

# The Doncaster Naturalist

Volume 2 Number 4

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Doncaster Naturalists' Society

## Editorial

The Society continues to be a very active one, mainly due to the hard work of the President Louise Hill and of the Recorder/Programme Secretary Pip Seccombe. Without the support of the members though, any group will lose momentum and wither away. Sadly this has happened in other areas of Yorkshire, and two long-standing Naturalists Societies have disbanded in recent months (Cross Hills Naturalist Society, based at Keighley, and another in the Dales.) One of these had more members on its books than the DNS has now - though pleasingly our numbers appear to be rising.

We cannot take the status quo as a permanent fixture. Louise has an increasing workload from her job and has indicated that she would like to stand down as President. It is important that the society can find a successor - the principle requirement is that of enthusiasm - it is not necessary to have all the same expertise.

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## The Auckley Common Hedgerow Survey

Colin A. Howes

Survey team: Derek Allen, Ian Farmer, Kayleigh Farmer, Elizabeth Farningham, Andrew Hill, Louise Hill, Sheila Hill, Colin Howes, Helen Kirk and Pip Seccombe.

### Introduction

In 1997 the Clerk to Auckley Parish Council enquired if the Doncaster Naturalists' Society could advise on the occurrence of any 'ancient' hedgerows in the parish. To visit all the hedgerows of the parish would be an enormous project but since the very rare Scarce Vapourer moth *Orgyia recens* was known to have previously occurred along Auckley Common, it was decided to undertake an initial field survey here. On three occasions (in torrential conditions on 25th June 1997 and showery conditions on 20th and 21st June 1998) visits were made by members of the Society to Auckley Common Lane where the agricultural hedgerows on the northern side were surveyed. This report summarises the results and analysis of the hedgerow survey work and makes comments on features of special significance. During the visits, a relict area of sandy acid heathland was encountered at the appropriately named Sandwith Hill. The areas covered are shown in Figure 1 in the centre pages.

### Methods

Commencing at the western end of Auckley Common at the end of the urban development and boundary of the disused sand quarry (now 'restored' to arable), some eight frontage boundary hedges were examined with survey data being gathered for each successive 30 metre length.

For each 30m sample, the tree and shrub species, woody climbers, non-woody climbers and woodland indicator herbs were recorded on a standard recording form. In order to calculate species diversity, the numbers of tree and shrub species were totalled for each survey sample. This enabled the mean diversity figure to be calculated for each hedgerow and indeed for the entire northern side

of Auckley Common Lane. These figures enable comparisons with hedgerows elsewhere in the region and can highlight 'Important' hedgerows according to the criteria in the Hedgerow Regulations (1997) in the Environment Act.

**Results**

Seventy-three 30m sample sections were surveyed from eight boundary hedgerows fronting onto the northern side of Auckley Common Lane (see Figure 1 for location map). These commenced at the north-eastern end of Auckley village (SE653015) and terminated after 2,190 metres at the eastern end of the old Auckley Common Lane near the pre-enclosure River Torne crossing (SE672028). The numbers of hedgerow samples in which woody trees/shrubs occurred per hedge, and for the entire survey, are tabulated in Appendix 1. This also shows the % frequency of total hedgerow samples occupied by each species of tree/shrub. Woody and non-woody climbers are similarly tabulated in Appendix 2. The complete list of vascular plants recorded in this survey is in the DMBC RECORDER Data base and the vertebrates and invertebrates encountered are listed below in Appendix 3 and 4.

Since several of the field-dividing hedgerows or boundary drains shown on the 1962 version of the 1:10,000 Ordnance Survey map (used for this survey) had been removed, the current fields are fewer and somewhat larger than during the 1960s. On occasions the points at which hedgerows began and ended could only be determined by changes in the adjacent crops.

Table 1 shows the numbers of 30m samples and total distances surveyed for each of the eight boundary hedgerows, the total number of woody species per hedge, the maximum number per 30m sample and the mean number of woody species per sample per hedge.

Table 1: Boundary lengths, survey samples and species diversity

<b>Field Boundaries</b> (see Figure 1 location map)	Restored Quarry	A	B	C	D	E	F	G	Total
Boundary length (m)	630	90	510	210	120	180	330	120	2190
No. of 30m samples	21	3	17	7	4	6	11	4	73
No. of woody species	11	[8]	11	9	6	5	7	8	21
Max no. of woody species	6	[8]	5	5	4	4	4	4	8
Mean no. of woody species per 30m	3.23	[4.33] 3.33*	3.11	3.2	1.50	2.00	3.27	4.00	3.11

\* note. calculation excluding introduced exotics

[ ] = number including planted exotic species

**Species richness** Although some individual hedgerows contained up to eleven species of tree and shrub and some 30 metre survey sections contained up to eight species, the mean species diversity index for the seventy-three 30m sample hedgerow lengths only came to 3.1 species per 30 metres. Apart from section G at the northerly end of the common, the hedgerows of Auckley Common Lane are typical of enclosure award boundaries and are relatively species-poor. The section G hedgerow, with a mean woody species score of 4, features on the Jeffry's Map published in 1775 and therefore pre-dates the 1778 *Blaxton and Auckley with Finningley Enclosure Award* (Tofield *et al.* 1778). It could therefore attract protection under the conditions of the 1997 hedgerow protection legislation.

