# WILDLIFE TRAVEL



#	DATE	LOCATIONS AND NOTES
1	17 <sup>th</sup> May	Arrival and welcome dinner.
2	18 <sup>th</sup> May	A day in John Clare Countryside, heading north to Barnack Hills and Holes NNR, stopping briefly at Burghley House before our second site, Swaddywell NR. The remainder of the afternoon was spent at Castor Hanglands NNR.
3	19 <sup>th</sup> May	A day spent exploring Rockingham Forest with the morning spent at Bedford Purlieus NNR. A lunch stop at Sacrewell Farm was followed by an afternoon visit to Old Sulehay NR.
4	20 <sup>th</sup> May	Today we headed east to explore the Great Fen, starting at the fen-edge site of Upwood Meadows NNR, followed by visits to Woodwalton Fen NNR and Holme Fen NNR.
5	21 <sup>st</sup> May	Depart.

### Leaders

Sarah Lambert Chris Kirby-Lambert

### 18<sup>th</sup> May. Barnack Hills and Holes NNR, Swaddywell NR and Castor Hanglands NNR

Our day in John Clare Country began with a visit to Barnack Hills and Holes National Nature Reserve (NNR), an area of species-rich limestone grassland, which is of European importance. The underlying Lincolnshire Limestone was originally formed in Jurassic Times, made from the remains of billions of tiny sea-creatures which lived in a warm, shallow sea that covered this area 150 million years ago. The unique hummocky landscape of the Hills and Holes was created by quarrying for limestone. The stone, known as Barnack Rag, was a valuable building material first exploited by the Romans over 1,500 years ago. Quarrying continued in medieval times when the Abbeys at Peterborough, Crowland, Ramsey, Sawtry and Bury St. Edmunds all used Barnack stone, and the monasteries frequently argued over the rights to it. Blocks of stone were transported on sleds to the River Welland and loaded on to barges which travelled down the River Nene and other fenland waterways. Most famously, stone from Barnack was used to build Peterborough and Ely Cathedrals. By the year 1500, all the useful stone had been removed, and the bare heaps of limestone rubble gradually became covered by a rich carpet of wild flowers, a surviving remnant of the flower-rich Emmonsail Heath that John Clare wrote about.

Because of the very cold spring, and heavy winter sheep-grazing by Natural England, which is necessary to control the coarser grasses, the sward was less flowery than normal, but the lateness of the season meant there were still good displays of Pasqueflower *Pulsatilla vulgaris* and Early Purple-orchid *Orchis mascula*. Locally, there was also a good show of the surprisingly large flowers of Purple Milk-vetch *Astragalus danicus*, especially on south-facing slopes. Another south-facing slope allowed us our first views of Man Orchid *Orchis anthropophora*, with a small cluster of the tall yellowish-green flowering spikes just coming into bloom. Many of the more characteristic limestone flowers took a bit more hunting, but we eventually found flowers of Common Rock-rose *Helianthemum nummularium*, Horseshoe Vetch *Hippocrepis comosa* and Common Milkwort *Polygala vulgaris* and viewed the leaf rosettes of many more! Some enjoyed close views of Rare Spring-sedge *Carex ericetorum*, a tiny species only a couple of centimetres in height, which is restricted to a small number of dry, grazed calcareous grasslands from Cambridgeshire to Cumbria. It is a poor competitor and soon disappears if under-grazing allows the sward to become too rank.

We were greeted to the site by a low flying Red Kite, one of a very large population now found in the Peterborough area after their reintroduction to the Rockingham Forest in 1995. Other birds of note were the ever-present mixed corvid flocks, made up of Jackdaws, Rooks and Carrion Crows, patrolling the slopes in the company of numerous Starlings. A slightly larger corvid was heard but not seen; the distinctive croaking of Raven could be heard from the neighbouring wood where a pair now nest. A Mistle Thrush was another nice, if brief, addition to the bird list. Throughout our visit we got to enjoy the evocative song of Skylark, a species that has massively declined in Britain, largely due to agricultural intensification and the loss of grasslands, but still has something of a stronghold in the area.

Invertebrates responded almost immediately to the sun coming out and within seconds the flowering Hawthorn *Crataegus monogyna* scrub was alive with St Mark's Fly and the scarce Big-headed Mining Bee. This species feeds mainly on Hawthorn and Field Maple *Acer campestre*. It is particularly associated with scrubby calcareous grassland and Barnack Hills and Holes supports a massive population. Females nest communally, and more than two-hundred can share a nest entrance, each with their own chamber within the structure. Despite this, they exhibit no true social behaviour, with every female provisioning and caring for her own nest chamber. The sun also bought out one of Barnack's star species, the Green Hairstreak. This tiny and strikingly green butterfly could be seen flitting around the Hawthorn before almost immediately disappearing into the fresh green foliage upon landing. We were also treated to a fly-by appearance of Painted Lady, part of a recent influx and not a species we had expected to encounter.

In the cloudier periods between bouts of sunshine we investigated the invertebrates living under stones and deadwood. Amongst several species of woodlouse, snail and millipede the highlights were probably the adorably stripy Zebra Jumping Spider and the Ant Woodlouse. This four-millimetre long woodlouse is blind, completely white, and lives in ant nests, where it feeds on ant droppings and mildew, a fascinating and easily overlooked species.

After a dry and occasionally sunny walk round Barnack, the first heavy shower of the day arrived when we were on the coach, driving to Burghley Park. We only had a short stop, but were able to view abundant Mistletoe *Viscum album* growing in the mature avenues of Common Lime *Tilia x europaea*, which had originally been planted by Capability Brown.

The showery weather continued during our walk round Swaddywell, a nature reserve now owned by the Langdyke Countryside Trust. Swaddywell was one of England's earliest nature reserves, leased by the National Trust between 1915 and 1924. Charles Rothschild, included Swaddywelll on his 1912 list of the country's most important nature conservation sites, and John Clare wrote about the area several times, perhaps most famously in the following verse:

#### I've Loved thee Swordy Well

I've loved thee Swordy Well and love thee still Long was I with thee tending sheep and cow In boyhood ramping up each steepy hill To play at 'roly poly' down - and now A man I trifle o'er thee cares to kill Haunting thy mossy steeps to botanize And hunt the orchis tribes where nature's skill Doth like my thoughts run into phantasys Spider and Bee all mimicking at will Displaying powers that fools the proudly wise Showing the wonders of great nature's plan In trifles insignificant and small Puzzling the power of that great trifle man Who finds no reason to be proud at all.

Swaddywell was sold in 1924 and quarrying resumed, before being used as a bomb dump during the Second World War. After the war the original site was filled and returned to agriculture, while quarrying moved further east and north, creating the current pit. During the 1980's the quarry was a rubbish tip and more recently, in 1997, it was used as a Volkswagen racetrack. The last working area of the quarry in the noth-eastern corner left a large pile of stone waste in an even larger lake, with a bare rock face where the boardwalk is. The disturbance to the mid-section by the construction of the racetrack, followed by its demise and the remodelling of the lake, have created the varied habitats now present.

On entering the old quarry pit we were greeted by the bizarre calls of a Water Rail, and some of the group spotted a Stoat flash across the track ahead. We took advantage of a dry spell to get a closer view of flowering Man Orchid, and to appreciate the many annual plant that grow in this brownfield site, including Sticky Mouse-ear *Cerastium glomeratum*, Wall Speedwell *Veronica arvensis*, Common Cudweed *Filago vulgaris* and the charming and diminutive Changing Forget-me-not *Myosotis discolor*, whose tiny flowers are initially creamy-yellow in colour, before changing to clear sky-blue. One of the most exciting botanical finds of the day was a small amount of Clustered Stonewort *Tolypella glomerata*, a Nationally Scarce species. which was not previously known from the site.

The open brownfield habitat also produced our first and only Small Heath of the trip, a Green Woodpecker we disturbed from its lunch of ants, and a very obliging Viviparous Lizard basked on a pile of rubble. Lunch was taken on a sheltered bank overlooking a reedbed which was alive with calling Reed Warbler, Sedge Warbler and Reed Bunting. Orange Tip, Peacock and Green-veined White were all spotted whilst enjoying our lunch, and a circling Sparrowhawk seemed almost as interested in the birds as we were!

