptera. *The Lincolnshire Noturolist* **28(3)**: 194.
SHEPPARD, D.A., 1016. Bees on Sown Field Margins. *The Lincolnshire Noturolist* **29(1)**: 33-34.

THE GIRDLED SNAIL *Hygromia cinctella* – A NEW NON-NATIVE SPECIES FOR SOUTH LINCOLNSHIRE

Alex Pickwell

The Girdled Snail *Hygromia cinctella* (Draparnaud, 1801) is a common Mediterranean species (Kerney, 1999) native to the area between south-east France and north-west Croatia (Welter-Schultes, 2012). The snail has been spreading rapidly through central Europe for the last three decades (Říhová & Juřičková, 2011), being reported from Austria since 1978 (Kerney *et al.*, 1983; Beckmann & Kobialka, 2008), Switzerland since approximately 1980 (Beckmann & Kobialka, 2008), Hungary since 1983 (Kerney *et al.*, 1983; Beckmann & Kobialka, 2008), Belgium from 1994 (Neucker & Scheers, 2014), Germany since 1995 (Wimmer 2006; Beckmann & Kobialka, 2008) and the Netherlands also from 1995 (Beckmann & Kobialka, 2008). The Girdled Snail has also spread to the Czech Republic in 2010 (Říhová & Juřičková, 2011), Bulgaria in 2014 (Dedov *et al.*, 2015) and has even travelled around the globe to New Zealand, where it was first recorded in 2015 (Walton, 2017).

More locally, the Girdled Snail was first reported in England in Paignton, Devon, in 1950 (Comfort, 1950; Kerney, 1999), but was subsequently discovered to have been present in the location since at least 1945 (Milman, 1951). It has been suggested that the Girdled Snail was introduced into the country via imports of cultivated garden plants (Welter-Schultes, 2012). The species remained restricted to South Devon until around the 1970s, but has since been spreading rapidly across the country. It is now widely distributed in the southern half of England (Cameron, 2008), with plentiful records reaching from Cornwall, North Wales and Anglesey in the west to both Kent and Norfolk in the east. The snail has also expanded its range northwards, being recorded in 2006 from Leeds in Yorkshire (Norris, 2006) and from Glasgow, Scotland, in 2008 (Weddle, 2009). The Scottish population has subsequently expanded with records from Livingston in West Lothian, Edinburgh, and St Andrews in Fife in 2012 and Dunbar, East Lothian, in 2015.

Given the invasive capabilities of the Girdled Snail, it is surprising that prior to 2016 it had only been recorded once in Lincolnshire; from Market Rasen in North Lincolnshire in 2004. A second record in Lincolnshire, and the first for South Lincolnshire, was made in October 2016 when a specimen of Girdled Snail was collected from a fencepost on the boundary of Sainsbury's car park and the Environment Agency offices in the centre of Spalding (national grid reference TF24482294). This appears to be a typical habitat for Girdled Snail as it is widely reported to occur in disturbed and densely populated by humans such as roadsides and gardens (Welter-Schultes, 2012), waste ground (Kerney, 1999) and hedges (Cameron, 2008). Indeed, the first records of the Girdled Snail for many countries are almost invariably made from such urban environments (e.g. Weddle, 2009; Říhová & Juřičková, 2011; Dedov *et al.*, 2015;

Walton, 2017). It should be noted, however, that the snail isn't restricted to urban areas and may also be found in rural and suburban environments among grass, nettles, ivy, umbellifers (e.g. cow parsley and lovage) and similar plants (Welter-Schultes, 2012), particularly on well-drained, base-rich soils (Kerney, 1999).

Plate 1: Shells of the Girdled Snail *Hygromia cinctello* from Old Town Bay, St Marys, Isles of Scilly.
Picture: Paul Sterry (Nature Photographers)

Identification of the Girdled Snail is straightforward and can be easily done using just the shell (Plate 1). Comfort (1950) originally described the species as "conical, reddish brown or horn coloured with a sharp peripheral keel, with a thin opaque white band coincident with the keel". It has since been noted that the colour of the shell and the intensity of the white band on the keel is variable. For example, Dedov *et al.* (2015) describes the species' shell colour varying from "whitish-grey to horny-brown" in a single population. Nonetheless, the white, sharp peripheral keel and the conical shell shape features (illustrated in Plate 1) are distinctive and characteristic (Welter-Schultes, 2012) of the Girdled Snail.

It seems highly likely that the snail is more widely distributed in Lincolnshire than currently known. Please be on the lookout for the Girdled Snail *Hygromia cinctella* in your garden, around town and when out in the countryside. Photographs and specimens of the Girdled Snail, and indeed any other molluscs, will be gratefully welcomed. Send to Alex Pickwell, County Recorder for Non-Marine Molluscs, alex.pickwell@environment-agency.gov.uk .

References

BECKMANN K-H, KOBIALKA H. 2008. *Hygromio cinctello* (Draparnaud, 1801) auf dem Eroberungszug durch Deutschland (Gastropoda: Hygromiidae). *Club Conchylio Informotionen*, **39**; 34–41.

CAMERON, RAD. 2008. *Keys for the identificotion of Lond Snoils in the British Isles (Vol. 79)*, 2nd ed., Field Studies Council.

COMFORT A. 19S0. *Hygromio cinctello* (Draparnaud) in England. *Journol of Conchology*, **23**; 99-100.

DEDOV IK, SCHNEPPAT UE, KNECHTLE GLOGGER F. 201S. *Hygromio cinctello* (Draparnaud, 1801) (Mollusca: Gastropoda: Hygromiidae), a new snail species for the fauna of Bulgaria. *Acto Zoologico Bulgorico*, **67**; 46S-469.

KERNEY MP. 1999. *Atlos of the lond ond freshwoter molluscs of Britoin ond Irelond*. Harley books.

KERNEY MP, CAMERON RAD, Jungbluth JH. 1983. *Die Londschnecken Nord- und Mitteleuropos. Ein Bestimmungsbuch für Biologen und Noturfreunde*. Verlag Paul Parey.

MILMAN PP. 19S1. *Hygromio cinctello* (Draparnaud) at Paignton. *Journol of Conchology*, **23**; 13S.

NORRIS A. 2006. *Hygromio cinctello* (Draparnaud, 1801) in Yorkshire. *Mollusc World*, **12**; 21.

ŘÍHOVÁ D, JUŘIČKOVÁ L. 2011. The Girdled Snail *Hygromio cinctello* (Draparnaud, 1801) new to the Czech Republic. *Molocologico Bohemoslovoco*, **10**; 3S–37.

Van den NEUCKER T, Scheers K. 2014. The recent colonisation and rapid spread in Belgium of the alien Girdled Snail *Hygromio cinctello* (Gastropoda: Hygromiidae). *Journol of Conchology*, **41**; 779-780.

WALTON K. 2017. *Hygromio cinctello* (Draparnaud, 1801) (Mollusca: Gastropoda: Hygromiidae): a new adventive land snail for New Zealand. *New Zeolond Journol of Zoology*, **44**; 9-13.

WEDDLE R. 2009. The Girdled Snail *Hygromio cinctello* (Gastropoda: Pulmonata: Hygromiidae): first Scottish record. *Glosgow Noturolist*, **25**; 67.

WELTER-SCHULTES FW. 2012. *Europeon Non-Morine Molluscs, o Guide for Species Identificotion: Bestimmungsbuch für europöische Lond- und Süsswossermollusken*. Planet Poster Editions.

WIMMER W. 2006. *Hygromio cinctello* (Draparnaud, 1801) auf Gut Sunder, Landkreis Celle, Niedersachsen (Gastropoda: Hygromiidae). *Braunschweiger Noturkundliche Schriften*, **7**; 671–67S.

Diplolepis spinosissima (Cynipidae) GALL ON *Rosa canina*

Jan Rousseau

Gall of *Diplolepis spinosissima* on *Rosa canina*, Whisby Nature Park

Picture Ray Rousseau

Back in August 2014 I found a gall that I didn't recognise on Dog Rose *Rosa canina* agg. at Whisby Nature Park. This was protruding from both leaf surfaces and not readily detachable as are the pea galls of *Diplolepis nervosa*. The gall looked like that of *D. spinosissima* but this usually occurs on Burnet Rose *R.pimpinellifolia*. After contacting British Plant Gall Society experts, it was thought I should get the identity of the rose checked. BSBI rose expert Mr. R. Maskew agreed to look at this and samples were painfully collected and sent to him. Yes, *Rosa canina* (Group pubescentes). I returned to the site in September and collected a couple of galls hoping to over-winter these and rear an insect out. In mid July 2015, to great excitement, an insect had emerged and I believed it to be a Cynipid.

All I needed then was to find someone to determine the identification of my insect. This proved to be rather tricky, but eventually, in March 2016 help was found! I attended the BPGS Inverte-brate meeting taking along my Cynipid and pictures of the gall. Later in the month after a lot of help from B.P.G.S., Jerry Bowdrey, Suffolk gall recorder, agreed to look at the specimen. He had recorded *D. spinosissima* using Dog Rose a number of years ago in Suffolk. I was delighted when he determined the identity of 'my cynipid' as *D.spinosissima*! Perhaps only the second UK record using *R. canina* as a host.

I am extremely grateful to the BPGS, especially Margaret Redfern, Maggie Frankum and Jerry Bowdrey for all the help given to me.

FUNGI in 2016

Ray Halstead

Contrary to reports on social media, the fungi in Lincolnshire would seem to have had a poor year in 2016 with few fruitbodies, (sporophores), to be found in any sort of numbers. I suspect that a lot of the reports on social media are by the 'food for free' brigade and I'm sure this has had an impact on what we are finding in the field. Their incessant collecting 'for the pot' is surely not good for the future of our mycota as more and more people become keen on this activity and with the influx of eastern Europeans who collect fungi by the carrier bagful. However, I do have some interesting finds to report, including finds of rarities this far north which brings in to question the effects of global warming or climate change.

Hericium coralloides, Coral Tooth, was first reported and recorded in the county in 2012 at Temple Wood and has been found there in subsequent years. It has now been discovered, by Robert Lamin, at

Coral Tooth *Hericium corolloides* at Elsea and Math Woof

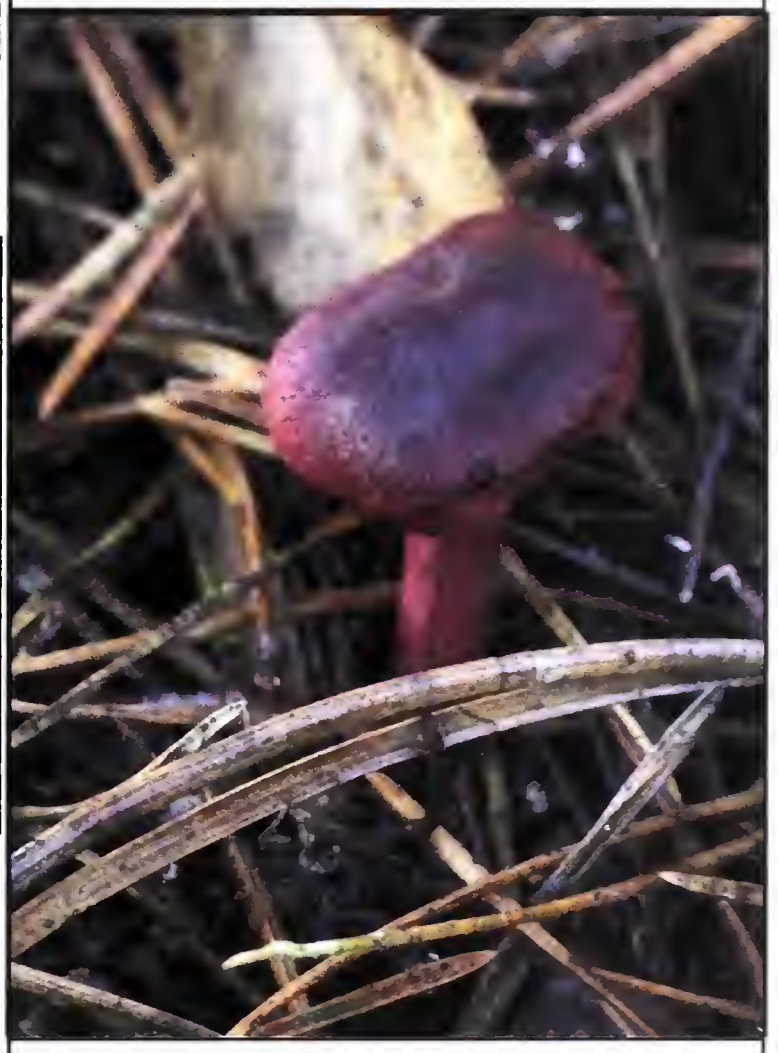
Picture R. Lamin

Nail Fungus *Poronio punctoto* at Risby Warren

Picture Clare Sterling

Tiered Tooth *Hericium cirrhotum* at Grimsthorpe Park

Picture R. Lamin



Blood-red Webcap *Cortinarius songuineus*

Picture Sylvia Meller

new sites in the county, Elsea and Math Wood and Haconby, all in the south of the county but much further north than its usual habitat. This is not a one-off report either because, again, social media has been reporting findings of this species throughout the Midlands recently.

Closely related and of similar appearance, Tiered Tooth, *Hericium cirrhatum* was also reported by Robert Lamin from Grimsthorpe Park where it was found growing on Horse Chestnut, *Aesculus hippocastanum*.

These are two species to be on the look out for in the future along with the striking but rather mal-odorous *Clathrus ruber*, the Red Cage, and *Clathrus archeri*, Devil's Fingers. All of these are species more

commonly associated with the southern coastal counties but found to be moving north possibly due to the effects of global warming or climate change as mentioned earlier.

Another rarity for the UK and a first for Lincolnshire is *Poronia punctata*, the Nail Fungus. Clare Sterling sent in some from photographs from 2014 along with useful information allowing us to add this species to our list. It was discovered at Risby Warren near Scunthorpe on horse dung and is most likely a rarity in the UK due to its specific requirement of acid grassland/heathland that is grazed by horses.

There are three records for *Cortinarius sanguineus* on the FRDBI, all of them in VC53 and so to find it in VC54 at Linwood Warren, on my doorstep, was a welcome surprise. Sylvia Meller, who was with me on the day, reported and photographed this striking species.

Other notable species for 2016 were *Coprinopsis acuminata* discovered by Annette Faulkner at the LNU Annual Foray in Temple Wood, *Leucoagaricus badhamii*, *Marasmius setosus* and *Melanoleuca grammopodia* all found and recorded by my Norfolk associate, Tony Leech, in Boston Cemetary.

My thanks to those who have provided records over the year and special thanks to my assistant Jackie Freeman for her help at all of the forays.

LICHENOLOGY and BRYOLOGY IN 2016

M. R. D. Seaward

Most of my work as the recorder over the past year has been concerned with on-going surveys of churches with churchyards, 14 being visited for the first time and several others revisited. To date, 668 of the C. of E. churchyards in the county have now been lichenologically surveyed; 35 have yet to be studied by the recorder, but 8 of these have already been surveyed by visiting lichenologists – thus, in theory, more than 96% of the county's churchyards have been studied at least once in the past 50 years, but sadly a growing number of those formerly studied have in the interim lost their church or churchyard. Much of the survey work has been concentrated on the south-east of the county which has tended to be overlooked by lichenologists, it being perceived to be short of suitable habitats. However, churchyards there have captured the recorder's attention, not necessarily because they might support rarities, but because they have in the past provided refugia for lichens in an otherwise highly agricultural and often treeless landscape. Sad to say, many of these churchyards, as those revisited (see also last year's report), show signs of lichen impoverishment due to the closure of the church and/or the setting has lost its original sanctity.