**Tree and shrub species** Some 21 species of tree/shrub were identified in the hedgerow samples though this included four exotic non-native species (Flowering Cherry *Prunus sp.*, Sweet Chestnut *Castanea sativa*, Laburnum *Laburnum anagyroides* and Corsican Pine *Pinus nigra*) which had been introduced to fill in gaps in hedgerow A.

The native or naturalised species (in alphabetical order) were as follows :- Alder *Alnus glutinosa*; Ash *Fraxinus excelsior*; Blackthorn *Prunus spinosus*; Buckthorn *Rhamnus catharticus*; Crab Apple *Malus sylvaticus*; Elder *Sambucus nigra*; Gorse *Ulex europeaus*; Hawthorn *Crataegus monogyna*; Holly *Ilex aquifolium*; Oak (pedunculate) *Quercus robur*; Plum *Prunus domestica* var.; Privet (Wild) *Ligustrum vulgare*; Sycamore *Acer pseudoplatanus*; Willows (Grey *Salix cinerea* and White *S. alba*); Roses (Dog *Rosa canina* and Field *R. arvensis*). Table 2 shows the species in order of percentage frequency.

Table 2. Woody species and their frequencies in 73 hedgerow samples of 30m.

Most frequently occurring species		Species occurring in fewer than 8% of samples	
Hawthorn <i>Crataegus monogyna</i>	90%	Holly <i>Ilex aquifolium</i>	6%
Elder <i>Sambucus nigra</i>	52%	Field Rose <i>Rosa arvensis</i>	6%
Dog Rose <i>Rosa canina</i>	42%	Wild Plum <i>Prunus domestica</i> var.	4%
Common Oak <i>Quercus robur</i>	38%	White Willow <i>Salix alba</i>	4%
Blackthorn <i>Prunus spinosa</i>	20%	Sycamore <i>Acer pseudoplatanus</i>	2%
Common Alder <i>Alnus glutinosa</i>	9%	Crab Apple <i>Malus sylvaticus</i>	1%
Ash <i>Fraxinus excelsior</i>	9%	Buckthorn <i>Rhamnus catharticus</i>	1%
Gorse <i>Ulex europeaus</i>	8%	Grey Willow <i>Salix cinerea</i>	1%

**Climbers** (see Appendix 2) Woody climbers were represented by Bramble *Rubus fruticosus*, which occurred in 62 (84%) of the samples, Honeysuckle *Lonicera periclymenum*, which was flowering beautifully in 9% of the samples, and Ivy in 8% of the samples. Non-woody climbers were represented by Black Bryony *Tamus communis*, White Bryony *Bryonia dioica* and Woody Nightshade

*Solanum dulcamara*, the latter, like the Alders, being indicative of sites with a high water table.

### Notes on specific tree/shrub species

**Hawthorn** *Crataegus monogyna* was by far the most frequent and dominant shrub, being present in 90.4% of the hedgerow samples.

**Elder** *Sambucus nigra* was the next in terms of frequency, occurring in 52% of the samples but was far less dominant than Hawthorn. This bird-sown invasive species owes much of its success to being relatively unpalatable to rabbits (Howes 1995b). Interestingly in the intensively arable districts of Austerfield and Tickhill, elder occurs in 47% and 51% of hedgerows respectively (Howes 1988 & 1995b) indicating that it readily colonises those hedges which are allowed to go gappy where the stock-proof nature of the boundary is no longer necessary. In the nearby but mainly pastoral parish of Fishlake, Elder only occurs in 12% of hedge samples (Howes 1986).

The **Dog Rose** *Rosa canina* occurred in 31 (42%) of the samples, interestingly similar to its 47% presence in the nearby sandy arable parish of Austerfield (Howes 1998b).

**Blackthorn** *Prunus spinosus* occurred in 15 (20%) of the samples. This seemed to be an under-estimation of its presence since it often dominated or co-dominated the sections where it occurred. It also frequently extended (by suckering) well out across the adjacent broad verge, sometimes forming areas of scrub woodland, along with its close relative the **Wild Plum** or **Bullace** *Prunus domestica*.