The weather deteriorated after lunch, but we were still able to appreciate the geological interest of the site, which shows the Marholm to Tinwell Fault. As well as beautifully displaying the geology, the exposed cliffs support large colonies of nesting bees, given away by the numerous nest holes visible in the rock. Unfortunately, the weather was not ideal for appreciating these and there was relatively little activity.

Despite this we managed to find some of the attractive, metallic green, Common Green Furrow Bee. The cliffs had also provided an ideal overhung ledge for a Song Thrush to nest on.

The scrub along the top of the cliffs supported a good range of warblers including Blackcap, Common Whitethroat, Chiffchaff and Willow Warbler. As we were leaving the site, Mary heard the distinctive call of Lesser Whitethroat and, with a bit of patience got some good views of the bird preening. A flyover Great-spotted Woodpecker, and Linnet and Meadow Pipit feeding along the path rounded out the bird list for the site, whilst Red Fox and European Rabbit were added to the mammal list.

Our final visit was Castor Hanglands NNR, a complex mix of ancient woodland, calcareous grassland, scrub, fen meadow and ponds. The history of the area goes back over 2,000 years. The Western boundary of the NNR follows King Street, a Roman Road connecting Castor and Bourne. Castor Hanglands wood is thought to have existed for over 1,000 years: the woodland in Castor is mentioned in the Domesday Book (1087), and the name 'hangra' is Old English for a wood on a hill. The grassland, scrub and wetland areas of the reserve are part of Ailsworth Heath. This land was ploughed around 800 years ago, leaving distinct ridges and furrows, some of which can still be seen today. In about 1350, cultivation was abandoned, and the Heath became common land, grazed by sheep, cattle and ponies belonging to commoners in the village of Ailsworth. The Heath was later celebrated in the writings of Helpston's 'peasant poet', John Clare; who was the first person to record many of the plants, birds and other wildlife on the site. In 1953 the remaining areas of woodland and heath were declared as one of Britain's first National Nature Reserves.

We spotted a variety of characteristic Ancient Woodland Indicator species on our walk through the woodland including the yellowish-green flowers of Wood Spurge *Euphorbia amygdaloides*, here towards the northern limit of its main area of abundance in the UK, and the graceful flowers of Wood Melick *Melica uniflora*, growing alongside clouds of creamy-white Pignut *Conopodium majus*. We also noted the very characteristic three-dimensional leaves of Woolly Thistle *Cirsium eriophorum*, growing in an area of recent disturbance. The heavy rain started just as we headed out of the woodland onto Ailsworth Heath to listen to Nightingales. Two males were singing at the northern end of the Heath, giving us a beautiful serenade before dying down in the deteriorating weather.

Fortunately, the worst of the rain was over by the time we reached the pond and surrounding fen meadow, and we were able to appreciate some of the special plants including Water-soldier *Stratiotes aloides* and Floating Bur-reed *Sparganium natans* in the pond, where there were also large beds of Common Stonewort *Chara vulgaris*. High groundwater levels limited our access to the fen meadow, but we were still able to appreciate good shows of flowering Marsh-marigold *Caltha palustris*, as well as the more subtle pinkish flowers of Marsh Valerian *Valeriana dioica* and the primeval spikes of Water Horsetail *Equisetum fluviatilis*. The cold spring meant that none of the spectacular hybrid swarm of Marsh-orchids *Dactylorhiza* spp. were flowering, but we were able to see many heavily spotted and ringed leaf rosettes. We also found a couple of leaf rosettes of Twayblade *Neottia ovata*, as well as a number of fronds of Adder's-tongue fern *Ophioglossum vulgatum*. The passing of the heavy rain had also stimulated a rousing chorus of birdsong and we were treated to numerous singing Blackcaps, Blackbirds, Song Thrushes and Common Whitethroats to see us off the site.



Left to right: Pasqueflower; Big-headed Mining Bee; Man Orchid; Common Milkwort; Green Hairstreak; Rare Spring-sedge.

#### 19<sup>th</sup> May. Bedford Purlieus NNR and Old Sulehay NR

Today the focus of our visits was the Rockingham Forest area. Rockingham Forest was created by William I in the 11th Century and was 'an area of land reserved for hunting by the King'. There would have been individual landowners within the forest, but under 'forest law' only the King was allowed to hunt for deer or boar. Landowners and peasants were allowed to collect fallen and deadwood, but could not cut down trees. For a small fee, villagers were allowed to graze their animals in certain areas. Anyone caught committing offences 'against Vert and Venison of the Forest' was liable to punishment.

The morning was spent at Bedford Purlieus NNR, one of the largest remaining fragments of the Forest. Prior to its inclusion in Rockingham Forest it was a major iron smelting centre. In Roman times, and later it became part of the estates of the Duke of Bedford who was responsible for much of the draining of the fens. Between 1862 and 1868 the western half of the wood was grubbed up and converted to agricultural land and the former 'Centre Tree' now lies on the western boundary of the site. It was declared a NNR in 2000 and is managed by Forestry England. It is notable for potentially having a wider variety of herbaceous woodland plants than almost any other English woodland. There were 462 species of vascular plants listed as present in the woods in 1975. A principal reason for this is the variety of soil types, resulting from a geology that ranges from highly calcareous limestone and tufa through to highly acidic sands and silts. The variety of woodland types, the management history, the wide grassland rides, and even the periodic disturbances caused by coppicing, felling and other interventions such as the wartime installations have all added habitats that maintain the diversity of species within the woods.

We arrived at the site in glorious sunshine, and immediately made our way to the small colony of flowering Fly Orchid *Ophrys insectifera* present near the edge of the grassland area in The Bedlams. Although the individual flowers are beautiful, the plants are remarkably easy to overlook, and it took us a few moments to find them. We found several other interesting species in this general area, including some fine flowering Early Purple-orchid, native Columbine *Aquilegia vulgaris* (which was not quite in bloom) and a population of Hairy Lady's-mantle *Alchemilla filicaulis* subsp. *vestita*.

A longish circular walk through the ancient woodland, negotiating the sometimes muddy rides, allowed us to compare the flora associated with the differing soil types. Areas of more-or-less neutral soil supported sheets of flowering Bluebell *Hyacinthoides non-scripta*, interspersed with the white flowers of Wood Anemone *Anemone nemorosa*, and Wood Spurge. We found several interesting plants on the more acid soils including Hairy Woodrush *Luzula pilosa*, Greater Woodrush *Luzula sylvatica* and Pill Sedge *Carex pilulifera*. The botanical highlights of the acid areas were sheets of Lily-of-the-valley *Convallaria majalis*, which was flowering nicely, and a small population of Hard Fern *Blechnum spicant*, whose unfurling croziers were remarkably beautiful. The more base-rich areas of the site were dominated by Dog's Mercury *Mercurialis perennis*, but we also found a clump of Mountain Melick *Melica nutans*, which has very graceful nodding flowers. As the name suggests, this species has a northern distribution in the UK, being associated with base-rich rocks in northern England, and the population at Bedford Purlieus is close to its southern limit.

A very showy Viviparous Lizard provided some herpetological entertainment as we entered the site, allowing close up views for the whole group. Several Green-veined Whites and Orange Tips were also seen flitting around the open glade at the entrance to the site. As we moved into the wood a number of female wolf spiders were noticed along the ride, carrying their egg sacs. Parasitic Flavous Nomad Bees were very obvious, patrolling the ride edges in search of the nests of their host species of mining bee *Andrena* spp. and a striking Wasp Beetle was swept from overhanging vegetation. It wasn't long before the group noticed columns of relentlessly marching Wood Ants scouring the wood for food and material with which to construct their impressive nest mounds. It is generally believed that they were introduced to the wood some time prior to 1933, perhaps as food for pheasants, although there is no formal documentation of any introduction. Whilst admiring a particularly impressive Wood Ant nest we were lucky enough to encounter a freshly emerged Four-spotted Leaf Beetle escaping the nest. The larvae of this striking species develop within ant nests, where they feed on detritus. At Bedford Purlieus they are strongly associated with Wood Ant nests. The adults emerge from the nest and move away to feed on surrounding foliage.