Visits to the county, including attendance at three LNU field meetings, have been lichenologically rewarding; of particular interest were those meetings at Lindholme and Temple Wood, the former providing an oasis in an otherwise barren area, and a single *Fraxinus* at the latter site supported two new county records and *Graphis scripta*, a once common species throughout Britain, not seen in the county for more than 100 years. Such work has added considerably to our knowledge of the lichen flora at a 10 x 10 km grid square level, but other than a valuable contribution by S. J. Heathcote (SJH), including a new vice-county record, work on the bryophyte flora has been less fortunate this year. All the records of lichens and lichenicolous fungi have been contributed by the recorder (MRDS) in 2016 (unless otherwise stated), as a consequence of which, two county (*Arthonia didyma* & *Porina aenea*), one vice-county (*Peltigera neckeri*), 24 divisional and numerous grid square records have been added to our registers. Rarities have been confirmed or identified by B. J. Coppins.

Mosses
Brachythecium mildeanum (Schimp.) Schimp. + 10 (SJH)
Didymodon nicholsonii Culm. + 1 (SJH)
D. sinuosus (Mitt.) Delogne + 2 (SJH)
D. vinealis (Brid.) R.H.Zander + 2 (SJH)
Sanionia uncinata (Hedw.) Loeske + 2 (Risby Warren, SJH, **VCR** – only the 2nd record for the county)
Ulota crispa (Hedw.) Brid. + 2 (SJH)

Hepatics
Lepidozia reptans (L.) Dumort. + 2 (SJH)
Radula complanata (L.) Dumort. + 2 (SJH)

Lichens
Arthonia didyma Körb. + 16 (on *Fraxinus*, Temple Wood, MRDS, **NCR**)
A. radiata (Pers.) Ach. + 16
Collema auriforme (With.) Coppins & J.R.Laundon + 12
Flavoparmelia soredians (Nyl.) Hale + 6, 13, 14
Graphis scripta (L.) Ach. + 16 (on *Fraxinus*, Temple Wood, MRDS – last seen in the county in c.1912)
Gyalecta jenensis (Batsch) Zahlbr. + 17
Hyperphyscia adglutinata (Flörke) H.Mayrhofer & Poelt + 4
Lecanora hagenii (Ach.) Ach. + 3, 4, 15 (2002)
L. intricata (Ach.) Ach. + 12
L. pannonica Szatala + 12
L. symmicta (Ach.) Ach. + 15
Lepraria lobificans Nyl. + 12
Parmotrema perlatum (Huds.) M.Choisy + 16
Peltigera neckeri Hepp ex Müll.Arg. + 16 (on steep sandy bank, Stanton Nature Reserve, MRDS, **VCR**)
Physcia aipolia (Ehrh. ex Humb.) Fürnr. + 4
Porina aenea (Wallr.) Zahlbr. + 16 (on *Fraxinus*, Temple Wood, MRDS, **NCR**)
Punctelia jeckeri (Roum.) Kalb. + 4, 12
Ramalina fastigiata (Pers.) Ach. + 16, 17

BOTANY IN 2016

Paul Kirby & Sarah Lambert

Seven field meetings were held in 2016:

April 23	Potterhanworth Wood SSSI & Nocton Wood, TF06
May 21	Wharton Wood, SK89
June 4	Cleethorpes Country Park & Cleethorpes Boating Lake Grounds, TA30
July 17	Stanton's Pit LWT Reserve, TF01
August 13	Tetney Blow Wells LWT Reserve, TA30
September 4	Burkinshaw's Covert, TA11
October 9	Fungus Foray. Temple Wood. TF02

Among the plants found at the meetings were;

in **Potterhanworth Wood SSSI:-** Moschatel *Adoxa moschatellina*, Hairy Woodrush *Luzula pilosa*, Yellow Archangel *Lamiastrum galeobdolon* ssp. *montanum,* Ragged-robin *Silene flos-cuculi* and Devil's-bit Scabious *Succisa pratensis*.

in **Nocton Wood:-** Orpine *Sedum telephium*, see below.

in **Wharton Wood:-** Wood Anemone *Anemone nemorosa*, Pill Sedge *Carex pilulifera*, Midland Hawthorn *Crataegus laevigata*, Narrow Buckler-fern *Dryopteris carthusiana*, Alder Buckthorn *Frangula alnus*, Slender St. John's-wort *Hypericum pulchrum*, Early-purple Orchid *Orchis mascula*, Sessile Oak *Quercus petraea* and Skullcap *Scutellaria galericulata*.

at **Cleethorpes:-** Wild Onion *Allium vineale*, Bur Chervil *Anthriscus caucalis*, Distant Sedge *Carex distans*, Long-bracted Sedge *C. extensa*, Glabrous Rupture-wort *Herniaria glabra*, Hoary Mustard *Hirschfeldia incana*, Hare's-tail *Lagurus ovatus*, Narrow-leaved Bird's-foot-trefoil *Lotus tenuis*, Bulbous Meadow-grass *Poa bulbosa*, both Common & Lesser Meadow-rue *Thalictrum flavum* & *T. minus*, Knotted Hedge-parsley *Torilis nodosa* and Clustered Clover *Trifolium glomeratum*.

at **Stanton's Pit:-** Woolly Thistle *Cirsium eriophorum*, New Zealand Pygmy-weed *Crassula helmsii*, Common Cudweed *Filago vulgaris*, Fairy Flax *Linum catharticum*, Bee Orchid *Ophrys apifera* and Creeping Yellow-cress *Rorippa sylvestris*.

at **Tetney Blow Wells:-** Common Spotted-orchid *Dactylorhiza fuchsii*, Water-violet *Hottonia palustris*, Soft Shield-fern *Polystichum setiferum*, Black Currant *Ribes nigrum* and Bay Willow *Salix pentandra*.

in **Burkinshaw's Covert**:- Sneezewort *Achillea ptarmica*, Yellow-wort *Blackstonia perfoliata*, Prickly Sedge *Carex muricata* ssp. *pairae*, Hairy Buttercup *Ranunculus sardous* and Stone Parsley *Sison amomum*.

in **Temple Wood**:- Betony *Betonica officinalis*, Thin-spiked Wood-sedge *Carex strigosa*, Small Teasel *Dipsacus pilosus*, and Hard Shield-fern *Polystichum aculeatum*.

New Records for Lincolnshire

Date 2016 unless stated otherwise.

Agrostis x *murbeckii* (*A. capillaris* x *A. stolonifera*), Vc53, Moor Closes NR, SK94, SL & SLFG. This hybrid is easily overlooked and may occur wherever both parents are present, sometimes forming extensive populations in damp neutral pasture.

Carex x *prolixa* (*C. acuta* x *C. elata*), Vc53, Willow Tree Fen NR, TF12, Neil Harris, det. Michael Porter (BSBI Sedge referee). This hybrid is considered to be 'vulnerable' in the UK.

Eyebrights: three new *Euphrasia* taxa; one species, Confused Eyebright *Euphrasia confusa* & two hybrids, *E. arctica* x *E. nemorosa* & *E. nemorosa* x *E. confusa*, were added to the county list in 2016. These were confirmed/determined by Chris Metherell, the BSBI Euphrasia referee. See below for full details.

Galanthus nivalis x *G. elwesii*, Vc53, Edenham, TF02, SL. A single hybrid plant growing with large populations of both parents in St. Michael's Churchyard.

Heath Woodrush hybrid *Luzula multiflora* ssp. *multiflora* x *L. multiflora* ssp. *congesta*, Messingham Sand Quarry NR, Vc54, SE90, M. Wilcox. Good patches of this hybrid along the side of a track.

Dandelions: Mark Lynes continues to record Dandelions and added 19 species to the county list in 2016. All were determined by Professor John Richards, the BSBI referee for the genus. The additions were *Taraxacum acutifidum* SK79, *T. aequilobum* TF49, *T. ancistrolobum* SK79, *T. angustisquameum* SE70, *T. fulvicarpum* TF49, *T. hamatulum* SE70, *T. hamiferum* SK79, *T. limbatum* TF49, *T. lunare* SE70, *T. obtusifrons* SE70, *T. pallidipes* SE90, *T. quadrans* SK79, *T. rhamphodes* SE70 & SK79, *T. sellandii* SK79, *T. subhamatum* SE70, *T. trilobatum* SE90 & *T. xanthostigma* SK79, all recorded in Vc54 and *T. macrolobum* SK96 & *T. undulatiflorum* SK96 in Vc53. This brings the total number of Dandelion species on the county

database to 52.

Garden escapes and introductions added to the county list in 2016

Austrian Chamomile *Anthemis austriaca,* Vc53, Fulbeck, SK95, SL. Recorded from a wildflower mix in the churchyard, this species is often used in conservation mixtures and may be recorded more frequently in future.

Hairy Michaelmas-daisy *Aster novae-angliae*, Vc54, Nunn's Bridge area, TF34, JOM, JG & Peter Stroh. Verge adjoining ruined house.

Fern-leaved Beggarticks *Bidens ferulifolia*, Vc53, Stamford, TF00, SL. One plant self-seeded in a limestone wall.

New-Zealand Hair-sedge *Carex comans,* Vc53, Holbeach, TF32, SL. One plant of the bronze-leaved form self-seeded in a gutter.

Ceanothus thyrsiflorus, Vc53, Wilsford, TF04, SL. One plant on a verge near a garden fence, not obviously planted.

Japanese Quince *Chaenomeles japonica*, Vc53, Heckington, TF14, SL & SLFG.

Early Virgin's-bower *Clematis cirrhosa,* Vc53, Billingborough, TF13, SL & Peter Kirby. Growing on the boundary fence of the churchyard, probably originally planted.

Pumpkin *Cucurbita maxima*, Vc53, Moulton Marsh, TF33, OM.

Straw Foxglove *Digitalis lutea,* Vc53, Silk Willoughby (A15 verge), TF04, Kerry Harrison & SL. A well-established colony of this garden plant in species-rich calcareous grassland.

Elaeagnus x *submacrophylla* (*E. macrophylla* x *E. pungens*), Vc54, Melton Ross, TA01, PK. Among an extensive planting of shrubs in rough grassland between the railway line and a public footpath. Included were three *Elaeagnus* taxa.

Fairy Foxglove *Erinus alpinus,* Vc53, Langtoft, TF01, SL. Established on a limestone wall. There have now been three further records for this species in the vice-county, including plants self-seeding into pavement cracks.

Christmas-rose *Helleborus niger*, Vc53, Corby Glen, TF02, SL. Self-seeded into pavement crack.

Purple Iris *Iris versicolor*, Vc53, Uffington, TF00, SL. Established in a shallow road-side ditch, probably originally planted.

Virginian Juniper *Juniperus virginiana*, Vc53, Swinderby, SK86, SL & Peter Kirby. Planted in the church-yard.

Dutch Rose *Rosa* 'Hollandica', Vc54, Newton by Toft, TF08, PK & CH. Confirmed Roger Maskell, BSBI Rose referee. A small thicket on roadside rough ground in the village.

Red Buffalo-bur *Solanum sisymbriifolium*, Vc54, Wrangle Tofts, TF45, JG & JOM. A small patch of this spiny South American plant in the corner of a potato field. This was initially thought to be just a casual occurrence, however further investigation by CH revealed that these plants were the remnants of an

introduction the previous year and part of a trial trap-crop to control Potato Root Eel-worm (= Potato Cyst Nematode, PCN). Red Buffalo-bur stimulates eel-worms to hatch from their cysts but they are unable to complete their life cycle within this plant. In practice a field of Red Buffalo-bur is planted in an infested potato-growing area - the crop stimulates the nematode eggs in the soil to hatch out but the eelworms cannot reproduce in the roots of the trap crop - the consequent reduction in levels of PCN may then allow another potato crop to be planted.

Red Buffalo-bur *Solanum sisimbriifolium* at Wrangle

Picture Colin Hutchinson

Thus Red Buffalo-bur, which is considered a problem weed in cattle pastures in southern South America, may prove useful in controlling a serious potato pest in Europe. If so, Red Buffalo-bur may well become a more common sight in the county and might turn up as a casual. Later in the year JOM found a second population in a field near Donington Eaudyke, TF23, in South Lincolnshire.

Hungarian Clover *Trifolium pannonicum*, Vc53, Tydd St. Mary, TF41, Jonathan Shanklin.

New for Vc53

Fragrant Agrimony *Agrimonia procera*, Dunsby, TF02, Richard Jefferson. This species was recorded from three locations in 2016, all in or near ancient woodlands.

Three-cornered Garlic *Allium triquetrum*, Creeton, TF01, SL & Peter Kirby.

Ragweed *Ambrosia artemisiifolia*, Stamford, TF00, Alyson Freeman & SL. A single plant growing at the base of a wall.

Adria Bellflower *Campanula portenschlagiana*, Navenby, SK95, SL; Bicker, TF23, OM.

Dryopteris x *complexa* agg. (*D. affinis* agg. x *D. filix-mas*), Woolsthorpe, SK92, SL. One plant on disused railway.

Balkan Spurge *Euphorbia oblongata,* Sedgebrook, SK83, SL. Well established on a road verge; also found at Thorpe-on-the-Hill, SK96, Fred Rumsey.

Perennial Candytuft *Iberis sempervirens*, Uffington, TF00, SL.

Juncus x *surrejanus* (*J. acutiflorus* x *J. articulatus*), Moor Closes NR, SK94, SL & SLFG. This hybrid is easily overlooked and may occur wherever both parents are present, sometimes forming extensive populations in damp neutral pasture.

Lolium x *boucheanum* (*L. multiflorum* x *L. perenne*), Whaplode Drove Common, TF31, Jonathan Shanklin.

Water-lily *Nymphaea marliacea*, Fenhouses Drove, TF24, OM.

Small-flowered Sweet-briar *Rosa micrantha*, Potterhanworth, TF06, OM.

Sorbus x *thuringiaca* (*S. aria* x *S. aucuparia*), Stamford, TF00, SL. Planted as a street tree.

New for Vc54

Astrantia *Astrantia major*, TA00, PK. At side of entrance to church car park.

Harpur-Crewe's Leopards's-bane *Doronicum* x *excelsum* (*D. columnae* x *D. pardalianches* x *D. plantagineum*), Sudbrooke, TF07, PK.

Winter Jasmine *Jasminum nudiflorum*, Fishtoft south, TF34, JOM, JG & Peter Stroh. Spreading from hedge beside minor road adjoining house & garden. First recorded in the county at Fleet railway station, TF32, by J. Burtt Davy in 1891.

Yellow Nonea, *Nonea lutea*, South Somercotes, TF49, PK, confirmed M. Wilcox. On drain bank beside footpath & garden. First recorded in the county in Vc53 in 2015.

A sample of the records received in 2016

Hairy Lady's-mantle *Alchemilla filicaulis* ssp. *vestita,* Morkery Wood, SK91, SL, Richard Davidson & Neil Harris; Holywell Wood, SK91, SL & SLFG. The first post-2000 records in VC53.