The high frequency of Common or **Pedunculate Oak** *Quercus robur*, occurring in 28 (38%) of the samples, together with occasional patches of **Gorse** *Ulex europeus*, occurring in 6 (8%) of the samples, was an interesting indication of the dry sandy acid heathland nature of the historic Auckley Common. This combination related well to the place name 'Sandwith Hill' and the ecologically significant acid heathland plant community at the Sandwith Hill picnic area (now overgrown).

Occurring in only 7 (9%) of the samples, **Ash** *Fraxinus excelsior* was surprisingly scarce compared with hedgerows in Fishlake and Tickhill where it occurs in 35% and 39% respectively (Howes 1986 & 1988). Its low status in nearby Austerfield, where it featured in only 12% of hedgerows and formed only 1% of the tree population of Austerfield Beck Plantation (Howes 1995 a & b), suggests that ash does not favour dry sandy areas of the Doncaster district.

The presence of **Holly** *Ilex aquifolium*, which occurred in 5 (6%) of the samples, was of interest since in the Doncaster region this bird-sown evergreen species is normally associated with the limestone or historic parkland areas. Its obtrusive presence in the 'Pond-o-the-Hill area of Blaxton may be connected with the medieval Finningley Park where holly could have been grown as a winter fodder crop and to enclose deer herds. If true, it is tempting to speculate that the Auckley population may be derived from this nearby historic source.

**Alders** *Alnus glutinosa* are a relatively scarce phenomenon in the hedgerows of Doncaster region. Being indicators of fenland and river alluvium, their presence in 7 (9%) of the samples here splendidly declares Auckley's lowland river-valley geography. The maturity and over maturity of the local Alder population is likely to add significantly to the local bio-diversity since this native species, in all stages of growth and decay, is likely to host a wide range of associated invertebrates.

A particular highlight during the 1998 visit was the presence of a family of the now very scarce and declining Tree Sparrow *Passer montanus* actually breeding (taking food to young) in a hole in one of the older Alders. Since this species is one of more notable of the local breeding birds, it would be of conservation benefit if in co-operation with the RSPB or Wildlife Trust, groups of appropriate artificial nesting boxes could be erected on some of the older trees. Other notable birds (see Appendix 3) associated with the Auckley Common Hedgerows and hedgerow trees were Yellowhammer, Corn Bunting, Linnet, Stock Dove and Turtle Dove. Those associated with adjacent fields were Lapwing, Oystercatcher, Curlew and Skylark. The Green Woodpecker was no doubt attracted by the ant colonies associated with the sandy nature of the local soils.

The magnificent **White Willows** *Salix alba* in 3 (4%) of the samples, **Grey Willow** *Salix cinerea* and the relatively local **Buckthorn** *Rhamnus catharticus* in 1 sample each, gave a unique feature to the Auckley landscape. These are also indicators of the local fenland and river-valley geography, and as with the alders, the willows are likely to add significantly to the local bio-diversity since they host a wide range of associated invertebrate species.

Although not included in the hedgerows being sampled, the moisture-loving **Guelder Rose** *Viburnum opulus* was a prominent component of the eastern hedgerow opposite section G near the old 'pre-enclosure' Torne Bridge river crossing.

**Sandwith Hill heathland flora**

With the disappearance of so much old heathland habitat both locally and nationally, it was of great interest to encounter what is a survival of a sandy acid grassland plant community in the form of the Sandwith Hill Picnic area. This small area represents a fragment of what Auckley Common no doubt used to be like prior to the 18th century enclosures and the advent of modern arable agriculture. It is a fascinating survival of living historic landscape. Table 3 lists the plant species which are indicative of sandy acid grassland/heathland habitats. During the 1990s the site benefited from periodic grass cutting but this needs to be extended and modified to benefit the requirements of the heathland plant community. The vigorous encroachment of tall aggressive ruderal weeds of disturbed ground (no doubt the product of fly tipping) and scrub development (as illustrated by recent aerial surveys) is posing a significant problem. Ideally, the scrub (except the gorse) needs to be removed and the herbage regularly mown and the mowings removed from site or placed to one side of the site.

The birch and oak trees which have begun to colonise the site, perhaps over the past 20 to 50 years, are appropriate to an acid heathland habitat but in due course will begin to dominate and shade out the more interesting herb species. Pollarding would reduce the shade effect of the canopy and help to prolong the life of the individual trees. ‘Laying’ of the surrounding hedgerow (not all at once) would also prolong the life of the hedge and allow it to develop thickly.