We arrived back at the coach at lunch time and made the short trip to Sacrewell Farm where we were able to buy coffee to accompany our packed lunches. By this time the clouds had bubbled up, and we could see showers in the distance, but fortunately we managed to avoid them for the rest of the day. The most obvious bird in the picnic area was undoubtedly a very bold and magnificent Peacock, but we also had views of several other new birds. A small but noisy colony of House Sparrows as well as several Pied Wagtail were diligently tidying up after the picnickers.

The afternoon was spent at Old Sulehay NR, which is owned by the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (BCN). The site is made up of a mosaic of limestone quarries, grassland, woodland and wetland habitats and covers over 210 acres. It includes Old Sulehay Forest, another fragment of the ancient Rockingham Forest, and Stonepit Close which was exploited for its limestone. We spent the first part of our visit in Stonepit Close, admiring the very species-rich grassland sward, which has a wide variety of annual plants including Little Mouse-ear *Cerastium semidecandrum*, Parsley-piert *Aphanes arvensis*, Early-flowering Forget-me-not *Myosotis ramosissima*, Field Madder *Sherardia arvensis* and Small-flowered Buttercup *Ranunculus parviflorus*.

The sunny and relatively sheltered conditions in Stonepit Close finally provided ideal conditions for invertebrate activity. We were almost immediately greeted by a dancing Green Hairstreak and moments later Claire spotted our first Grizzled Skipper. In a short time we had seen several more Grizzled Skippers and dozens of Dingy Skippers. Both of these skipper species are quite scarce, forming discrete colonies in areas of suitable habitat. Most of the largest populations are now found in brownfield sites that provide the warm, dry, microclimate they prefer. In addition to butterflies, solitary bees were quite noticeable. Two species of nomad bee were spotted, the Flavous Nomad Bee and Gooden's Nomad Bee; both are cuckoos of mining bees in the genus *Andrena*, laying their eggs in the mining bee nests where their larvae feed on the pollen store. Another cuckoo bee, this time of furrow-bees in the genus *Lasioglossum*, was spotted in the form of the Bare-saddled Blood Bee. We also managed to net a smart female Red-tailed Mason Bee, allowing everyone to properly admire her. This species is quite local and largely restricted to open calcareous sites. The female makes her nest in empty snail shells. The profusion of botanists lying down to get a closer look at small annual plants attracted a very curious Red Kite, perhaps wondering if any of us might make a nice meal. We got to enjoy the evocative mewling of the Kite at close range, the first time some of the group had heard it.

We then headed towards Old Sulehay Forest, stopping to admire a fine Wild Service-tree *Sorbus torminalis* on our way, as well as many bushes of Spurge-laurel *Daphne laureola*, a species which has spread locally as a result of the warmer, wetter winters associated with climate change. We spotted a couple of flowering Twayblade on the wide, managed margins of the main ride, and then turned into mucky ride, where the population of Herb-paris *Paris quadrifolia* was at the peak of flowering. Our route through this wonderful ancient woodland took us through sheets of flowering Ramsons *Allium ursinum* and Bluebell, past some spectacular pollarded Field Maple on the wood boundary and through an area known as the King's Oaks, where we saw ancient coppice stools of Pedunculate Oak *Quercus robur* and Small-leaved Lime *Tilia cordata*, now grown to massive proportions. We also saw a single fruiting spike of Toothwort *Lathraea squamaria*, a rather ghostly-looking parasite which lives on the roots of coppiced Hazel *Corylus avellana* and Field Maple.

There was plenty of butterfly activity along the sunny woodland rides in Old Sulehay Forest. Speckled Wood was abundant, a pair of Brimstone flirted over the path and a strikingly fresh Red Admiral posed on the track, allowing everyone a good view. We also had a brief encounter with a Hornet, and Chris and Glyn spotted its slightly smaller cousin, the Median Wasp. We also got brief views of Marsh Tit foraging over the path. At the western edge of the forest we stopped to enjoy more singing Nightingales, this time uninterrupted by heavy rain! After taking some time to fully appreciate the serenade we began to make our way back out of the wood, hearing the distinctive call of Marsh Tit.



Clockwise from top left: Fly Orchid; Lily-of-the-valley; Hard Fern; Toothwort; Herb-paris; Mountain Melick.



Clockwise from top left: Four-spotted Leaf-beetle; Wood Ant; Dingy Skipper; the group; Bluebell; Grizzled Skipper.

#### 20<sup>th</sup> May. Upwood Meadows, Woodwalton Fen NNR and Holme Fen NNR

Sadly, the fine weather didn't last for our day spent exploring the Great Fen; the day started cool and overcast and there were periods of heavy rain from lunchtime onwards. Nevertheless, this didn't stop our intrepid travellers from enjoying their time in the field. We reversed our planned itinerary, driving out to Upwood Meadows NNR first, to make the most of the good weather. Our journey to Upwood took us across the Great Fen and its surrounding farmland and allowed us to see several different stages in the process of converting arable land to more wildlife-friendly habitat. It also allowed us some good opportunities for spotting wildlife from the coach. Chinese Water Deer was spotted bounding across an area of restored wet grassland. This species, native to Chinese wetlands, is now flourishing on the Great Fen. Although an alien species it is now Endangered in its native range, bizarrely making East Anglia an area of significant conservation importance for the species. Thankfully, there is little evidence that the species is detrimental to any native species or habitats. We also managed to spot European Hares on farmland near Upwood, and numerous Mute Swan in the fen drains.

Designated a National Nature Reserve for its floristic diversity, Upwood Meadows is a real gem, located right on the Fen Edge. The richest display of wild flowers is in Bentley Meadow, where medieval ridge-and-furrow and the many ant hills provide differing microhabitats for plants and invertebrates. Our visit was timed perfectly to catch the vivid display of purple and yellow provided by thousands of Green-winged Orchid *Anacamptis morio* in a sea of Cowslip *Primula veris* and Bulbous Buttercup *Ranunculus bulbosus*. While most of the orchids were the classic magenta colour, we found one beautiful white-flowered spike which showed up the green lines on the lateral petals to perfection, as well as several soft-pink versions. The small population of Heath Dog-violet *Viola canina* subsp. *canina* was also in full flower at the northern end of the meadow, growing among a range of species characteristic of unimproved grassland on mildly acid soils such as Tormentil *Potentilla erecta*, Saw-wort *Serratula tinctoria*, Devil's-bit Scabious *Succisa pratensis* and Betony *Betonica officinalis*, visible as leaf rosettes. The damper parts of the meadow also supported abundant Great Burnet *Sanguisorba officinalis*, whose zig-zag edged leaves are nearly as attractive as the flowers.

We spotted the flowers of Thread-leaved Water-crowfoot *Ranunculus trichophyllus* in the ancient dew pond in Bentley Meadow, as well as large quantities of the leaves of Tubular Water-dropwort *Oenanthe fistulosa*. The trampled mud adjacent to a cattle trough produced one of the real stars of the trip – a thriving population of Mousetail *Myosurus minimus*, a tiny member of the Buttercup family with translucent cream petals and a spike of developing achenes that looks uncannily like a mouse's tail. This area also allowed close views of Common Stonewort which was growing in the trough itself.

The surrounding mature hedgerows and veteran trees provide nesting habitats for many birds. Perhaps the most important of these is Turtle Dove, and their distinctive purring call was heard briefly by some members of the group whilst we were admiring the Green-winged Orchids. After pausing and quietly waiting the rest of the group were eventually rewarded by hearing the Turtle Dove although the bird never left the dense hedge it was calling from.

Woodwalton Fen NNR provided a significant contrast to Upwood Meadows. Located at the heart of the Great Fen project, the site is owned by the Wildlife Trust for BCN and is managed by Natural England. It is one of only four remaining fragments of the ancient wild fens that once stretched for 1,350 square miles across the area and is a last haven for many rare fen species. The site was purchased by Charles Rothschild in 1910 to preserve a small part of the Fens, which had been almost entirely drained by this point. The Banker come conservationist was deeply concerned by the loss of natural habitats and wildlife across the country and was instrumental in the formation of the Nature Conservation movement in the UK. He drew up the first list of important wildlife sites in Britain, this went on to form a framework for the creation of the first National Nature Reserves in 1953. Woodwalton Fen was made a National Nature Reserve in 1954 and remains one of the most important wildlife sites in the country. The Rothschild Bungalow, built two years after his purchase of the site to act as a field station for his frequent collecting trips, can still be seen in the heart of the fen and is still used to this day.