Slender Hare's-ear *Bupleurum tenuissimum*, Sutton Bridge, TF42, Stephen Heathcote. This 'vulnerable' species was last recorded from TF42 in 1966 and this is the first post-2000 record in Vc53 outside Frampton Marsh (TF33).

Calystegia sepium ssp. *roseata*, Barton upon Humber, Chowder Ness, TA02. Stuart Smith & Angela Buckle. Continues to thrive among reed on the Humber bank close to the site where it was first recorded in the county in 2007.

Carduus x *stangii* (*C. crispus* x *C. nutans*), Sudbrook, SK94, SL; Skillington, SK82, SL. The second and third records for this hybrid in Vc53.

Common Yellow-sedge *Carex demissa*, Holywell Wood, SK91, SL & SLFG. The first record for this local species in the extreme south-west of Vc53.

Lesser Centaury *Centaurium pulchellum*, Holywell Wood, SK91, SL & SLFG; Elsthorpe, TF02, Richard Jefferson; Kirkby Underwood, TF02, Richard Jefferson. Three additional records for this species from damp compacted clay rides in ancient woodland. A habitat where it was first recorded in the county in 2014 in Twyford Wood.

Opposite-leaved Golden-saxifrage *Chrysosplenium oppositifolium*, Grantham (bank of River Witham), SK93, MP. The third post-2000 record for this very local species in Vc53.

Maiden Pink *Dianthus deltoides*, Broughton: field on south side of East Wood, SE90, David Harrison. Three patches of plants in grassland at the edge of the wood not far from habitation. Most likely a garden escape. There are no previous records for this plant in this well botanised area. It was last seen as a native in Vc54 at Woodhall Spa, TF26 by Rev. F.S. Alston in 1918.

Hairy Finger-grass *Digitaria sanguinalis*, Stamford, TF00, SL. The first record in Vc53 outside the Lincoln area.

Shore Horsetail *Equisetum* x *litorale* (*E. arvense* x *E. fluviatile*), Messingham Sand Quarry NR, SE90, M. Wilcox. New for the hectad.

Common Ramping-fumitory *Fumaria muralis* ssp. *boraei,* disturbed ground close to NW corner of Southrey Wood, TF16, JOM. Only the second record for this subspecies in the county.

Goat's-rue *Galega officinalis,* Belton Woods Golf Club, SK93, MP. The first post-2000 record for Vc53.

Yellow Horned-poppy *Glaucium flavum*, Sandilands, TF58, Richard Davidson. Three plants on dunes. First recorded at Sandilands in 1981 by L. Ball but not seen there again since 1991. An interesting re-find.

Hoary Mustard *Hirschfeldia incana*, Grantham, SK93, MP. The first post-2000 record in Vc53.

Water-violet *Hottonia palustris*, Twigmoor Woods, SE90, JF and also in a species-rich drain linking Bardney Abbey & the old River Witham, TF17, JOM.

Pale St John's-wort *Hypericum montanum*, near Broughton East Wood, SE90, David Harrison, confirmed PK. A single plant growing beside the footpath. Long known from around Broughton where it was first recorded by Rev. William Fowler in 1878 but last seen in this area in 1993, in Clapgate Pit, SE91, slightly to the north of this present site.

Yellow Bird's-nest *Hypopitys monotropa*, Scunthorpe - Yarborough Warren, SE91, P. & J.N.J. Kirby. Several colonies in scrubby woodland on old mine workings. Continues to thrive at this site where it was first seen in 2003.

Slender Rush *Juncus tenuis*, Laughton Forest, Roses Plantation, SK89, PK. Among vegetation along the centre of the hardcore main ride. New for hectad.

Annual Mercury *Mercurialis annua*, Newton by Toft, TF08, PK & CH. On heap of spoil dumped on road verge. New for hectad.

Blinks, *Montia fontana*, Normanby Park: Western Woodland, SE81, JF. New for hectad.

Fine-leaved Water-dropwort *Oenanthe aquatica*, Sedge Hole Close, SK79, JF. In wet woodland. A re-find. First recorded here by I. Weston in 1989 but not seen since.

Prickly Poppy *Papaver argemone*, Cranwell, TF05, SL. A new location for this 'vulnerable' species.

Hawkweed Ox-tongue *Picris hieracioides* ssp. *hieracioides*, Gonerby Tunnel, SK93, MP. The first post-2000 record for this species which appears to have declined significantly.

Prickly Poppy *Papaver argemone* at Cranwell

Picture Sarah Lambert

Narrow-leaved Meadow-grass *Poa angustifolia*, Keddington, TF39, PK. On stonework of derelict lock. Also seen in grassland; in Tuetoes Hills Plantation, Laughton Forest, SE80, JF & PK and by Lade Bank Bridge & Pumping Station, TF35, JOM.

Flattened Meadow-grass *Poa compressa*, Skegness South Dunes, TF56, JF.
Annual Beard-grass *Polypogon monspeliensis*, Ingoldmells Amusement Park, TF56, PK & CH. Casual. At least 10 plants at foot of fence close to the stage of the 'Elvis impersonator'. An entertaining location!

Hybrid Cinquefoil *Potentilla* x *mixta* sens. lat. (*P. anglica* or *P. erecta* x *P. reptans*), Holywell Wood, SK91, SL & SLFG. The first post-2000 record for Vc53.

Sulphur Cinquefoil *Potentilla recta*, Silica Lodge, Scunthorpe, SE80, JF. New for hectad & only the second record in the county since 2000.

Ivy-leaved Crowfoot *Ranunculus hederaceus*, Normanby Park, SE81, JF. A scarce plant in the county.

Virginian Rose *Rosa virginiana*, Wainfleet St Mary, Low Grounds, TF48, PK. Determined Roger Maskew. In roadside hedge. Only second record in county.

Viola x *contempta (V. arvensis* x *V. tricolor)*, Temple Bruer

Picture Sarah Lambert

Vervain *Verbena officinalis* at Temple Wood

Picture Sarah Lambert

Orpine *Sedum telephium,* Nocton Wood TF06, SL & BSBI group; Morkery Wood, SK91, SL. Confirmation of the continued existence of two historical populations; the last record from Morkery Wood was 1965.

Vervain *Verbena officinalis*, Temple Wood, TF02, SL. The first post-2000 record for Vc53.

Viola x *contempta (V. arvensis* x *V. tricolor)*, Gorse Hill, Temple Bruer, Vc53, TF05, SL. A large population of this uncommon hybrid from an area where it was last recorded in 1988. In Vc54 seen at Hemswell Cliff, SK99, D.A Broughton & C. Wing & at Messingham Sand Quarry NR, SE90, M. Wilcox.

An Eye for Eyebrights Project.

Eyebright was first recorded in Lincolnshire at Threekingham, Vc53, TF03 by John Cragg in 1790 (Gibbons 1975) and in Vc53 in Skirbeck Hundred, TF34 by Pishey Thompson in 1820 (Thompson 1820).

The list of British Eyebrights in Stace (2010) comprises 18 species and 71 hybrids. In her Flora of Lincolnshire, Miss Gibbons lists records for 4 species: Common Eyebright *Euphrasia nemorosa*, Chalk Eyebright *E. pseudokerneri*, English Eyebright *E. anglica* (*E. officinalis* ssp. *anglica*) and *E. brevipila* now *E. arctica* ssp. *borealis*. Common Eyebright being by far the most widely recorded.

In 2015 the University of Edinburgh launched their 'An Eye for Eyebrights Project' to investigate the evolution of British Euphrasia. Recorders were invited to submit material for identification and DNA analysis. In North Lincolnshire six populations were sampled for the project and additional material collected from a further 12 sites. In 2016 all the material, collected PK, was sent to Chris Metherell, the BSBI Euphrasia referee, for confirmation/determination.

Seven taxa were identified; 5 species & 2 hybrids:

English Eyebright *Euphrasia anglica* [*E. officinalis* ssp. *anglica*].
One site. Kirkby Moor NR TF26 where it was first recorded in 1961.

E. arctica ssp. *borealis*. One site. A meadow on Far Ings NR, TA02.

Confused Eyebright *Euphrasia confusa*, a new species for Lincolnshire.
Two sites. Chalk grassland near Caistor, TA10 and dune grassland at Rimac on the Saltfleetby – Theddlethorpe NR TF49.

Common Eyebright *Euphrasia nemorosa*. By far the most widespread species.
Nine sites. Broughton SE90, South Ferriby SE92, Laughton Forest SK89, Newball Wood TF07, Sotby Wood TF17, Kirkby on Bain Gravel Pits NR TF26, Fir Hill Quarry NR TF38, Candlesby Quarry NR TF46 and Mill Hill Quarry NR TF47.

Chalk Eyebright *Euphrasia pseudokerneri*.
Two sites. On spoil heaps at Santon SE91 and on the Red Hill NR extension TF28.

E. arctica x *E. nemorosa*.
One site. A hardcore ride in Laughton Forest SK89. This taxon may also be present on sand dunes on the Donna Nook NR TA40 but this needs confirming.

E. nemorosa x *E. confusa*.
Two sites. Chalk spoil heaps on the Humber bank at South Ferriby SE92 and chalk grassland on the Mansgate Hill RNR near Caistor TA10.

It is hoped to sample further populations in 2017.

Many thanks to everyone who sent in records in 2016.

A list detailing all the vascular plant and stonewort taxa with records on the MapMate botanical data-base for Vc54, North Lincolnshire, at the end of January 2017 is available to download from the LNU website, https://lnu.org/specialists/vascular-plants/

Work continues to update 'Atlas 2000'. The recording is based on tetrads (2km squares of the O.S. grid).

If anyone would like to help with the recording would they please get in touch?

Bibliography and References

BLAKE, A. 2008. Potata cyst nematode trap crapping cantinues ta shaw pramise. *Farmers Weekly*, May 1.

DUDMAN, A. A. & RICHARDS, A. J. 1997. *Dandelians of Great Britoin and Ireland*. B.S.B.I. Handbaak Na. 9.

GIBBONS, E.J. 1975. *The Flara af Lincolnshire*. Lincalnshire Natural History Brachure No. 6. Lincolnshire Naturalists' Unian. Lincaln.

PERRING, F. H. & WALTERS, S. M. 1962. *Atlas of the British Flaro*. BSBI.

PRESTON, C.D., PEARMAN, D.A. & DYNES, T.D. 2002. *New Atlas af the British & Irish Flora*. OUP.

STACE, C.A. 2010. *New Flora af the British Isles*. 3rd Editian. CUP.

STACE, C.A. & CRAWLEY, M. J. 2015. *Alien Plants*. New Naturalist. Callins.

STACE, C. A., PRESTON, C. D. & PEARMAN, D.A. 2015.*Hybrid Flara af the British Isles*. BSBI.

STEWART, A., PEARMAN, D. A. & PRESTON, C. D. 1994. *Scorce Plants in Britain*. JNCC.

THOMPSON, P. 1820. *Collections far a Tapagraphical ond Historicol Account af Bastan and the Hundred of Skirbeck in the County af Lincoln*. Landan.

WIGGINGTON, M. J. 1999. *British Red Data Baaks 1. Vascular plants*. 3rd Edition. JNCC.

Key to initials in text

JF, Jeremy Fraser - CH, Colin Hutchinson – MP, Malcolm Pool - PK, Paul Kirby - SL, Sarah Lambert - JOM, Owen Mountford - JG, Jonathan Graham - SLFG, South Lincolnshire Flora Group.

FRESHWATER INVERTEBRATES IN 2016

Richard Chadd

The continued presence in Lincolnshire of the tube-building shrimp *Apocorophium lacustre* (Vanhoffen, 1911) was a welcome feature of 2016. The species inhabits the extreme south east of the county, occurring in mildly brackish water in the South Holland Main Drain at Clifton's Bridge (TF3801318955). It is a red data species, restricted to the south and east coasts of England and appears to be thriving in the drain.

The nationally notable relict fen riffle beetle *Oulimnius rivularis* (Rosenhauer, 1856) was found at a known site on the lower River Ancholme (Horkstow Bridge - SE9736518999), but a more exciting record was from the lower River Glen at Surfleet (TF2507628104). This is a new location for this species in the county, although it has been found previously on the Counter Drain (which runs alongside the Glen for part of its length), around 13 km upstream and on the River Welland near Crowland. It is, however, a genuine rarity for south Lincolnshire. Both records were obtained in early to mid-May.

Noteworthy Trichoptera found in 2016 included larval *Apatania muliebris* McLachlan, 1866, a species restricted to spring heads and known to be short-winged and parthenogenetic, so of great interest to geneticists – oddly, it is a known species on St Kilda, despite being a weak flier! The species was found in Dunston and Scopwick Becks (TF0596262272 and TF0847057653, respectively), only about 5 km apart and on the central Lincolnshire limestone.

The limnephilid caddisfly *Limnephilus binotatus* Curtis, 1834 was found in the lower East River Glen (Toft - TF0679417003). This species is usually associated with drying reed swamps in fenland, so this was an unusual occurrence for the larva, though the river regularly dries up at this location. There are only a handful of records for Lincolnshire, mostly in the north of the county.

Another limnephilid (*Limnephilus bipunctatus* Curtis, 1834) was found at Pointon Lode (TF1339831259). An enigmatic species found in immature habitats such as flooded wheel ruts, the species seems to have only been found a couple of times in the county. This record certainly seem to be the first from south Lincolnshire.

Aquatic Diptera found in 2016 included a larva of the 'Silver Colonel' soldierfly *Odontomyia argentata*

(Fabricius, 1794) in the South 40-foot Drain at Donington High Bridge (TF1734335593). Its distribution and ecological requirements are poorly known in the UK, being widespread but patchy. The larva seems to favour ephemeral habitats and submerged dead wood.

The short-palped craneflies *Nephrotoma analis* (Schummel, 1833) and *N. crocata* (Linn. 1758) were found as larvae, the latter from Black Dyke at Yarburgh and the former from Tile House Beck, Waithe Beck, Barrow Beck and the River Rase. Both are known to breed in sandy soils but *N. analis* is more usually riverine. They are both scarce species (*N. crocata* is a red data species) and definite rarities in Lincolnshire.

My continued gratitude is extended to those of you who provide me with records, photographs and specimens from all parts of the county and to my colleagues at the Environment Agency who provide literally hundreds of records per year.

ODONATA IN 2016

Nick Tribe

2016 was a noteworthy year; records for a species not seen in the county for 99 years were received and a new species for the county was found.

Scarce Chaser *Libellula fulva*

Picture Ian Nixon

Kevin Du Rose found Scarce Chaser *Libellula fulva* adult males on 21st June on the New South Eau and the North Level Main Drain, both sites being on the Lincolnshire/Cambridgeshire border. The previous records were of two individuals seen near Lincoln in 1917 (Bee, 1917).

Trisha Thompson found Willow Emerald Damselfly *Chalcolestes viridis* at Baston Fen Lincolnshire Wildlife Trust (LWT) reserve on 11th September. Two males and a female (and possibly a second female) were observed. Oviposition was also seen. Individuals were seen here until 3rd October. Chris and Sue Bottomer then found two males of this species at Gibraltar Point NNR on 18th September. They are believed to be the most northerly records of this species in Britain to date.