We spent a couple of hours wandering along paths edged with reed-lined ditches, which supported several plants of interest including the round floating leaves of Frogbit *Hydrocharis morsus-ranae* and the feathery leaves of Water-violet *Hottonia palustris*, which was just sending up the first of its beautiful pink flower-spikes. Despite the cold weather numerous Hairy Dragonfly were emerging from the more sheltered ditch margins. No fewer than three Cuckoos could be heard calling as we walked through the site and fleeting glimpses of the birds were caught as they moved from tree to tree.

As we reached the western margin of the fen, we climbed up on to the West Bank to get a view across Darlows and Middle Farms. Darlows Farm was the first area of farmland incorporated into the Great Fen and has now been in restoration for almost twenty years. The rush pasture, wet grassland and shallow pools that have replaced arable farmland now support a diverse fauna and beautifully illustrate the principles behind the Great Fen Project. From the West Bank it is possible to see over much of the project area, allowing the group to appreciate the scale of ambition involved in the creation of the Great Fen. Strong winds and rain had driven many of the birds into shelter but there were still several pairs of Shelduck feeding on the shallow pools. A large mixed flock of hundreds of Swifts, House Martins and Swallows feeding over the pastures and ditches was particularly impressive.

By the time we returned to the coach it was raining steadily and this continued though most of our lunch stop under shelter at Ramsey Height Claypit NR. Highlights were a huge population of Hart's-tongue *Asplenium scolopendrium* growing in the abandoned brick-kilns and a Cetti's Warbler calling explosively from the bushes.

The worst of the rain was over by the time we arrived at our final site, Holme Fen NNR. Formerly a raised bog on the edge of the fens, the site is now one of the finest silver birch woodlands in lowland England, and is of particular importance for its fungi and invertebrates. We wandered along grassy tracks, taking in the variety of vegetation along the way. Areas of damp woodland had a very primeval feel with the huge emerging shuttlecocks of Scaly Male-fern *Dryopteris affinis* agg. accompanied by stands of vicious Saw-sedge *Cladium mariscus* and bog-loving shrubs such as Alder Buckthorn *Frangula alnus* and Bog-myrtle *Myrica gale*, which has very sweetly-scented leaves. Bracken *Pteridium aquilinum* was dominant in drier areas of woodland with abundant Climbing Corydalis *Ceratocapnos claviculate*, which was first recorded in 1989 and has now spread throughout the reserve. We also saw open areas with abundant Heather *Calluna vulgaris* and Purple Moor-grass *Molinia caerulea*. Many of the paths were edged with Sheep's Sorrel *Rumex acetosella*, Heath Woodrush *Luzula multiflora* and Tormentil, while Wall Lettuce *Mycelis muralis* was locally abundant along one of the more shaded paths. We spotted the local nesting Ravens, calling raucously and playing in the trees. The pair had already fledged at least four adorably clumsy chicks despite the miserable weather at the start of the year. Ravens have only recently recolonised the Peterborough area, having been wiped out by human persecution in the 19<sup>th</sup> century. Thankfully they are now back in force!

On our way out of Holme Fen we made a quick stop at the Holme Post. When the decision was made to drain the neighbouring Whittlesea Mere a wooden post was sunk down to the underlying clay, with its top level with the soil surface, to measure peat shrinkage resulting from the drying out of the land. The post was replaced by an iron one, supposedly salvaged from the Great Exhibition at Crystal Palace, soon after. The peat shrank rapidly in the years following the drainage and has continued to shrink more slowly ever since. The land is now 2.75 metres below sea level, almost the lowest land point in Great Britain and the Holme Post protrudes some four metres above the current ground level. Our final brief stop of the day was at Engine Farm, towards the north-east corner of the Great Fen. The land here is slightly drier and large areas have been seeded to create flower rich meadows that will provide nectar sources for invertebrates and food and habitat for farmland birds. This area is also home to trial paludiculture plots, testing the viability of various wetland crops that may allow productive and wildlife friendly agriculture to continue on areas of re-wetted peatland in the future. By this point the group had heads filled to bursting with facts and thoughts about the Great Fen Project, and the decision was made to retreat to the hotel to warm up before our final meal together.

### Sarah Lambert and Chris Kirby-Lambert, Wildlife Travel. June 2021.



Clockwise from top left: White form of Green-winged Orchid; Heath Dog-violet; Mouse-tail; emerging Hairy Dragonfly; Water-violet; athrong of Green-winged Orchid and Bulbous Buttercup.

# **THE FEN EDGE 2021: some highlights**

Plants marked with an \* were in flower; h = heard; X = at all sites

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/
STONEWORTS: Characeae				
Chara vulgaris	Common Stonewort	CH		U
Tolypella glomerata	Clustered Stonewort	SW		
MOSSES				
Brachytheciaceae				
Homalothecium lutescens	Yellow Feather-moss	BA	OS	
Kindbergia praelonga	Common Feather-moss	CH		
Pseudoscleropodium purum	Neat Feather-moss	BA		ŀ
Dicranaceae				
Dicranum scoparium	Broom Fork-moss			ŀ
Ditrichaceae			06	
Ditrichum gracile	Slender Ditrichum		OS	
Hylocomiaceae Rhytidiadelphus triquetrus	Big Shaggy Moss	BA		
Hypnaceae	BIG SHAGGY MUSS	DA		
Hypnum jutlandicum	Heath Plait-moss			ŀ
Polytrichaceae	Heath Flait-HIUSS			I
Atrichum undulatum	Common Smoothcap		BP	
Polytrichastrum formosum	Bank Haircap			ł
Pylasiacaeae				
Calliergonella cuspidata	Pointed Spear-moss	SW		
FERNS	1			
Aspleniaceae				
Asplenium scolopendrium	Hart's-tongue			F
Blechnaceae				
Blechnum spicant	Hard Fern		BP	
Equisetaceae				
Equisetum fluviatile	Water Horsetail	СН		
Equisetum palustre	Marsh Horsetail			J
Pteridaceae				
Athyrium filix-femina	Lady Fern		OS	
Dryopteris affinis agg.	Scaly Male-fern			ŀ
Dryopteris carthusiana	Narrow Buckler-fern			ŀ
Dryopteris dilatata	Broad Buckler-fern		OS, BP	ŀ
Dryopteris filix-mas	Male Fern	SW	OS, BP	ŀ
Pteridium aquilinum	Bracken		OS, BP	ł
Ophioglossaceae				
Ophioglossum vulgatum	Adder's-tongue	CH		ι
ANGIOSPERMS: DICOTYLEDON	IS			

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/05
Aegopodium podagraria	Ground Elder		OS	
Conopodium majus*	Pignut	СН	BP	
Conium maculatum	Hemlock	SW		
Oenanthe fistulosa	Tubular Water-dropwort			UM
Pastinaca sativa	Wild Parsnip	BA, SW	OS	
Pimpinella major	Greater Burnet-saxifrage		OS	
Pimpinella saxifraga	Burnet-saxifrage	BA		UM
Asteraceae (Daisy Family)				
Achillea millefolium	Yarrow		OS	
Carlina vulgaris	Carline Thistle	BA	OS	
<i>Centaurea nigra</i> agg.	Common Knapweed	BA, CH		UM
Centaurea scabiosa	Greater Knapweed	BA		
Cirsium acaule	Stemless Thistle	BA		
Cirsium eriophorum	Woolly Thistle	СН	OS	
Cirsium palustre	Marsh Thistle	СН		WF
Erigeron acris	Blue Fleabane	SW	OS	
Eupatorium cannabinum	Hemp Agrimony	СН	OS	WF
Filago vulgaris	Common Cudweed	SW	OS	
Hypochaeris radicata	Common Cat's-ear	SW		
Inula conyzae	Ploughman's Spikenard	SW		
Lactuca virosa	Great Lettuce	SW		
Leontodon hispidus	Hairy Hawkbit	BA		UM
Leucanthemum vulgare	Ox-eye Daisy	A1		
Mycelis muralis	Wall Lettuce	BA		HF
Pilosella officinarum*	Mouse-ear Hawkweed	BA, SW	OS	
Pulicaria dysenterica	Common FleaBane	SW, CH		
Senecio erucifolius	Hoary Ragwort			UM
Senecio sarracenicus	Broadleaved Ragwort			WF
Serratula tinctoria	Saw-wort	UM		UM
Sonchus palustris	Marsh Sow-thistle	WF		WF
Betulaceae (Birch Family)				
Alnus glutinosa	Alder	WF, HF		WF, H
Betula pendula	Silver Birch	BA	OS	HF
Betula pubescens	Downy Birch	HF		
Corylus avellana	Hazel	СН	BP, OS	
Boraginaceae (Borage Family)			,	
Cynoglossum officinale	Hound's-tongue	BA		
Echium vulgare	Viper's-bugloss	OS		
Lithospermum officinale*	Common Gromwell	SW, CH	OS	
Myosotis arvensis*	Field Forget-me-not	SW, CH		
Myosotis discolor*	Changing Forget-me-not	SW		WF
Myosotis ramosissima*	Early Forget-me-not	BA	OS	
Symphytum officinale*	Common Comfrey			WF

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/0
Barbarea vulgaris*	Winter-cress	SW		
Cardamine pratensis*	Cuckooflower	CH	BP	U١
Erophila verna*	Common Whitlow-grass	SW	OS	
Rapistrum rugosum*	Bastard Cabbage	SW		
Campanulaceae (Bellflower Fami	ly)			
Campanula glomerata	Clustered Bellflower	BA		
Campanula trachelium	Nettle-leaved Bellflower		CH, OS	
Caprifoliaceae (Honeysuckle Fam				
Knautia arvensis	Field Scabious	BA		
Lonicera periclymenum	Honeysuckle		BP	H
Succisa pratensis	Devil's-bit Scabious	UM		UN
Valeriana dioica*	Marsh Valerian	CH	CH	
Valeriana officinalis	Common Valerian	BA, CH		
Caryophyllaceae (Pink Family)				
Arenaria serpyllifolia*	Thyme-leaved Sandwort	BA	OS	
Cerastium glomeratum*	Sticky Mouse-ear	BA, SW		
Cerastium semidecandrum*	Little Mouse-ear		OS	
Moehringia trinervia*	Three-veined Sandwort		OS	
Silene latifolia	White Campion	BA		
Silene vulgaris	Bladder Campion	BA		
Stellaria graminea	Lesser Stitchwort			W
Stellaria holostea*	Greater Stitchwort	CH	BP, OS	
Celastraceae (Bittersweet Family	y)			
Euonymus europaeus	Spindle	BA	BP, OS	
Cistaceae (Rock Rose Family)				
Helianthemum nummularium*	Common Rock-rose	BA		
Cornaceae (Dogwood Family)				
Cornus sanguinea	Dogwood	CH	OS	
Crassulaceae (Stonecrop Family)				
Sedum acre	Biting Stonecrop	SW	OS	
Dioscoreaceae (Yam Family)				
Tamus communis	Black Bryony		BP, OS	
Ericaceae (Heath Family)				
Calluna vulgaris	Heather		BP	HI
Erica tetralix	CrOss-leaved Heath			Н
Euphorbiaceae (Spurge Family)				
<i>Euphorbia amygdaloides</i> subsp. <i>amygdaloides*</i>	Wood Spurge	СН	BP	
Mercurialis perennis	Dog's Mercury	BA, CH	OS, BP	
Euphorbia lathyris*		SW		
Fabaceae (Pea Family)				
Astragalus danicus*	Purple Milk-Vetch	BA		
Astragalys glycyphyllos	Wild Liquorice	BA		
Cytisus scoparius*	Broom			HF

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/0
Hippocrepis comosa*	Horseshoe Vetch	BA		
Lathyrus pratensis	Meadow Vetchling	BA, CH		UM
Lotus corniculatus*	Bird's-foot-trefoil	BA, SW	OS	UM
Lotus pedunculatus	Greater Bird's-foot-trefoil		BP	WF
Medicago lupulina*	Black Medick		OS	
Ononis repens	Restharrow		OS	
Trifolium dubium*	Lesser Trefoil		OS	
Trifolium pratense	Red Clover	СН		UM
Ulex europaeus*	Gorse	CH		
Vicia cracca	Tufted Vetch	BA, CH		WF
Vicia sativa*	Common Vetch	SW	OS	
Vicia sepium*	Bush Vetch	СН	BP	
Fagaceae (Beech Family)				
Fagus sylvatica*	Beech		BP, OS	
Quercus robur	Pedunculate Oak	BA, CH	BP, OS	
Castanea sativa	Sweet Chestnut	BP	BP	
Geraniaceae (Crane's-bill Family)				
Erodium cicutarium*	Common Stork's-bill		OS	
Geranium columbinum	Long-stalked Crane's-bill	BP	BP	
Geranium dissectum*	Cut-leaved Crane's-bill	SW		
Geranium molle*	Dove's-foot Crane's-bill		OS	
Geranium pratense	Meadow Crane's-bill	SW		
Geranium pusillum*	Small-flowered Crane's-bill		OS	
Geranium robertianum*	Herb-robert	SW	BP, OS	HF
Grossulariaceae (Currant Family)				
Ribes uva-crispa*	Gooseberry		OS	
Hypericaceae (St John's-wort Fami	ly)			
Hypericum hirsutum	Hairy St John's-wort	CH	BP, OS	
Hypericum perforatum	Perforate St John's-wort	SW	OS	
Lamiaceae (Mint Family)				
Ajuga reptans*	Bugle	SW	BP	
Acinos arvenis	Basil-thyme		OS	
Betonica officinalis	Betony		BP	UM
Galeopsis tetrahit agg.	Common/Bifid Hemp-nettle	HF		HF
<i>Lamiastrum galeobdolon</i> subsp. <i>montanum*</i>	Yellow Archangel	СН	BP	
Mentha aquatica	Water Mint	СН	CH	WF
Mentha arvensis	Corn Mint	OS	OS	
Origanum vulgare	Marjoram	BA, SW	BP, OS	
Prunella vulgaris	Selfheal	OS	OS	
Teucrium scorodonia	Wood Sage	BP		HF
Thymus praecox subsp. polytrichus	Common Thyme	BA	OS	
Linaceae (Flax Family)				
Linum catharticum	Fairy Flax	SW	OS	

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/05
Malvaceae (Mallow Fa	mily)			
Malva moschata	Musk Mallow		OS	
Tilia cordata	Small-leaved Lime		BP, OS	
Myricaceae (Sweet Ga	le Family)			
Myrica gale	Bog Myrtle			HF
Nymphaceae (Water-li	ily Family)			
Nuphar lutea	Yellow Water-lily			WF
Oleaceae (Olive Family	()			
Fraxinus excelsior	Ash	СН	OS, BP	
Ligustrum vulgare	Wild Privet	BP	BP	
Onagraceae (Willowhe	erb Family)			
Circaea lutetiana	Enchanter's Nightshade	СН	BP, OS	
Epilobium hirsutum	Great Willowherb		OS	
Orobanchaceae (Broor	nrape Family)			
Euphrasia agg.	Eyebright	SW		
Lathraea squamaria*	Toothwort		OS	
Orobanche elatior	Tall Broomrape			
Rhinanthus minor	Yellow Rattle	CH, SW		UM
Oxalidaceae (Wood So	orrel Family)			
Oxalis acetosella*	Wood Sorrel		OS	
Papaveraceae (Poppy	Family)			
Ceratocapnos claviculata*	* Climbing Corydalis			HF
Plantaginaceae (Planta	ain Family)			
Digitalis purpurea	Foxglove			HF
Hippuris vulgaris	Mare's-tail	CH		
Linaria vulgaris	Common Toadflax		OS	
Plantago coronopus	Buck's-horn Plantain		OS	
Plantago media	Hoary Plantain	BA		
Veronica arvensis*	Wall Speedwell	BA, SW	OS	UM
Veronica chamaedrys*	Germander Speedwell	BA, SW	BP, OS	
Veronica hederifolia*	Ivy-leaved Speedwell			HF
Veronica officinalis	Heath Speedwell		BP, OS	
Veronica serpyllifolia*	Thyme-leaved Speedwell	SW	OS	HF, WF
Polygalaceae (Milkwor	rt Family)			
Polygala vulgaris*	Common Milkwort	BA		
Polygonaceae (Knotwe	eed Family)			
Rumex acetosa	Common Sorrel	BA		UM
Rumex acetosella*	Sheep's Sorrel			HF
Rumex hydrolapathUm	Water Dock			WF
Primulaceae (Primrose	e Family)			
Blackstonia perfoliata	Yellow-wort	SW	OS	
Hottonia palustris*	Water Violet			WF
	Yellow Pimpernel		BP	
Lysimachia nemorum*			Ы	