Willow Emerald *Chalcolestes viridis*

Both Scarce Chaser and Willow Emerald Damselfly were known from a few kilometres outside the southern boundary of the county, so their arrival was expected (Tribe, 2014).

A Lesser Emperor *Anax parthenope* larva was recorded from the River Glen at Tongue End on 16th May by Alex Pickwell of the Environment Agency.

Variable Damselfly *Coenagrion pulchellum* was photographed by Marc Johnson at Rimac on 25th May. This is the first confirmed record of this species from the Outmarsh.

Ben Ward reported 40 Brown Hawker *Aeshna grandis* from Grebe Lake at Whisby Nature Park on 5th August. This conspicuous species does appear to form large concentrations, presumably taking advantage of good prey availability.

A female Common Hawker *Aeshna juncea* was photographed by Eddie Gaunt in a Scunthorpe garden on 31st July, a species known to disperse from its natal areas.

A joint British Dragonfly Society/Lincolnshire Naturalists' Union field meeting at Stanton's Pit LWT nature reserve on 17th July produced no fewer than 13 species including both Red-eyed Damselfly *Erythromma najas* and Small Red-eyed Damselfly *Erythromma viridulum*. Previously 9 species had been recorded from this site.

The author visited Nettleton Beck valley on 24th July and recorded 11 species including Emperor *Anax imperator* and Emerald Damselfly *Lestes sponsa* at the valley's waterbodies.

References

BEE, H.C., 1917, Lincolnshire dragonflies, *Trans. of the LNU* 4(3) pp 93-95
TRIBE, N.P., 2015, Aspects of dragonfly and damselfly recording in Lincolnshire, *The Lincolnshire Naturalist* **28(4)** pp 205-218

SHIELDBUGS IN 2016

Annette Binding

Thirteen of the twenty-two species of shieldbug recorded in Lincolnshire were found in 2016. Among the more interesting species was Crucifer bug *Eurydema oleracea*. New to the county in 2015, it was again recorded from Bourne South Fen by Will Heeney who found one on the 7th June. There was only a single record of the Bordered Shieldbug *Legnotus limbosus* found in my garden in Washingborough on the 6th June. The last time it was recorded in Washingborough was 1998. *Legnotus limbosus* feeds on any bedstraw including Common Cleavers *Galium aparine*, so its apparent scarcity does not appear to be the lack of food plant. This also applies to the Parent bug *Elasmucha grisea*. Its food plant is birch. I only received two records of *E. grisea* in 2016. One was found on 14th September at Laughton Forest by John Davison and the other one was found on 24th October by Phil Lee at Langholme Wood. Both Bishop's Mitre *Aelia acuminata* and the Hairy or Sloe Bug *Dolicoris baccarum* which were new to the county within the last twelve years, have continued to spread in the county. There were three new sites for *A. acuminata* and four for *D. baccarum*.

My thanks to the people who sent me records in 2016

BUTTERFLIES in 2016

John Davison

The weather continues to play havoc with our butterfly species with mild winters, heavy rain and strong winds taking their toll.

Our common Skippers have suffered heavily this year, though the Grizzled and Dingy have done well.

This may be due to the continuation of the Grizzled Skipper project where Butterfly Conservation is actively seeking out the species.

The Whites have significantly improved on last year though down on 2014, however 2014 was possibly a 'blimp' year with new surveys and electronic recording being initiated. Migration of Clouded Yellows continues its slide.

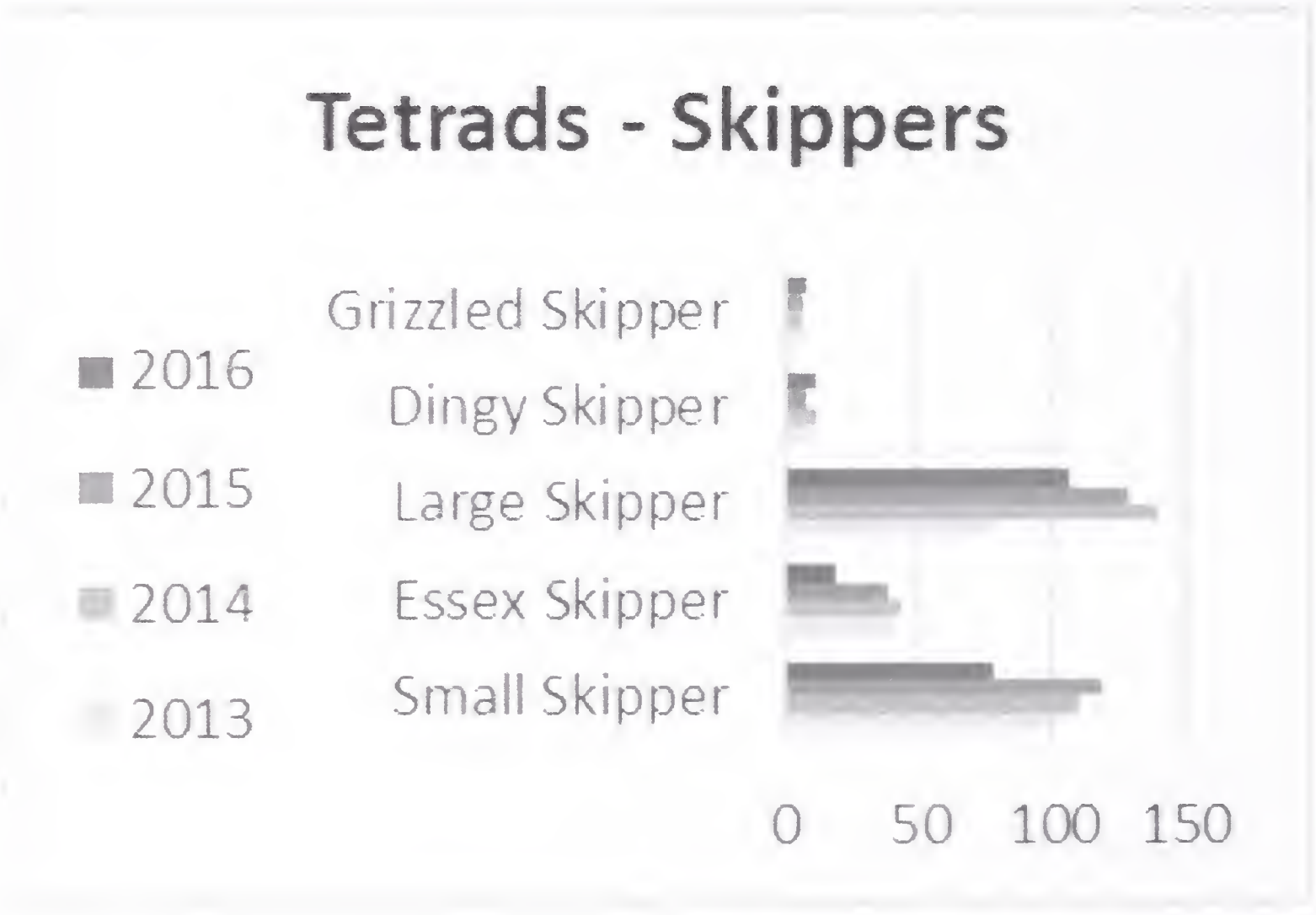
Brown and White-letter Hairstreak sightings fell this year but Purple, Black and Green improved. A Butterfly Conservation Lincolnshire Branch field trip to the coast provided many new sites and greatly improved numbers.

Most Vanessids suffered a poor start but came back in good numbers in late summer. Mark Walters reported 2 Camberwell Beautys at Fiskerton in July and Edmund Mackrill saw another at Welton le Marsh in August. These are the first seen for quite a few years. White Admiral seems to have had a very bad year. Purple Emperor from released stock is still seen at Chambers Farm Wood but encouragingly 4 were seen by Roger Favell at Morkery Wood in July.

Although Browns seemed low in numbers this year, they seem to have held their own overall.

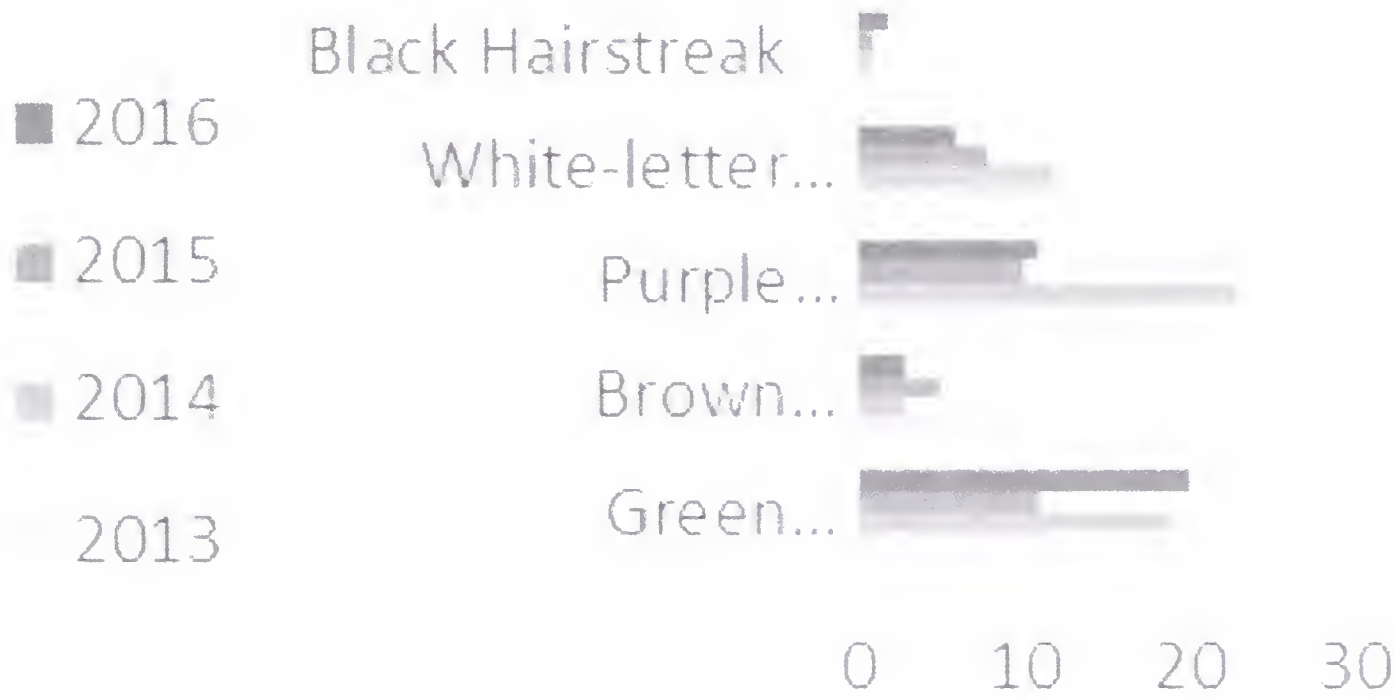
Blues have again been low in number apart from Holly Blue which seems to have been seen in most gardens.

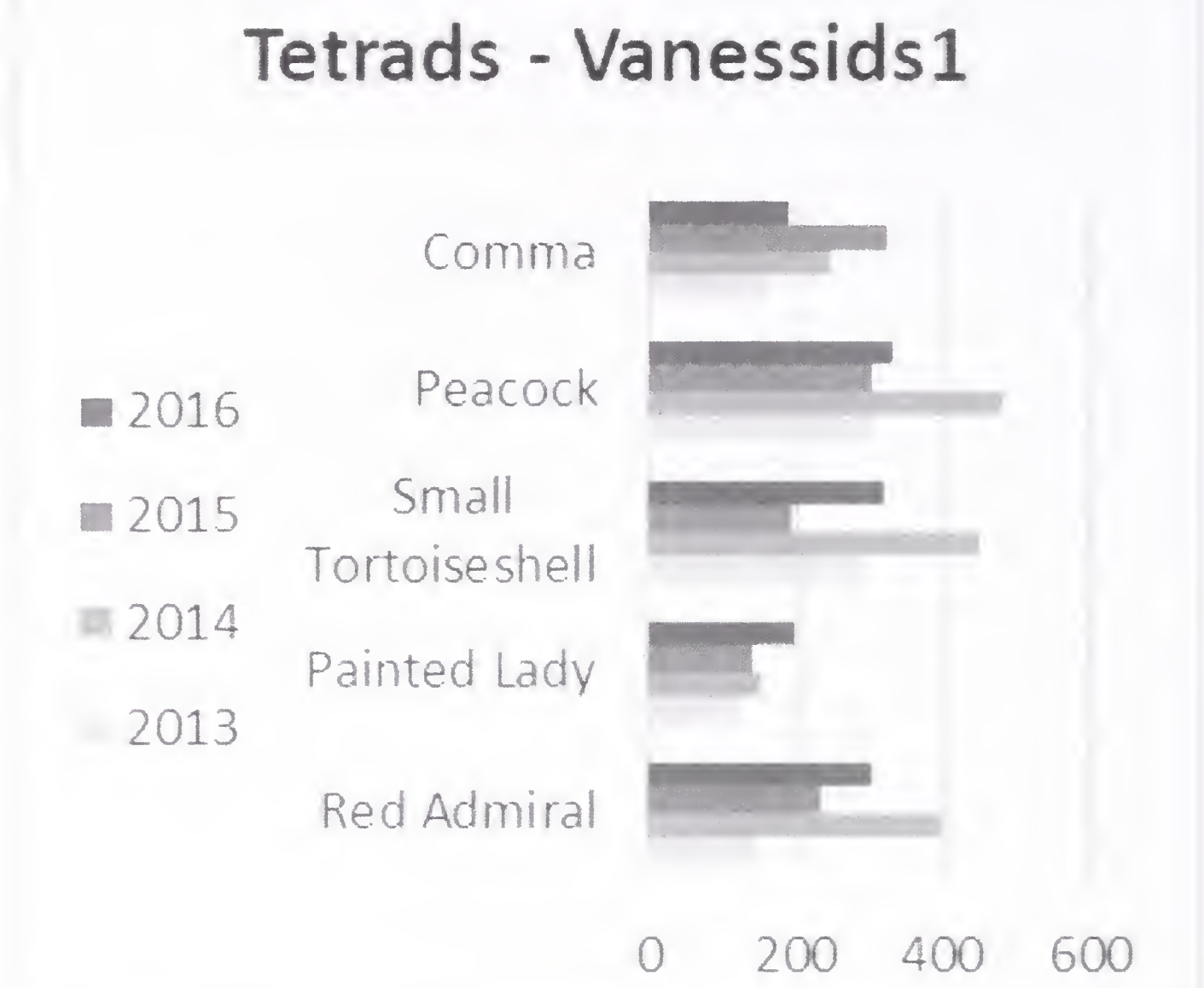
Signs are still looking good that the 3 species of Fritillary are now well established back in the county.