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/05
Lysimachia vulgaris	Common Loosestrife			WF
Primula veris*	Cowslip	BA, CH	BP	UM
Primula vulgaris*	PrimrOse			
Primula x polyantha*	False Oxlip		BP	
Ranunculaceae (Buttercup Family)				
Anemone nemorosa*	Wood Anemone		BP, OS	
Aquilegia vulgaris	Columbine		BP	
Caltha palustris*	Marsh Marigold	СН		
Clematis vitalba	Traveller's-joy	SW	OS	
Ficaria verna*	Lesser Celandine	СН	BP, OS	
Helleborus foetidus*	Stinking Hellebore	BA		
Myosurus minimus*	Mouse-tail			UM
Pulsatilla vulgaris*	Pasqueflower	BA		
Ranunculus acris*	Meadow Buttercup	СН		UM
Ranunculus auricomus*	Goldilocks	СН		
Ranunculus bulbosus*	Bulbous Buttercup	BA	OS	UM
Ranunculus flammula	Lesser Spearwort	СН		WF
Ranunculus parviflorus	Small-flowered Buttercup		OS	
Ranunculus sceleratus*	Celery-leaved Buttercup			UM
Ranunculus trichophyllus*	Thread-leaved Water-crowfoot			UM
Thalictrum flavum	Meadow-rue			WF
Resedaceae (Mignonette Family)			L	
Reseda lutea	Wild Mignonette	SW		
Reseda luteola	Weld	SW		
Rhamnaceae (Buckthorn Family)			L	
Frangula alnus	Alder Buckthorn			HF
Rhamnus cathartica	Common Buckthorn	BA		
Rosaceae (Rose Family)			L	
Alchemilla filicaulis subsp. vestita*	Hairy Lady's-mantle	BP	BP	
Agrimonia eupatoria	Agrimony	BA	OS	
Aphanes arvensis	Parsley-piert		OS	
Crataegus laevigata*	Midland Hawthorn	СН		
Crataegus monogyna*	Hawthorn	BA, SW	BP, OS	UM
Filipendula ulmaria	Meadowsweet	, CH	BP	WF
Filipendula vulgaris	Dropwort	BA	BP	UM
Fragaria vesca*	Wild Strawberry	SW	OS	
Geum urbanum*	Wood Avens	SW	OS	
Malus sylvestris*	Crab-apple	СН	OS	L
Potentilla anglica	Trailing Tormentil		BP	
Potentilla anserina*	Silverweed			WF
Potentilla erecta*	Tormentil		BP	
Potentilla sterilis*	Barren Strawberry	СН		
	Salad Burnet	BA		
Poterium sanguisorba*				

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/05
Rubus caesius	Dewberry	СН		
Sanguisorba officinalis	Great Burnet			UM
Sorbus aucuparia*	Rowan			HF
Sorbus torminalis	Wild Service-tree		BP, OS	
Rubiaceae (Madder Family)				
Galium album	Hedge Bedstraw	BA		
Galium palustre	Marsh Bedstraw	WF		WF
Galium uliginosum	Fen Bedstraw	СН		
Galium verum	Lady's Bedstraw	BA		UM
Sherardia arvensis*	Field Madder	SW	OS	
Salicaceae (Willow Family)				
Populus tremula	Aspen			WF, HI
Populus x canadensis	Hybrid Black-poplar			WF, HF
Salix alba	White Willow			UM
Salix cinerea	Grey Willow			WF, H
Santalaceae (Sandalwood Family)		_	_	_
Viscum album	Mistletoe	BU		
Sapindaceae (Soapberry Family)				
Acer campestre*	Field Maple	СН	BP, OS	
Saxifragaceae (Saxifrage Family)		_	_	_
Saxifraga tridactylites	Rue-leaved Saxifrage	SW		
Scrophulariaceae (Figwort Family)				
Scrophularia auriculata	Water Figwort			HF
Scrophularia nodosa	Common Figwort	СН	OS	
Verbascum nigrum	Dark Mullein	BA		
Verbascum thapsus	Greater Mullein	SW		
Solanaceae (Nightshade Family)				
Atropa belladonna	Deadly Nightshade	BA		
Solanum dulcamara	Woody Nightshade	SW		WF
Thymelaceae				
Daphne laureola	Spurge-laurel		OS	
Viburnaceae				
Viburnum lantana*	Wayfaring-tree	СН	OS	
Viburnum opulus*	Guelder-rose			WF
Violaceae (Violet Family)		_	_	_
<i>Viola canina</i> subsp. <i>canina*</i>	Heath Dog-violet	UM		UM
Viola hirta*	Hairy Violet	BA, SW		
Viola riviniana*	Common Dog-violet		BP	
ANGIOSPERMS:				
MONOCOTYLEDONS				
Alismataceae	Norrow looved Water plantain	CH		LIM
Alisma lanceolatum	Narrow-leaved Water-plantain	СН		UM
Amaryllidaceae (Amaryllis Family)				

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/05
Araceae (Arum Family)				
Arum maculatum*	Lords-and-ladies	BA, CH	BP, OS	
Asparagaceae (Asparagus Family)				
Convallaria majalis*	Lily-of-the-valley		BP	
Hyacinthoides non-scripta*	Bluebell	CH	BP, OS	
Cyperaceae (Sedge Family)				
Carex caryophyllea*	Spring-sedge	BA		
Carex demissa*	Common Yellow-sedge			WF
Carex distans*	Distant Sedge	CH		
Carex disticha*	Brown Sedge	CH		
Carex divulsa*	Grey Sedge	CH	OS	
Carex elata*	Tufted-sedge			WF
Carex ericetorum*	Rare Spring-sedge	BA		
Carex flacca*	Glaucous Sedge	BA, SW		
Carex hirta*	Hairy Sedge			WF
Carex otrubae*	False Fox-sedge	SW		WF
Carex pallescens*	Pale Sedge		BP	
Carex pendula*	Pendulous Sedge	СН		HF
Carex pilulifera*	Pill Sedge		BP	
Carex remota*	Remote Sedge			HF
Carex riparia*	Greater Pond-sedge	СН		
Carex spicata*	Spiked Sedge			WF
Carex sylvatica*	Wood-sedge	CH, SW		
Cladium mariscus	Saw-sedge	SW		HF
Schoenoplectus tabernaemontani	Grey Club-rush	CH, SW		
Iridaceae (Iris Family)		0.1, 0.1		
Iris pseudacorus*	Yellow Iris			WF
Hydrocharitaceae (Frogbit Family)				
Hydrocharis morsus-ranae	Frogbit			WF
Stratiotes aloides	Water-soldier	СН		
Juncaceae (Rush Family)		0.1		
Juncus inflexus	Hard Rush	SW		
Juncus subnodulosus	Blunt-flowered Rush	СН		WF
Luzula campestris*	Field Woodrush	BA	BP	
Luzula multiflora*	Heath Woodrush		BP	HF, WF
Luzula pilosa*	Hairy Woodrush		BP	111, 111
Luzula sylvatica*	Greater Woodrush		BP	
Melanthiaceae (Bunchflower Fami				
Paris quadrifolia*	Herb-paris		OS	
			03	
Orchidaceae (Orchid Family)	Croon winged Orshid			1 11.4
Anacamptis morio*	Green-winged Orchid			UM
Dactylorhiza fuchsia	Common Spotted-orchid	СН	00	
Neottia ovata*	Twayblade	CH	OS OS	
Ophrys apifera	Bee Orchid	SW	OS	