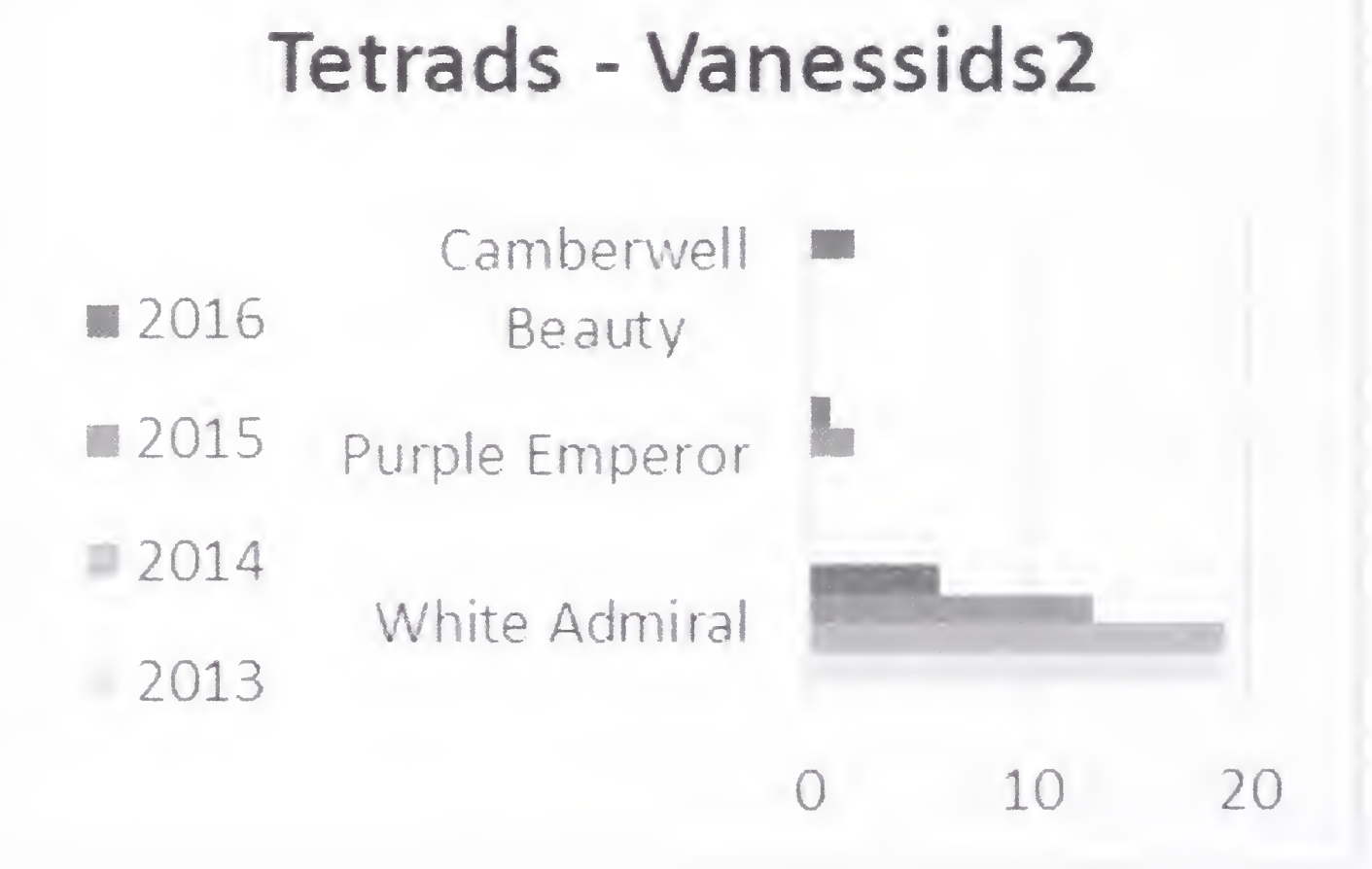


Tetrads - Whites

Tetrads - Hairstreaks

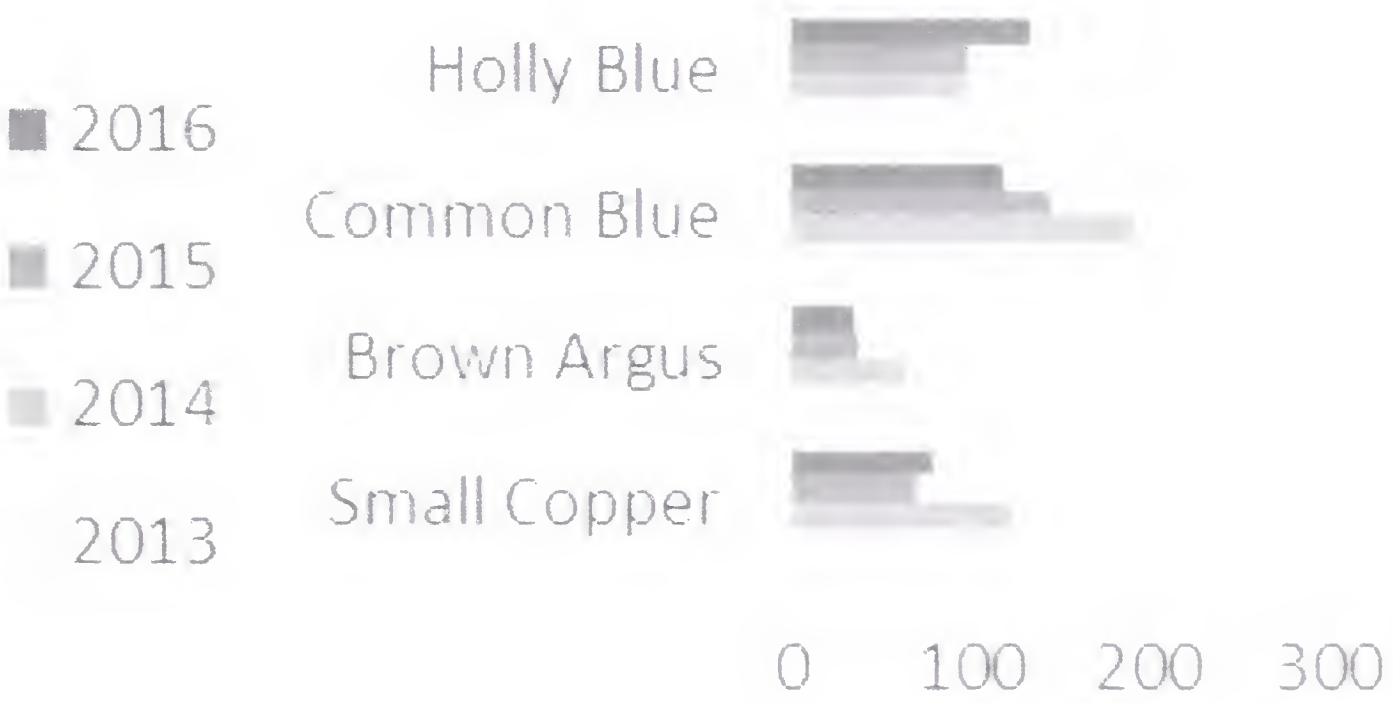


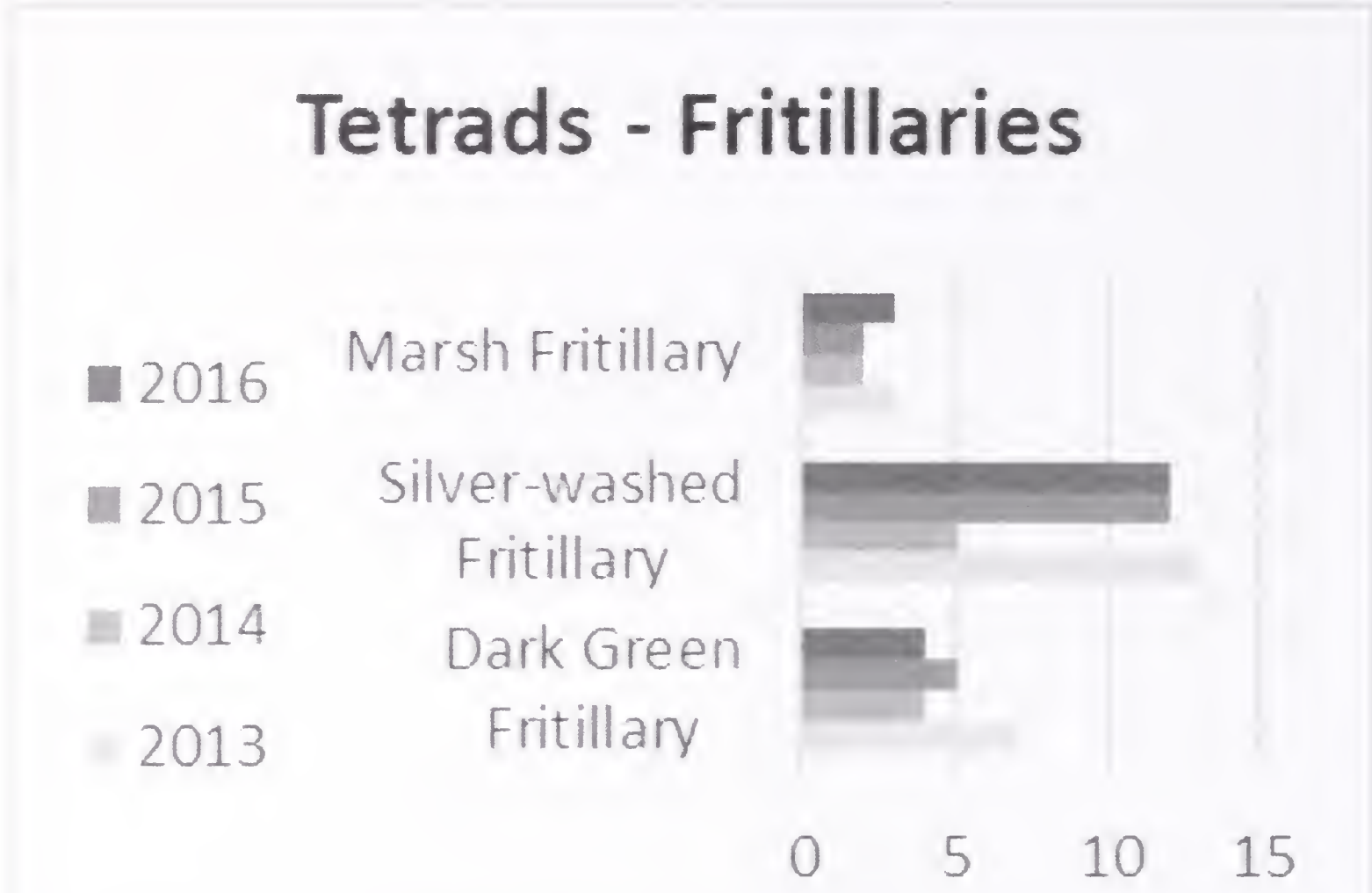

Tetrads - Vanessids1
Comma
Peacock
Small Tortoiseshell
Painted Lady
Red Admiral
2016
2015
2014
2013
0
200
400
600


Tetrads - Vanessids2
Camberwell Beauty
Purple Emperor
White Admiral
2016
2015
2014
2013
0
10
20

Tetrads - Browns

Tetrads - Blues





MOTHS IN 2016

Martin Gray

The warmer climate, especially the winters, seem to be having a continued effect on British wildlife including moth species. It seems that recently released moth literature is already out of date as species are clearly being seen earlier and having several broods throughout the year. Several species are without doubt struggling to keep a hold within the county. A few decades ago, moths such as Garden Dart *Euxoa nigricans*, Double Dart *Graphiphora augur*, Garden Tiger *Arctia caja* and Pale Eggar *Trichiura crataegi,* to name a few, were quite common in the not too distant past. Other reasons for their demise, such as habitat loss and farming practices, may also be blamed.

Lincolnshire's only endemic moth, the Marsh Moth *Athetis pallustris,* showed a decline in numbers this year following the continued monitoring work from Paul Waring. Every year Paul, to his credit, organises working parties to sift through litter piles and set light traps at Saltfleetby & Theddlethorpe Dunes NNR. One bit of good news is that an adult was trapped at Gibraltar Point in June indicating it is hanging on there.

White-marked *Cerastis leucographa*

Picture Colin Watkin

Dewick's Plusia *Macdunnoughia confusa*

It was an average year for migrants with the usual species being seen, but not in great numbers apart from the invasion from the micro moth Diamond-backed Moth *Plutella xyostella*. This species was seen in the millions in many parts of the country including Lincolnshire in early June. The larva feed on Brassica plants but did not have a devastating effect on the crops as first feared.

The rarer Lincolnshire macro moth species continue to be recorded with Waved Black in Langworth, White-marked *Cerastis leucographa* in some of the southern county woods, and the Four-spotted *Tyta luctuosa*.

New additions to the Lincolnshire list. Geoff Wright enticed the rare immigrant moth Dewick's Plusia *Macdunnoughia confusa* to his Grantham garden on 19th September 2016. It has been a good year for this species in Britain as regular sightings have been recorded especially along the east coast. This moth is a vagrant to Britain, having occurred only a few dozen times, mostly attracted to light on the south and east coasts. August is the optimum month for this species, but records have occurred between July and October. On the Continent the larva feed mainly on nettles.

Pammene trauniana

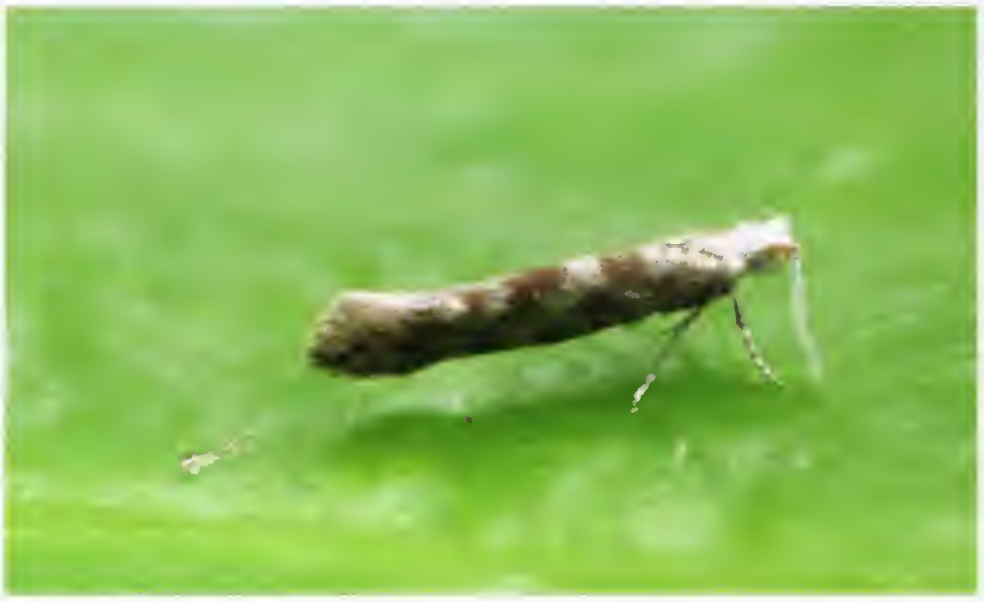
Picture Mark Johnson

Metalampra italica

Picture

The tortrix moth *Pammene trauniana* was luckily observed on a Field Maple *Acer campestre* leaf near Skellingthorpe Woods on 1st June 2016 by the author. This is a Nationally Scarce A species with a southern distribution in Britain with this one being the most northerly record for three days only, before Mark Johnson photographed another in Watts Wood near Dunholme on 3rd June 2016, a new VC 54 record. The larva feed on the seeds of Field Maple and the adults are similar to more common *Pammene regiana*.

On 19th July 2016 Charlie Barnes noticed a few moths flying around an old ivy-clad Apple *Malus* tree in the garden of his workplace at the head-quarters of The Lincolnshire Wildlife Trust in Horncastle. They were identified as *Metalampra italica* which was first recorded in Britain as recently as 2003 and since then seen in several more counties. This is clearly a breeding population in Horncastle, with the larva feeding on decaying wood beneath the bark. Another specimen was trapped by Phil Lee and others at Messingham Nature Reserve a few weeks later.



Argyresthia cupressella

Picture John Lamin

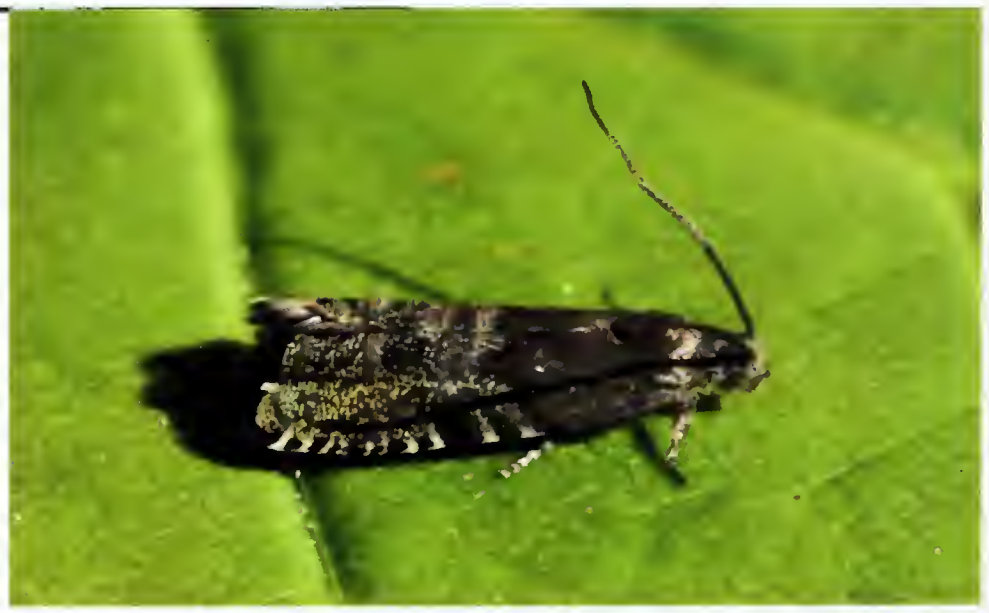
Phyllonorycter tenerella

Picture Martin Grey

John Lamin had another successful year in the south of the county with several good records which included this *Argyresthia cupressella* found near Bourne on 22nd June 2016. This was an expected addition to the VC53 list following Lincolnshire's first record from Addlethorpe in 2015, the first British record being back in 1997 in Suffolk. The larva of this species feed on Cypress *Chamaecyparis, Cupressocyparis* and Juniper *Juniperus*. I expect more records of this species in the coming years. John also recorded another VC53 first on the 2nd June 2016 with a *Spuleria flavicaput*. This species is associated with Hawthorn *Crataegus monogyna* with the larva feeding on the plants twigs and hard to detect.

John also recorded a new Lincoln-shire record with *Agonopterix purpurea* near Bourne on the 15th April 2016. The larva of this species feed on Cow Parsley *Anthriscus* and other similar plants.

The Hornbeam Leaf-miner *Phyllonorycter tenerella* was found by the author in Lincoln on 22nd October 2016, with several mines noted on the leaves. The mine is



Cydia strobilella

Picture Karen and Sarah Hand

distinctive being between two veins and reaching the edge of the leaf. The distribution of this moth is slowly moving its way to the north with a south eastern bias at the present time.

The mother and daughter team of Karen and Sarah Hand again had a good year recording some good moths in the county including the tortrix moth *Cydia strobilella* which came to light on the 9th May 2016 at their Addlethorpe Farm. This is a Nationally Scarce B species and the larva feed mainly on the seeds of Norway Spruce *Picea abies*. Records suggest that this species did well this year with several other counties encountering it.

DIPTERA IN 2016

Phil Porter

Probably the most interesting report of the year came from Charlie Barnes who recorded the tachinid fly *Compsilura concinnata*. He had taken a larva of Privet Hawk-moth From Race Lane Burnham on 4th October 2015 in order to rear it through. Obviously the tachinid had parasitized the larva, as the resultant moth pupa only produced seven *concinnata* which emerged some time before 22nd May 2016.

This fly injects larvae rather than eggs in some numbers into the host, and favours among many others the Gypsy Moth *Lymantria dispar*. When the moth was accidently introduced to N. America during the nineteenth century, it became a notorious pest on native trees. Around 1906, *C. concinnata* was introduced there as a biological control. It promptly became a threat to non-pest moth species, of course, not least because *L. dispar* is single-brooded whereas *C. concinnata* is multi-brooded and was therefore compelled to find alternate hosts, but its history in Britain shows clearly that this was no specialist on any particular moth species. Hawk-moths are in fact rather unusual hosts and somewhat smaller larvae are more usually selected. The female fly is armed with a stout curved spine to penetrate the host for larvaepositing and a small pair of hooked plates which clasp the larva to provide 'traction' during this process, making it a distinctive species to identify. This appears to be only the second county record after one from Kirton in 1925.

A similar status applies to the Hoverfly *Rhingia rostrata* discovered at Chambers Farm Wood by Richard Davidson on 2nd October. This has been variously designated as 'Rare' and 'Vulnerable' , but has recently been spreading northwards. This is the first record since 1 at Skellingthorpe Wood in 1897.

John Lamin reported an excellent set of soldier flies from Baston Fen on 5th June; by far the most impressive being *Odontomyia ornata* (nationally vulnerable) and *O.tigrina* (nationally notable). These are both new to Lincolnshire except for a larval record of the latter from Billinghay Skirth in 2015 via the Environment Agency. They were both recorded on Hogweed

Odontomyia tigrina at Baston Fen reserve

Picture John Lamin

Heracleum sphondylium , as were *Stratiomys longicornis*, a most unexpected visitor as it is typical of truly saline ditches, and *S. singularior* which is associated with mildly saline conditions but is also found sparingly in freshwater locations inland. John also recorded the more widespread *S. potamida* and the common *Oplodontha viridula* at Baston on 16th June. These records underline the critical importance of the habitat at Baston Fen.

Odontomyio ornata ot Boston Fen reserve

Picture John Lomin

The muscid fly *Polietes meridionalis* from Toby's Hill on 25th September , another Richard Davidson capture, is a first record for the county, albeit an unconventional one. The history of this fly seems to have been that it became widespread in at least the southern half of the country before it was officially recognised as a British species in 2013. It is quite similar to the very common *P. lardarius*, which is one of those abundant flies which may not get a second look during identification of species and, needing no more than the existence of excrement for reproduction, has no conservation value attached to it. Collections checked for its past presence revealed that it had been in Britain since at least 1866 labelled as *lardarius*.

Another Muscid *Phaonia gobertii*, was collected by Richard Davidson from Langholme Wood on 28th August. This species is one of those whose larvae are found as predators on smaller fry beneath the bark of trees. Several *Phaonia* species are highly rated as ancient woodland/parkland indicators and specialise in trunks of significant age with heart-rot and/or sap-runs. *P. gobertii* is much less discerning, how- ever, and has been found beneath the bark of a large variety of trees , including even *Pinus on* occasion, which may not be so aged . However, it has only two previous county records: Gibraltar Point 1965 and Grebby 1988. The flight period is May/early June and August/September, but the adults are short-lived (Skidmore 1985).

Volucella infloto at Grimsthorpe Park

Picture John Lamin

Melieria picta is a small ulidiid picture-winged fly listed as a nationally scarce indicator of coastal saltmarsh which Richard Davidson took from Moulton Marsh on 21st July.

David Sheppard sent me 4 males of *Dolichopus strigipes* taken at Gibraltar Point during June, a nationally scarce 'long -legged fly' characteristic of coastal salt-marsh from the Humber to the Thames and the central south coast saltmarshes. Previous records are from Frampton Marsh in 2000.

John Lamin secured another new county record when he observed a mating pair of the striking hoverfly *Volucella inflata* at

Grimsthorpe Park on 19th June near Scottlethorpe Quarry. This species is creeping northwards and might be expected to become more frequently seen.

Finally, *Goniglossum wiedemanni* is a nationally scarce tephritid fly of distinctive appearance associated with the flowers of White Bryony *Brionia dioica*. Alan Lazenby took one in his garden at Blankney Fen in July.

References

FALK, S.J., ISMAY, J.W. & CHANDLER, P.J. (2016). *A Provisionol Assessment of the Stotus of Acolyptrote Flies in the U.K.* Natural England Commissioned Reports No. 217.
MAHR, S.(1999). *Compsiluro concinnoto, Porositoid of Gypsy Moth*. http://www.entomology.wisc.edu/mbcn/kyf609.html. Midwest Biological Control News Online. **(6;9)** University of Wisconsin.
PONT, A.C. & FALK, S.J. (2013). *Polietes meridionolis* Peris & Llorente (Diptera, Muscidae) new to Britain. *Dipterists Digest* **(20;1)** pp.45-S1.Dipterists Forum.
SKIDMORE, P. (1985). *The Biology of the Muscidoe of the World*, Springer
STUBBS, A. & DRAKE. M. (2001). *British Soldierflies ond their Allies*. British Entomological and Natural History Society.

PLANT GALLS in 2016

Jan Rousseau

The early spring 'big-bud' gall of an acarine mite, *Phytoptus avellanae* the on Hazel *Corylus avellana*, has been generally reasonably common but Little Scrubbs Wood was exceptional. I counted 70 galls on a single tree! A visit to Messingham Sand Quarry provided a similar number of 'big-bud' galls of *Acalitus calycophthirus*, again on a single tree, but this time using Birch *Betula* as host.

In contrast, I noticed a lack of the sexual generation of t he cynipid gall-wasp *Neuroterus quercus-baccarum,* commonly known as the Currant Gall, appearing on the catkins and leaves of Oak *Quercus robor*. However, these must have been well hidden as later in the year there appeared to be no shortage of the asexual generation, the familiar Common Spangle gall on the underside of the leaves.

In recent years several new additions to the British gall-wasp fauna have been found including another cynipid *Andricus aries,* the Ram's Horn. First found in Britain in 1997 and now fairly widespread, the gall develops on Oak buds. I have records for this at several sites including Whisby and Messingham.

Later in the year I was lucky enough to find *Andricus gemmeus* at Whisby, my only other record of this gall being in 2015 at Watts Wood. Both of these galls were found on the bark of Oak saplings. As far as I'm aware this is the latest national addition to the British gall fauna, the first record being in 2008.

I was delighted to find at Messingham Sand Quarry the gall-wasp *Diplolepis spinosissima* (also Cynipidae) using Dog-rose *Rosa canina* as host, the more usual choice being Burnet Rose *Rosa pimpinellifolia*. It seems that, by using another host, this wasp is extending its range. This is my second record for this change of host, the first being in 2014 at Whisby.

References.

CHINERY, M.,2011 *Britoin's Plont Golls: A Photogrophic Guide.* Princeton.
REDFERN, M., and SHIRLEY, P.,2011 *British Plont Golls.* Field Study Council.

BEETLES IN 2016

Charlie Barnes

In July I received a report of some beetles that were defoliating ornamental shrubs in a private car park off Doddington Road in Lincoln. From the photos I identified the culprit as one of the *Chrysomela* leaf beetles, a most unexpected find as none of the species had been recorded in Lincolnshire since 1954. I arrived at the car park a few days later to collect some specimens as accurate identification requires close analysis, although given the food-plant (a species, probably a hybrid, of willow) I suspected it would be the commonest species, *Chrysomela populi*. There must have been thousands of individual beetles present in the car park – and they were clearly moving from bush to bush as each was defoliated.

Having just received Volume 4 of Beetles of Britain and Ireland by Duff, I was keen to try out the new key to the genus *Chrysomela* and it was fortunate I did. It ran very quickly through to *Chrysomela saliceti,* a species that Duff was only aware of at one site in the British Isles, and as a recent addition to the British list, isn't present in all identification keys. Duff shows very good figures of the aedeagus which easily confirms the identification – thankfully I had collected a single male specimen; the aedeagus of which perfectly matched that depicted.

Further investigation showed that *Chrysomela saliceti* had been recorded at a further site just over the border in Northamptonshire (VC32). It's origins – both our Lincolnshire population and that of the others – are unknown. Theories have been put forward for both an overlooked native species (given the outwardly similar appearance to our other members of the genus *Chrysomela*) and an introduced species, likely with the trade in garden plants. Given the location, veracity and host plant targeted by our population I would favour a non-native introduction, but currently there is little evidence to support either hypothesis. Regardless, it will be interesting to see if the Lincolnshire population reappears either on Doddington Road or elsewhere in Lincoln. Being capable of flight, the availability of food-plant in the immediate area would suggest the potential for a viable population to be sustained.

During 2016 a number of species continued to increase their range in Lincolnshire. The thistle-feeding weevil, *Rhinocyllus conicus*, which was first recorded in Lincolnshire in 2015, was found at the LNU visit to Wharton Wood in May. So far it has only been recorded as singletons at 3 sites. Compared to reports from elsewhere in the country it appears to be moving relatively slowly throughout Lincolnshire although it is likely to increase substantially both in abundance and distribution over the coming years.

Jim Flanagan found the non-native weevil *Pachyrhinus lethierryi,* which feeds on various conifer species, at Nocton on the 24th May. This species is likely much more widespread than records suggest as it is almost entirely confined to gardens and ornamental plantings which are rarely sampled with any regularity. First recorded in the British Isles in 2003, it was first seen in Lincolnshire in 2015 in Lincoln.

The attractive leaf beetle *Chrysolina americana* which is well known to gardeners as a pest of lavender and rosemary is another species that is quite widespread in the south of the country but has yet to reach any state of commonness in Lincolnshire. The Royal Horticultural Society have records from 6 sites in Lincolnshire, with a record from RSPB Frampton Marsh on the 2nd August by Chris Andrews being the seventh for Lincolnshire.

The bioblitz events at Chambers Farm Wood continued into 2016 and a number of malaise traps were again rotated throughout the complex. Two species, the small cantharid *Malthinus balteatus* (also found by Colin Smith at Chambers Farm Wood in July) and the rove beetle *Quedius xanthopus* were found new to North Lincolnshire. *Malthinus balteatus* has been recorded at one other site in Lincolnshire:

Grimsthorpe Park. Both species are found in woodlands, and *Malthinus balteatus* in particular is associated with old growth and parkland and is suggestive of a good quality woodland habitat.

Whilst torching on the 2nd May on Green Man Lane on Blankney Heath I inspected a half-eaten orange that had presumably been tossed from a passing car. I was not disappointed as a single specimen of the large weevil *Otiorhynchus raucus* was found feeding on the remains. This is the first record of this species in South Lincolnshire.

Torching again on Green Mane Lane on the 17th August, this time I came across a discarded fizzy-drinks can on the verge. I tipped out the contents, and found a large silphid inside apparently feeding on the sugary remnants. In better light it was later identified as *Silpha tristis*, new to South Lincolnshire, VC53. It is a species most commonly found near the coast, but also occurs in grasslands inland.