SCIENTIFIC NAME	ENGLISH NAME	18/05	19/05	20/05
Ophrys insectifera*	Fly Orchid		BP	
Orchis anthropophora*	Man Orchid	BA, SW		
Orchis mascula*	Early-purple Orchid	BA	BP	
Poaceae (Grass Family)				
Alopecurus pratensis*	Meadow Foxtail	CH		
Anthoxanthum odoratum*	Sweet Vernal-grass	CH		UM
Avenula pubescens*	Hairy Oat-grass			UM
Catapodium rigidum*	Fern-grass	SW		
Glyceria fluitans*	Floating Sweet-grass			UM
Melica nutans*	Mountain Melick		BP	
Melica uniflora*	Wood Melick	СН		
Molinia caerulea	Purple Moor-grass			HF
Phragmites australis	Common Reed	SW		HF, W
Poa pratensis*	Smooth Meadow-grass	BA		
Poa nemoralis*	Wood Meadow-grass	CH		
Brachypodium rupestre	Tor-grass	BA		
Brachypodium sylvaticum	False-brome	CH	BP, OS	
Bromopsis erecta*	Upright Brome	BA		
Calamagrostis epigejos	Wood Small-reed	SW, CH	BP	
Schedonorus giganteus	Giant Fescue	CH	BP, OS	
Potamogetonaceae (Pondweed	d Family)			
Potamogeton natans	Broad-leaved Pondweed	CH		
Sparganiaceae (Bur-reed Fami	ίγ)			
Sparganium erectum	Branched Bur-reed			UM
Sparganium natans	Floating Bur-reed	CH		
SLIME MOULDS				
Reticulariaceae				
Reticularia lycoperdon	False PuffBall	BA		
Tubiferaceae				
Lycogala terrestris	Wolf's Milk		BP	HF
FUNGI				
Fomitopsidaceae				
Fomitopsis betulinus	Birch Polypore			HF
Laetiporus sulphureus	Chicken-of-the-woods		OS	
Polyporaceae				
Fomes fomentarius	Hoof Fungus			HF
Psathyrellaceae				
Coprinellus cf domesticus	Firerug Inkcap			
Coprinellus micaceus	Shining Inkcap			HF
Parasola cf schroeteri	a Pleated Inkcap		BP	
Sclerodermataceae				

ENGLISH NAME	SCIENTIFIC NAME	1	2	3	4
BIRDS					
Family Anatidae (Swan	s, geese and ducks)				
Mute Swan	Cygnus olor				GF
Greylag Goose	Anser anser				GF
Mallard	Anas platyrhynchos		CH		Х
Shelduck	Tadorna tadorna				WF
	easants and Partridges)		_		
Red-legged Partridge	Alectoris rufa			OS	
Pheasant	Phasianus colchicus		SW		GF
Family Accipitridae (Ha					1
Red Kite	Milvus milvus		BS	Х	
Marsh Harrier	Circus aeruginosus				WF
Common Buzzard	Buteo buteo		BS	Х	
Eurasian Sparrowhawk	Accipiter nisus		SW		
Family Falconidae (Falc					1
Kestrel	Falco tinnunculus				GF
Family Rallidae (Rails a					
Water Rail	Rallus aquaticus		SH		
Moorhen	Gallinula chloropus				WF
Coot	Fulica atra		SH		
Family Charadriidae (P					
Lapwing	Vanellus vanellus				WF
Family Laridae (Gulls)					
Lesser Black-backed Gull	Larus fuscus		SW		WF
Black-headed Gull	Chroicocephalus ridibundus		BA		WF
Family Sternidae (Tern					
Common Tern	Sterna hirundo		BS		WF
Family Columbidae (Pig					
Rock Dove/Feral Pigeon	Columba livia				GF
Woodpigeon	Columba palumbus		X	Х	Х
Collared Dove	Streptopelia decaocto		СН		
Turtle Dove	Streptopelia turtur				UM
					1 (h)
Family Cuculidae (Cuck		-			(h)
Family Cuculidae (Cuck					
Family Cuculidae (Cuck (Common) Cuckoo	coos) Cuculus canorus	-			UM
	Cuculus canorus				UM
(Common) Cuckoo	Cuculus canorus			SF	UM WF
(Common) Cuckoo Family Apodidae (Swift	Cuculus canorus (s) Apus apus			SF	UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker	Cuculus canorus (Apus apus eckers) Picus viridis		SW	SF	UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke	Cuculus canorus S) Apus apus eckers) Picus viridis r Dendrocopos major		SW		UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker	Cuculus canorus S) Apus apus eckers) Picus viridis r Dendrocopos major				UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke	Cuculus canorus S) Apus apus eckers) Picus viridis r Dendrocopos major		SW BA		UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark	Cuculus canorus Cuculus canoru		SW		UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S	Cuculus canorus Cuculus canoru		SW BA SW		UM WF HF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark	Cuculus canorus Cuculus canoru		SW BA		UM WF WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S	Cuculus canorus Cuculus canoru		SW BA SW	OS	UM WF HF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow	Cuculus canorus Cuculus canoru		SW BA SW	OS	UM WF HF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow House Martin	Cuculus canorus Cuculus canoru		SW BA SW	OS	UM WF HF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow House Martin Family Motacillidae (Pi	Cuculus canorus Cuculus canoru		SW BA SW BA	OS	UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow House Martin Family Motacillidae (Pi Meadow Pipit	Cuculus canorus Cuculus canoru		SW BA SW BA	OS SF	UM WF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow House Martin Family Motacillidae (Pi Meadow Pipit Pied Wagtail	Cuculus canorus Cuculus canoru		SW BA BA SW	OS SF	UM WF HF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow House Martin Family Motacillidae (Pi Meadow Pipit Pied Wagtail Family Prunellidae (Aco Dunnock	Cuculus canorus Cuculus canoru		SW BA BA SW	OS SF SF	UM WF HF
(Common) Cuckoo Family Apodidae (Swift Swift Family Picidae (Woodp Green Woodpecker Great Spotted Woodpecke Family Alaudidae (Lark Skylark Family Hirundinidae (S Swallow House Martin Family Motacillidae (Pi Meadow Pipit Pied Wagtail Family Prunellidae (Acc	Cuculus canorus Cuculus canoru		SW BA BA SW	OS SF SF	WF WF

Family Turdidae (Thru	ushes)			
Song Thrush	Turdus philomelos	SW	OS	UM
Mistle Thrush	Turdus viscivorus	BA		
Blackbird	Turdus merula	X	Х	Х
Family Sylviidae (Sylv	via Warblers)			
Garden Warbler	Sylvia borin		BP	WF
			(h)	(h)
Blackcap	Sylvia atricapilla	X	Х	UM
				WF
Whitethroat	Sylvia communis	CS	Х	UM
				WF
Lesser Whitethroat	Sylvia curruca	S	OS	
			(h)	
Family Acrocephalida				
Sedge Warbler	Acrocephalus schoenobaenus	S	'	WF
Reed Warbler	Acrocephalus scirpaceus	S		WF
Family Cettidae (Bush				
Cetti's Warbler	Cettia cetti			GF
Family Phylloscopidae				
Willow Warbler	Phylloscopus trochilus	SB	Х	Х
Chiffchaff	Phylloscopus collybita	X	Х	Х
Family Paridae (Tits)				
Great Tit	Parus major	X	Х	Х
Blue Tit	Cyanistes caeruleus	X	Х	Х
Marsh Tit	Poecilus palustris		OS	
Family Aegithalidae (				
Long-tailed Tit	Aegithalos caudatus	SW	Х	
Family Corvidae (Crow	ws)			
Magpie	Pica pica		Х	Х
Jay	Garrulus glandarius			HF
Jackdaw	Corvus monedula	BS	SF	Х
Rook	Corvus frugilegus	BA	SF	Х
Carrion Crow	Corvus corone	BA	SF	Х
Raven	Corvus corax	BA	OS	HF
		(h)	(h)	
Family Sturnidae (Sta				
Starling	Sturnus vulgaris	BA	OS	Х
Family Passeridae (Sp				
House Sparrow	Passer domesticus		SF	
Family Fringillidae (Fi				
Goldfinch	Carduelis carduelis	SW		
Greenfinch	Carduelis chloris	BA		
Bullfinch	Pyrrhula pyrrhula			UM
Family Emberizidae (				
Reed Bunting	Emberiza schoeniclus	SW		WF