Those who regularly run pitfall traps may be rewarded by trying some more esoteric baits – 'sugaring' (applying a sugary solution to branches and tree trunks) for moths is well known and to a lesser extent can be used to attract beetles but it can be very hit and miss and, certainly for beetles, requires constant monitoring. Pitfall traps would attract for longer periods and have the advantage that the 'sugar' would not need to be watched over; those beetles that are attracted would be caught in the trap.

A number of interesting records have also been made on Lincolnshire Wildlife Trust sites during 2016. At Bloxholm Wood on the 9th January Hugh Middleton, Richard Davidson and myself were investigating invertebrates under bark and in decaying wood. Bloxholm Wood had already suggested itself as potentially interesting for this fauna, given the varied (including non-native) tree species and poor health of many of them. However, although a number of species with a particular fondness for dead wood were found, more notable was the discovery of *Stenus ossium,* a small rove beetle associated with damp meadows. Presumably it had moved from the surrounding meadows and pasture to seek refuge during the winter months. The record from Bloxholm Wood is the first for South Lincolnshire.

Whilst taking a short break from a shopping trip in Lincoln on the 29th August, Jenny Wallace and I decided to make the short walk to Boultham Mere. Whilst walking along the footpath through the reserve I noticed a small weevil resting on the surface of a leaf of marsh woundwort, *Stachys palustris*. Instantly recognizable, it was the first record of *Thamiocolus viduatus* for South Lincolnshire, a species thus far I have only encountered in Scotland. It would be worth searching other locations where marsh woundwort grows in Lincolnshire as it is likely *T. viduatus* would also occur.

Alan Lazenby has been carrying out some invertebrate surveys on the Roadside Nature Reserves of the county during 2016. Although much work has been done on the plants that these sites are notable for, only very occasional records of invertebrates have been made for the majority. Alan's interest paid off; he found the small pollen beetle *Meligethes brunnicornis* and the weevil *Protapion onoidis* at Metheringham Heath RNR on the 31st July. Both of these species have only ever been recorded once before in South Lincolnshire.

Richard Davidson passed me some samples taken from Tunman Wood. One of the specimens was a male of the rove beetle *Quedius maurus*, new for South Lincolnshire. This is a species that can be found under bark and also inhabits rot holes in deciduous trees.

Whilst continuing my searches for the spectacular ground beetle *Panageus cruxmajor* along the River Trent corridor, Phil Lee and I found the ground beetle *Agonum piceum* and rove beetle *Gabrius osseticus* on the 12th March. Both species are associated with wetland habitats and were new for VC54, North Lincolnshire.

During 2016 I found two sites for the weevil *Dorytomus ictor*: at Tongue End on the 28th May and at Redbourne on the 3rd July. It just goes to show that no habitat or plant should remain completely out of mind when searching for insects. These records represent the first for Lincolnshire and it likely occurs wherever poplar species, both hybrids and the native black poplar, occur. Ironically, a few days before I found this poplar feeding weevil I had been in discussion with other entomologists about the futility of searching poplar hybrids for invertebrates; both of these finds were on hybrids!

Whilst out torching on Coleby Heath on the 23rd August I inspected a telegraph pole for any nocturnal invertebrates. Although telegraph poles usually harbour little in the way of insect life, they are very quick to inspect and their large surface area likely act as 'interception' surfaces. This time the search proved worthwhile. I found a small unfamiliar tenebrionid-like beetle resting on the surface. Further investigation under the microscope identified it as *Palorus subdepressus*, the Depressed Flour Beetle. This is the first record since 1942 for Lincolnshire. It was also subsequently found at Chambers Farm Wood during a bioblitz event. Although once considered an obligate synanthrope it now seems to be spreading into the wider countryside.

An early April walk around Nocton Wood produced two new species for South Lincolnshire: the weevil *Glocianus punctiger* and the wood boring weevil *Hylesinus orni*. *Glocianus punctiger* is a local species that is associated with dandelion, *Taraxcum officinale agg.*, and *Hylesinus orni* (=*wachtli*) can be found under dead bark of the branches of Ash. Both species should, given their host associations, be more wide-spread in the county.

Whist visiting the Rutland Bird Fair on the 21st August, I took the opportunity to investigate some under-recorded squares on the border of the county, around Greatford. The path I had chosen to follow almost tracked the county boundary, although I was fortunate the next find occurred well within Lincolnshire, by about 3 meters! I swept a small patch of herb rich grassland on the footpath, adjacent to an arable field. It produced a number of small weevils typical of the sward but one stood out – my first thought was of *Exapion ulicis*, a weevil that feeds on gorse. This being atypical habitat, and with no gorse in sight, I took a closer look and it appeared similar to members of the Tribe Tychiini. Under the microscope its identification was quickly confirmed as the weevil *Tychius junceus* which feeds on clovers and medicks. This is the first record of this species for Lincolnshire.

SPIDERS IN 2016

Annette Binding

One new species was added to the Lincolnshire list in 2016. Jon Daws recorded the Linyphid *Lessertia dentichelis* on the 20th July. A female, it was found about a foot down inside a sewer in Skegness. Jon examined several sewers on that day. All had good populations of *Amaurobius ferox* and there were other Linyphids but only one of the sewers had *L. dentichelis*. Jon contacted me and I was able to confirm that *Lessertia dentichelis* was new to Lincolnshire.

As well as the new county record, there were several species found in new 10km squares. These included the Salticid *Sitticus pubescens* and Lycosid *Alopecosa pulverulenta* Also apparently expanding its range was *Steatoda nobilis*. In mid- January 2017 I received several photographs of spiders taken by Hugh Middleton in the conservatory at his home in Navenby, South Lincolnshire. Hugh thought the spiders were *Steatoda nobilis* and I was able to confirm his identification. Hugh told me that he had moved to the house about 18 months previously and had been photographing the wildlife in and around his house and garden on a more-or-less daily basis since then. He saw the first *Steatoda nobilis* in October 2016. The most he has seen at one time is two. They appear at night coming out of a gap where the

conservatory roof meets the wall.

A second new site for *Steatoda nobilis* in 2016 was Sykes Farm, Gibraltar Point NNR. The spider was recorded by Karen and Sarah Hand on the 20th June. Karen and Sarah recorded *S. nobilis* new to the county in 2014 at their home at Addlethorpe, Nr. Skegness where they have found it every year since then.

My thanks to all the people who sent me specimens, records, and photographs in 2016.

HARVESTMEN IN 2016

Annette Binding

I received records of only five species of harvestmen in 2016, *Paroligolophus agrestis*, *Odiellus spinosus*, *Platybunus triangularis*, *Dicranopalpus ramosus and Opilio canestrinii.* Both *Dicranopalpus ramosus and Opilio canestrinii* continue to spread in the county. There were three new sites of *D. ramosus* and two for *O. canestrinii.*

Unlike spiders, harvestmen are relatively easy to identify from photographs and I now receive some of the records in this way.

My thanks to the people who sent me records in 2016.

MAMMALS IN 2016

Chris J. Manning

Sperm Whales *Physeter microcephalus*

Undoubtedly the largest mammals recorded in 2016 were the four Sperm Whales washed onto the coast between the 23rd & 25th January. They were part of a pod of 30 Sperm Whales stranded along the coasts of the North Sea between January and February 2016 (Unger, *et al.* 2016).

Evans (2016) reports that mass strandings of this nature are rare although they have occurred over at least the last five hundred years with 14 mass strandings of 4 or more Sperm Whales occurring since the 16th century. The average was less than one per year until the mid-1980s; since then, the average has increased to 5-7 per year, all of which occur between November and March (Evans, 2016). The increase in strandings seems to have coincided with the cessation of whaling and maybe relates to an

increasing Sperm Whale population (Smeenk, 1997).

Smeenk (1997) called the North Sea a "Sperm Whale trap". Sperm Whales are deep sea mammals and are coming in from about 1,000m of depth. When they hit the continental shelf this leaves them with around 200m of depth, and then the North Sea bed peaks to about an average of 50m, so the deepest point is about 70m and the shape of it is like a giant funnel (Lyal 2016). Once whales travel south of the Dogger Bank, they almost invariably strand (Evans, 2016), with Lyal (2016) stating that once in shallow waters, the whales can't make proper use of their sonar. It's like they've been blinded, which can lead to them beaching. Vanselow (2017) reports that solar storms disrupt the earth's magnetic fields which whales use for orientation during migration.

The Sperm Whales of the North Atlantic population migrate from the Norwegian shelf edge to the Azores (Unger, *et al.* 2016). All the strandings are juvenile males, as the females stay at the equator (Lyal 2016).

All of the animals had healthy nutritional statuses and recent food consumption was evident from squid beaks in the stomachs (Unger, *et al.* 2016). Marine debris was found in nine out of twenty two dissected Sperm Whales, including fishing related debris, nets, ropes, chocolate/cereal bar-wrappings, a coffee capsule, foils, duct tape, parts of plastic bags, agricultural foils, strapping tapes, a screw-cap and a plastic bucket (Unger, *et al.* 2016). The debris objects were exclusively found in the upper digestive system and stomach, with no items found in the intestine, suggesting that debris was ingested shortly before stranding (Unger, *et al.* 2016).

Perruque Roe Deer *Capreolus capreolus*

The other unusual record was a Perruque Roe Deer video taken on a trail camera by Ray Halstead in Walesby Wood on the 29th Feb 2016. Roe bucks cast their old antlers in late autumn, growing new antlers over the winter which are covered with a hairy skin called velvet. The new antlers are fully grown by spring when the velvet is scraped off, a cycle controlled by the hormone testosterone.

If the supply of testosterone ceases due to hormonal imbalance or any injury to the testes, the antler growth is continuous and an abnormal growth occurs which will eventually obscure the eyes leading to the buck's demise.

Perruque Roe Deer *Copreolus coopreolus* at Walesby Wood

Picture Ray Halstead

References:

EVANS, P. 2016. Largest Sperm Whale Stranding ever recorded in the North Sea, http://www.seawatchfoundation.org.uk/largest-sperm-whale-stranding-ever-recorded-in-the-north-sea/ Sea Watch Foundation.

LYAL, R. 2016, Cetacean Stranding Support Officer of the Cetacean Strandings Investigation Programme.

SMEENK, C., 1997. Strandings of Sperm Whales *Physeter mocrocepholus* in the North Sea: history and patterns. *Bull. Inst. R. Sci. Not. Belg. Biol.* 67, 1S–28.

UNGER, B. Elisa L., REBOLLEDO, B., DEAVILLE, R., GRÖNE, D.A., IJSSELDIJK, L. L., LEOPOLD, M.F., SIEBERT, U., SPITZ, J., VANSELOW, K., JACOBSEN, S., HALL, C., & GARTHE, S. 2017. Solar Storms May Trigger Sperm Whale Strandings: Explanation Approaches For Multiple Strandings In The North Sea In 2016. *Internotional Journol of Astrobiology*, 1-9. Doi:10.1017/S147355041700026x.

WOHLSEIN, H. 2016. Large amounts of marine debris found in Sperm Whales stranded along the North Sea coast in early 2016, *Morine Pollution Bulletin*, Volume 112, Issue 1, Pages 134-141, ISSN 002S-326X, http://dx.doi.org/10.1016/j.marpolbul.2016.08.27.

BATS IN 2016

Annette Faulkner

Another interesting year, encompassing the usual surveys and not quite so many shows and events carried out by Lincolnshire Bat Group as previously, but branching out in other directions.

As noted in 2015, concerns were raised about an increase in underweight female pipistrelles *Pipistrellus spp* coming into care, and this data, from2006 to 2015, has now been sent to Exeter University for further analysis. In 2016 the weather was somewhat more 'bat friendly', but still the number of under-weight female pipistrelles was raised and similar to 2015. The females have the core feeding areas and this shouldn't be happening, but we suspect that this is connected to the long-term decline in the invertebrate population resulting from 60 years of pesticide use, coupled with the effect climate change is having on many invertebrate populations, but far more data is needed.

In addition, in the Scunthorpe area an outbreak of a mysterious infectious sickness in the local pipistrelle population caused multiple deaths and the apparent almost complete disappearance of pipistrelles at Far Ings NNR at a late bat walk. Many bodies were sent away for testing, but whilst the deaths were found to be from secondary infections the primary cause could not be identified.

The Daubenton's Bat *Myotis daubentonii* project, in which the time of arrival of the bats at a series of bridges over rivers and drains is recorded in relation to sunset, to attempt to track them back to roosts in bridges or trees, has now completed its fourth year, and has been expanded, with teams of surveyors in South Kyme (the Kyme Eau –a small roost found), the Trusthorpe area (coastal drains), and a new team just starting on the River Witham in Grantham. On the River Ancholme a suspected roost at Ferriby Sluice was located and 42 bats counted out.

In the south, parts of the River Glen were surveyed, with one suspected new roost under a road bridge, and sufficient information was gathered after repeat surveys on the Vernatt's Drain complex to locate two apparently separate colonies, including two new roosts, both in modern concrete bridges and associated with a 'western' colony, and culminating in the discovery, at the north-east end of Spalding, of the bats from the 'eastern' colony apparently crossing from the Vernatt's Drain into the nearby tidal River Welland. Daubenton's Bats have also been observed crossing into the tidal River Humber, and more work on this is proposed in 2017.

Finally, it is hoped that in 2017 members of the Bat Group will be able to take part in a much more technologically complex national survey of Nathusius's Pipistrelles *Pipistrellus nathusii*, as this species, a known migrant from continental Europe, appears to be widespread in the county, and several sites were identified for targeting during 2016, including from discoveries at the coastal site mentioned above.

2016 LNU FIELD MEETING SUMMARIES

Brian Hedley

23 April, Potterhanworth Wood and Nocton Wood
TF072663 and TF088638
Joint LNU/South Lincolnshire Flora Group field meeting led by Sarah Lambert and Richard Jefferson. Attended by 37 people whom split into two groups. A fairly cold but mainly sunny afternoon.

Potterhanworth Wood

Over 140 plant species were recorded including Moschatel *Adoxa moschatellina*, Ragged-robin *Lychnis flos-cuculi*, Devil's-bit Scabious *Succisa pratensis*, Yellow Archangel *Lamiastrum galeobdolon* and Hairy Woodrush *Luzula pilosa*. Invertebrates included the once rare red and black bug *Corizus hyoscyami* and Orange-tip *Anthocharis cardamines* and Brimstone butterflies. Birds recorded included Tawny Owl *Strix aluco*, Hobby *Falco subbuteo* and Marsh Tit *Poecile palustris*. Young Common Frogs *Rana temporaria* were frequent in the wetter parts of the wood.

Nocton Wood

The plant highlight was re-locating a thriving colony of Orpine *Sedum telephium* at the southern end of the wood. A Grass Snake *Natrix natrix* was seen on a sunny ditch side and Common Lizard *Zootoca vivipara* was also noted. Birds included Raven *Corvus corax*, Green Woodpecker *Picus viridis* and Bullfinch *Pyrrhula pyrrhula*. A Muntjac Deer *Muntiacus reevesi* were also heard calling. Notable beetles included the leaf beetle *Apteropeda orbiculata* not seen since 1911 and third South Lincolnshire records of the ground beetle *Anisodactylus binotatus* and rove beetle *Ocypus nitens*. The gall causing wasp *Diastrophus rubi* was evident on Bramble *Rubus fruticosus* and was also present at Potterhanworth Wood. Early Nomad-bee *Nomada leucophthalma* was also identified.

21 May, Wharton Wood, Near Gainsborough

SK841921

This meeting to a private woodland site near Gainsborough was courtesy of the Thonock and Somerby Estates and had 15 attendees. It was led by Brian Hedley and comprised an afternoon session followed by an evening moth and bat recording session. The afternoon was mostly dry and fairly mild but the evening was wet until gone 10pm.

Green Silver-lines *Pseudaips prasinana* at Wharton Wood

Picture Brian Hedley

Almost 200 plant species were recorded within Wharton Wood and adjacent lake area including Narrow Buckler-fern *Dryopteris carthusiana*, Pill Sedge *Carex pilulifera*, Skullcap *Scutellaria galericulata*, Slender St.John's-wort *Hypericum pulchrum*, Yellow Archangel and Early Purple Orchid *Orchis mascula*. In all, 23 lichen species were recorded by Professor Mark Seaward, mostly on *Fraxinus* and *Quercus*, the more interesting being *Arthonia radiata*, *Hypotrachyna revoluta*, *Lecanora chlarotera*, *L. symmicta*, *Parmotrema perlatum*, *Phlyctis argena* and *Ramalina farinacea*.

Thirty-seven bird species were noted including displaying Woodcock *Scolopax rusticola*, a calling Cuckoo *Cuculus canorus* and several singing Garden Warblers *Sylvia borin*. Several Common Toads *Bufo bufo* were found under logs and young Common Frogs were frequent near the lake. Mammals included Daubenton's Bat *Myotis daubentonii*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *P.pygmaeus*, Wood Mouse *Apodemus sylvaticus*, Muntjac and Roe Deer *Capreolus capreolus*.

Butterflies included Orange Tip, Speckled Wood *Pararge aegeria* and Green-veined White *Pieris napi* plus several other common species. At least 26 moth species were recorded (mainly by myself and Adrian White) during the afternoon and evening including Green Silver-lines *Pseudoips prasinana*, Orange Foot-man *Eilema sororcula*, White-pinion Spotted *Lomographa bimaculata* and Least Black Arches *Nola*

confusalis. Damselflies were frequent along the rides and near the lake and comprised Red-eyed *Erythromma najas*, Azure *Coenagrion puella*, Common Blue *Enallagma cyathigerum*, Large Red *Pyrrhosoma nymphula* and Blue-tailed *Ischnura elegans*. A very good selection of beetles were recorded (mainly by Charlie Barnes) including two noteworthy weevils: *Anthribus nebulosus* (6th record for Lincolnshire, last recorded in 1999) and *Rhinocyllus conicus* (4th record for Lincolnshire, first found in 2015). Other beetles included 14-spot *Propylea quatuordecimpunctata* and Cream-spot Ladybirds *Calvia quatuordecimguttata*. Other insects included the lacehopper *Tachycixius pilosus* (found by John Davison) plus Pied Shieldbug *Tritomegas bicolor*.

4 June, Cleethorpes Country Park and nearby dunes (part of Humber Estuary SSSI)
TA308067 and TA316074
An all-day BioBlitz event with North East Lincolnshire Council teaming up with the LNU and using the Discovery Centre as a base. Led by Charlie Barnes, Rachel Graham and Brian Hedley and included an evening moth and bat recording session. Attended by 14 LNU members with several visiting families helping with recording. A partly sunny day but with a strong cool breeze.

Golden-bloomed Grey Longhorn *Agapanthia villosoviridescens* at Cleethorpes C.P.

Picture Brian Hedley

Over 300 species were recorded during the day, including nearly 200 plants and 60 moths, despite the poor evening weather. Highlights included a number of noteworthy plants such as Distant Sedge *Carex distans*, Knotted Hedge-parsley *Torilis nodosa*, Common Meadow-rue *Thalictrum flavum*, Narrow-leaved Bird's-foot Trefoil *Lotus glaber* and Flowering-Rush *Butomus umbellatus*. The uncommon moth, the Seraphim *Lobophora halterata*, was recorded (including an individual of the white form) and Diamond-back Moths *Plutella xylostella*, were present in their thousands.

Other notable invertebrates included the weevil *Phyllobius vespertinus* and the dung beetle *Aphodius plagiatus*, both scarce coastal species. *Aphodius plagiatus* was previously only known from the Rimac area further down the coast and can be found under accumulations of plant debris on the shore.

Vertebrates recorded on the day included 44 bird species in the Country Park (eight warblers were in song) and Common Pipistrelle, Noctule *Nyctalus noctula* and Daubenton's *Myotis daubentonii* bats were recorded during the evening session.

17 July, Stanton's Pit LWT Reserve
TF035171
Joint LNU/ British Dragonfly Society field meeting attended by 14 people on a very hot and sunny afternoon and led by Brian Hedley.

A very good assemblage of 13 dragonfly/damselfly species were noted including four new for the reserve list. Both Red-eyed and Small Red-eyed damselflies *Erythromma viridulum* were seen on the main lake and other species included Emerald Damselfly *Lestes sponsa*, Banded Demoiselle *Calopteryx splendens*, Ruddy Darter *Sympetrum sanguineum*, Brown Hawker *Aeshna grandis* and Emperor *Anax imperator*. Butterflies were not as diverse but 10 species were noted including Small Copper *Lycaena phlaeas*,

Surveying pond at Stanton's Pit.

Picture Brian Hedley

Gatekeeper *Pyronia tithonus* and hundreds of Ringlets *Aphantopus hyperantus*. Other invertebrates noted included the beetle *Cryptocephalus aureoles* (4th record for Lincolnshire) and several moths including Magpie *Abraxas grossulariata*, Six-spot Burnet *Zygaena filipendulae*, Cinnabar *Tyria jacobaeae*, Silver Y *Autographa gamma* and Common Wave *Cabera exanthemata*. Red-tailed Cuckoo-bee *Bombus rupestris*, Meadow Grasshopper *Chorthippus parallelus* and Speckled Bush-cricket *Leptophyes punctatissima* were also noted.

Over 170 plant species were recorded with help from Tim Smith, Annette Faulkner and Neil Harris and included Bee Orchid *Ophrys apifera*, Creeping Yellow-cress *Rorippa sylvestris*, Yellow-wort *Blackstonia perfoliata*, Woolly Thistle *Cirsium eriophorum*, Fairy Flax *Linum catharticum* and Common Cudweed *Filago vulgaris*. Unfortunately, New Zealand Pigmyweed *Crassula helmsii* has taken a hold in the main lake.

Thirty-two bird species included Grey *Motacilla cinerea*, Pied *Motacilla alba* and Yellow *Motacilla flava* Wagtails, Green Woodpecker, Treecreeper *Certhia familiaris* and good numbers of Linnets *Linaria cannabina*.

13 August, Tetney Blow Wells LWT Reserve (and SSSI)
TA321008
Access to this reserve was courtesy of Anglian Water and LWT, where a lot of recent habitat management work has been undertaken. Attended by 10 members and led by Brian Hedley. It comprised an afternoon session followed by an evening moth and bat session. A dry and warm day but mostly overcast and windy. The wind dropped in the evening but it became quite cool.

Over 180 plant species were noted including over 200 spikes of Water-violet *Hottonia palustris*, Soft Shield-fern *Polystichum setiferum*, Blackcurrant *Ribies nigrum* and Common Spotted Orchid *Dactylorhiza fuchsii*. A large clump of Blunt-flowered Rush *Juncus subnodulosus* was noted just north of the reserve.

Eight mammal species were recorded including frequent Soprano Pipistrelles and occasional Common Pipistrelles and a myotid *Myotis* bat species. Common Froglets were frequent. Forty birds were identified including Common Buzzard *Buteo buteo*, Sparrowhawk *Accipiter nisus*, Kingfisher *Alcedo atthis*, Tawny Owl, Goldcrest *Regulus regulus* and Treecreeper.

Butterflies comprised nine species including Holly Blue *Celastrina argiolus*, Gatekeeper *Pyronia tithonus* and Red Admiral *Vanessa atalanta*. Moth recording in the afternoon and evening (using 2 MV and 2 actinic lamps) did quite well with over 60 species noted including Fen Wainscot *Arenostola phragmitidis*, Southern Wainscot *Mythimna straminea*, Olive *Ipimorpha subtusa*, White Satin *Leucoma salicis* and Pinion-streaked Snout *Schrankia costaestrigalis*. Dragonflies and damselflies were surprisingly sparse with only six species noted but did include Ruddy Darter and both Southern *Aeshna cyanea* and Migrant Hawkers *Aeshna mixta*.

Beetles included Cream-streaked Ladybird *Harmonia quadripunctata*, the longhorn *Leptura quadrifasciata* and also *Dorytomus longimanus*, a weevil found by Charlie Barnes that feeds on Black

Poplar *Populus nigra* and hybrids with nine previous records for Lincolnshire, only five of which are post-1900. Many hoverflies were recorded by Hugh Middleton and included *Eristalis tenax, E. nemorum, Episyrphus balteatus, Platycheirus albimanus, Helophilus pendulus* and *Syrphus ribesii*.

4 September, Burkinshaw's Covert, Near Immingham
TA162182
LNU field meeting to this private nature reserve area courtesy of Total UK with access arranged by Alan Jones of Humber INCA. Attended by 15 people and led by Brian Hedley on a warm and partly sunny afternoon.

Approximately 160 plant species were noted including Stone Parsley *Sison amomum*, Yellow-wort, Hairy Buttercup *Ranunculus sardous*, Common Spotted Orchid and Fairy-flax.

Twenty-four bird species were noted including Sparrowhawk, Buzzard, Great Spotted Woodpecker *Dendrocopos major*, Willow Tit and masses of feeding Swallows *Hirundo rustica* and House Martins *Delichon urbicum*.

Sight/signs of five mammal species were recorded including Muntjac, Roe Deer and Wood Mouse. Young Common Frogs were frequent and a young Smooth Newt *Lissotriton vulgaris* was also noted indicating likely successful breeding in the new ponds created on site.

Grassland, scrub and woodland habitats at Burkinshaw's Covert.

Picture Brian Hedley

Eight species of dragonflies/ damselflies were recorded including Emerald Damselfly, Ruddy Darter, Southern Hawker, Brown Hawker *Aeshna grandis* and at least 50 Migrant Hawkers. The varied habitats on site would seem to be very good for butterflies with 11 species noted on the day (including Small Copper *Lycaena phlaeas*, Small Heath *Coenonympha pamphilus*, Common Blue *Polyommatus icarus*, Brown Argus *Aricia agestis* and Painted Lady *Vanessa cardui*). Moths included Diamond-backed Moth, Brindled Green *Dryobotodes eremita*, Brown China-mark *Elophila nymphaeata*, Lesser Treble-bar *Aplocera efformata* and caterpillars of Poplar Grey *Acronicta megacephala* and Yellow-tail *Euproctis similis*. Other insects included Woundwort Shieldbug *Eysarcoris venustissimus*, galls of the midge *Cystiphora sonchi,* Reedmace Bug *Chilacis typhae* and three uncommon beetle records: *Zeugophora subspinosa, lagiodera versicolor and Scymnus auritus*. The last beetle is a ladybird of deciduous woodlands that feeds on *Phylloxera* sp. aphids and only has 11 records for Lincolnshire.

9 October, Temple Wood, Near Bourne
TF057295
Annual LNU Fungus Foray to this mixed woodland site courtesy of the Forestry Commission. Attended by 18 people and led by Ray Halstead on a relatively mild afternoon with sunshine and showers.

A restricted range of fungi were discovered with highlights being various cup fungi (including Green Elfcap *Chlorociboria aeruginascens*) and abundant coral fungi (including *Clavicula corraloides*). A variety of ink-caps, puff-balls, funnel-caps and milk-caps were also noted (see Fungi Recorders report for further

detail). Over 130 plant species were recorded including Thin-spiked Wood-sedge *Carex strigosa*, Betony *Stachys officinalis*, Hard Shield-fern *Polystichum aculeatum* and large stands of Small Teasel *Dipsacus pilosus*.

Thirty bird species were seen/heard including Red Kite *Milvus milvus*, Raven, Tawny Owl, Marsh Tit, Nuthatch *Sitta europaea*, Siskin *Spinus spinus* and Redwing *Turdus iliacus*. Six mammal species included Common Shrew *Sorex araneus* and both Fallow *Dama dama* and Muntjac Deer. Common Frogs were frequent.

Insects were fairly sparse but included many Migrant Hawkers plus Common Darter *Sympetrum striolatum*, Comma *Polygonia c-album*, Speckled Wood, Hornet *Vespa crabro*, Dark Bush-cricket *Pholidoptera griseoaptera*, Pale Tussock moth *Calliteara pudibunda* caterpillars and the rather smart looking micro-moth *Ypsolopha sequella*.

TRANSACTIONS OF THE LINCOLNSHIRE NATURALISTS' UNION

Officers of the Union in 2016
(Year of election to the Executive Committee)

President	Mrs Annette Faulkner (2004)
President-elect	Mr. Richard Jefferson (2014)
Honorary Secretary	Mr. Charlie Barnes (2010)
Honorary Treasurer	Mr. Ian Macalpine-Leny (2001)
Membership Secretary	via LWT
Publicity Secretary	Mr. Roger Parsons (2010)
Programme Secretary (winter)	Vacant
Programme Secretary (summer)	Mr. Brian Hedley (2007)
Editor of Transactions	Mr. Phil Porter (2008)
Independent Examiner	Mr. John Flynn (2012)
Additional Executive	Mr. Richard Chadd
Executive Committee	Mr. Chris Manning (2001), Mr. John Flynn (2012)
External representatives	
Lincolnshire Biodiversity Partnership	Mr. Ian Macalpine-Leny,
Lincolnshire Bird Club Committee	Mr. Ian Macalpine-Leny,
Lincolnshire Wildlife Trust Biodiversity Team	Mr. Richard Chadd,
Local Wildlife Sites Panel	Mr. Richard Chadd

Section Recorders

Bats	Mrs. Annette Faulkner
Bees and Wasps	Dr. David Sheppard
Beetles	Mr. Charlie Barnes
Bryophytes/Lichens	Professor Mark Seaward
Butterflies	Mr. John Davison
Dragonflies	Mr. Nick Tribe/Mr. Richard Chadd
Flies	Mr. Andrew Godfrey (co-ordinators Mr. John Flynn/Mr. Phil Porter)
Freshwater Invertebrates	Mr. Richard Chadd
Fungi	Mr. Ray Halstead
Geology	co-ordinator Ms. Helen Gamble
Grasshoppers and Crickets	Mr Brian Redman
Higher Plants	Mr. Paul Kirby
Mammals	Mr. Chris Manning
Marine Invertebrates	Mr. Helgi Gudmundsson
Molluscs (non-marine)	Mr. Alex Pickwell
Moths	Mr. Martin Gray
Plant Galls	Mrs. Jan Rousseau
Sawflies	Dr. David Sheppard
Shieldbugs	Mrs. Annette Binding
Pseudoscorpions	Mrs. Annette Binding
Spiders	Mrs. Annette Binding
True Bugs	Mr. Colin Smith

THE LINCOLNSHIRE NATURALIST
including
Transactions of the Lincolnshire Naturalists' Union
for 2016
Volume 29, Part 2, 2016

CONTENTS