E	ENGLISH NAME	SCIENTIFIC NAME	1	2	З	4	5
	MAMMALS Correiveres (including dags on	d mustalida)					
	Carnivores (including dogs an	-			_		
	Stoat	Mustela erminea		SW			
F	Red Fox	Vulpes vulpes		SW			
	Rodents, insectivores and lage	omorphs					
E	Brown Hare	Lepus europaeus				GF	
F	Rabbit	Oryctolagus cuniculus		SW			
	Grey Squirrel	Sciurus carolinensis			BP		

U	Ingulates					
C	Chinese Water Deer	Hydropotes inermis			GF	
R	Reeve's Muntjac	Muntiacus reevesi	BA	OS	HF	
	-		(h)		(h)	
R	REPTILES					
C	Common Lizard	Zootoca vivipara	SW	Х		

ENGLISH NAME	SCIENTIFIC NAME	1	2 3	4
COLEOPTERA - beetles				
Four Spotted Leaf Beetle	Clytra quadripunctata		BP	
a ground beetle	Nebria brevicollis	9	SW	
Glow-worm	Lampyris noctiluca	S	SW	
a leaf weevil - shiny green	Phyllobius roboretanus	E	3A	
Deadly Nightshade Flea Beetle	Epitrix atropae	E	3A	
a soldier beetle	Cantharis rustica		BP	
a soldier beetle	Cantharis pellucens		OS	
Dog's Mercury Flea Beetle	Hermaeophaga mercurialis		Х	
Wasp Beetle	Clytra arietis		BP	
Black Snail Beetle	Phosphuga atrata		BP	
Red-headed Cardinal Beetle	Pyrochroa serraticornis		OS	
DIPTERA - flies				
St Mark's Fly	Bibio marci		3A	
-			SW	
Blotch-winged Hoverfly	Leucozona lucorum		BP	
Spring Epistrophe	Epistrophe eligans		BP	
Humming Syrphus	Syrphus ribesii		BP	
Dark-edged Bee Fly	Bombylius major		BP	
HEMIPTERA - true bugs				
A stilt-bug	Berytinus minor	5	SW	
Red-and-black Froghopper	Cercopis vulnerata	E	3A	
HYMENOPTERA - ants, bees,	sawflies, wasps			
Big-headed Mining Bee	Andrena bucephala	with t abund	the rare the big dant on norn at	he
Small Hawthorn Mining Bee	Andrena chrysosceles	CA - <sup>-</sup> with t yellov the m the w	The sm	n fa ott
Common Mini Mining Bee	Andrena minutula	BA - <sup>-</sup>	The tiny ipt blac	
Chocolate Mining Bee	Andrena scotica	BA, S bee s	W - Th ized ch 1 minin	oco
Red-tailed Bumble Bee	Bombus lapidarius	BA - <sup>-</sup>	The bla le bee	ck
Common Carder Bee	Bombus pascuorum	X, WF buff c	- The coloured	
Buff-tailed Bumble Bee	Bombus terrestris	BA, S	W - Th v and b	

		bumble bee with cream/buff tail.
Common Bronze Furrow-bee	Lasioglossum morio	SW - the small
		metallic green b
		on the cliff at th
		back of the site.
Flavous Nomad Bee	Nomada flava	X - The yellow, t
		and brown paras
		of several specie
		mining bee. First
		pointed out at
		Bedford Purleius
Gooden's Nomad Bee	Nomada goodeniana	OS - the large ye
	nomada geodemana	and black noma
		bee with no brow
		A parasite of sev
		larger Andrena.
Bicoloured Mason Bee	Osmis bicolor	OS - the black a
		orange bee that
		nests in snail she
		on calcareous
		grassland.
Broad Saddled Blood Bee	Sphecodes ephippius	OS - The small b
Inan 2900160 Riood Reg	Sphecodes ephippids	and red bee in t
		skipper area at (
Madian Maan	Deliebeurgenule medie	Sulehay.
Median Wasp	Dolichovespula media	OS - A large was
		halfway betweer
		common wasp a hornet in size an
		appearance.
		Currently spread
	Vocno crobro	in the UK. OS
European Hornet	Vespa crabro	
An ant	Formica fusca	SW - A large, du
		brown ant.
Wood Ant	Formica rufa	BP - The wood a
		with large nest
		mounds at Bedfo
	Lesius flamm	Purleius.
Yellow Meadow Ant	Lasius flavus	BA, UM - Small a
		that creates larg
		mounds in
		grassland.
Garden Black Ant	Lasius niger	BA, SW
Large Yellow-girdled Tenthredo	Tenthredo maculata	BP - The large
		yellow and black
		sawfly spotted a
		the birch edged
LEPIDOPTERA - butterflies		
Family Hesperiidae (Skippers		
Dingy Skipper	Erynnis tages	OS
Grizzled Skipper	Pyrgus malvae	OS
Family Pieridae (Whites)		
Orange-tip	Anthocharis cardamines	SW X
Green-veined White	Pieris napi	SW X
Brimstone	Gonopteryx rhamni	X
Family Lycaenidae (Blues, Co		
Green Hairstreak	Callophrys rubi	BA OS

Holly Blue	Celastrina argiolus	SF			
Family Nymphalidae (Nym	phs, Fritillaries and Browns)				
Speckled Wood	Parage aegeria	CH OS			
Small Heath	Coenonympha pamphilus	SW			
Red Admiral	Vanessa atalanta	OS			
Peacock Butterfly	Aglais io	SW OS			
Small Tortoishell	Aglais urticae	BA			
Painted Lady	Vanessa cardui	BA L	JM		
LEPIDOPTERA - moths					
Family Adelidae (Fairy Lor	ighorns)				
Green Longhorn Moth	Adela reamurella	BP			
Family Erebidae (Underwi	ngs, Tigers and Tussocks)				
Burnet Companion	Euclidia glyphica	BA			
Family Geometridae (Geor	netrid Moths)				
Common Heath	Ematurga atomaria	BA			
Family Noctuidae (Noctuid	Moths)				
Silver-Y	Autographa gamma	BP			
<b>ODONATA - damselflies an</b>	d dragonflies				
Large Red Damselfly	Pyrrhosoma nymphula	BP V	٧F		
Azure Damselfly	Coenagrion puella	OS			
Hairy Dragonfly	Brachytron pratense	V	NF		
SNAILS					
White-lipped Grove Snail	Cepea hortensis	BA			
Brown-lipped Grove Snail	Cepea nemoralis	BA			
Disc Snail	Discus rotundatus	BA			
Kentish Snail	Monacha cantiana	BA			
SPIDERS					
Zebra Jumping Spider	Salticus scenicus	BA, SW - The	stri		
		black and whit	te		
		jumping spide	r.		
A jumping spider	Euophrys frontalis	BA			
Wolf spiders	Pardosa spp.	BP, OS - The s			
		running on the			
		ground, often			
		egg sacs on th	ıeir		
		backs.			
A wolf spider	Alopecosa pulverulenta	OS			
Nursery Web Spider	Pisaura mirablis	BP			
Common Crab Spider	Xysticus cristatus	BP			
WOODLICE					
Pill Millipede	Glomeris marginata	BA			
Common Pill Woodlouse	Armadillidium vulgare	BA, SW			
Ant Woodlouse	Platyarthrus hoffmannseggii	BA - the tiny w			
		woodlouse und			
		wood at Barna			
		Associated wit	<u>n a</u>		