**Table 3: Indicator Plant Species of Sandwith Hill**

Birch	<i>Betula pendula</i>	Lichens	<i>Cladonia</i> spp. and <i>Peltigera</i> spp.
Bracken	<i>Pteridium aquilinum</i>	Mat-grass	<i>Nardus stricta</i>
Early Hair-grass	<i>Aira praecox</i>	Pedunculate Oak	<i>Quercus robur</i>
Foxglove	<i>Digitalis purpurea</i>	Sand Spurrey	<i>Spergularia rubra</i>
Gorse	<i>Ulex europaeus</i>	Sheep's Sorrel	<i>Rumex acetosella</i>
Hairy Sedge	<i>Carex hirta</i>	Silky Bent-grass	<i>Apera spica-venti</i>
Harebell	<i>Campanula rotundifolia</i>	Tormentil	<i>Potentilla erecta</i>
Hare's-foot Clover	<i>Trifolium arvense</i>	Viper's Bugloss	<i>Echium vulgare</i>
Heartsease	<i>Viola tricolour</i>	Wavy Hair-grass	<i>Deschampsia flexuosa</i>
Heath Bedstraw	<i>Galium saxatile</i>	Wood Sage	<i>Teucrium scorodonia</i>

**Conclusions & summary**

**Topographical features.** The hedgerows of Auckley Common Lane appear to demonstrate three main characteristics associated with the area's geology, geography and agricultural history.

1) The sandy heathland element of the historic Common is reflected in the relative abundance of Pedunculate Oak (38% compared with 10% in limestone Tickhill) and the presence of Gorse (8% in Auckley, absent from Tickhill). A classic sandy heathland plant community was identified at the appropriately named Sandwith Hill (see Table 3). In examining the surface (drift) geology map



for the area, Tim Prosser discovered that the heathland elements were restricted to the deposits of peri-glacial wind-blown sand (loess).

2) The lowland river valley and fenland characteristics of the post-glacial Torne river corridor are demonstrated in the presence of wetland species such as Alder and White Willow, both of which contribute significantly to the landscape character of the Common. Other wetland/fenland indicators are Grey Willow, Guelder Rose, Woody Nightshade, Great Reed *Phragmites australis* and Meadowsweet *Filipendula ulmaria*. Another fenland indicator is the single shrub of Buckthorn. This very local shrub was a dominant feature in the adjacent Auckley Common Plantation (once an SSI). Sadly the plantation was felled and burned during the 1980s, rendering Buckthorn an even scarcer species.

3) The relatively unmanaged and gappy nature of the hedgerows, with some 30 metre sections having very few shrubs (indeed in two cases had no shrubs at all), is a characteristic of regions managed for intensive arable agriculture. The relatively high frequency (52%) of bird-sown Elder, which owes much of its success to being relatively unpalatable to rabbits, is perhaps an indication of hedges allowed to go gappy when stock-proofing is no longer necessary.

**Species richness.** Although very interesting, attractive, rich in wildlife and supporting some 17 species of native or naturalised trees and shrubs, the hedgerows of Auckley Common Lane are generally relatively species-poor, with a mean index of only 3.1 species per 30 metres.

Though partly attributable to the predominantly arable nature of the area and the acid sandy conditions, the low diversity, together with the virtual absence of woodland indicator herbs, suggests that with one exception (hedgerow G), these hedgerows are not 'ancient' but were probably laid out at or after the time of the Blaxton and Auckley with Finningley Enclosure Award of 1778. Hedgerow 'G', which functions more as an unkempt tree line than a managed hedgerow, none the less has a mean of 4 species per 30 metres and is therefore significantly richer than other Auckley Common hedges. An examination of historical maps of the area suggests that this is a remnant of the ancient road which led to the old Torne crossing prior to the re-routing of the river to its present location in the 1770s.

### **Acknowledgements**

Thanks are due to Tim Prosser for creating the survey map for Figure 1 and for identifying the relationships between the heathland plants and the underlying drift geology.

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## Appendices - Results of the Auckley Common Hedgerow Survey

Appendix 1: Trees/Shrubs [ ] = number including planted exotic species

Trees/Shrubs	Sampled hedgerows (see Figure 1)									Total Samples	% Samples
	Restored Quarry	A	B	C	D	E	F	G			
	No. of 30m samples in which the species occurred									73	
Alder	0	0	0	4	1	1	0	1		7	9.58
Apple (Crab)	0	0	0	0	0	0	1	0		1	1.36
Ash	2	0	2	0	0	0	2	1		7	9.58
Blackthorn	5	0	6	1	1	1	0	1		15	20.54
Buckthorn	0	0	0	1	0	0	0	0		1	1.36
[Cherry sp.]	0	1	0	0	0	0	0	0		1	1.36
[Chestnut (sweet)]	0	1	0	0	0	0	0	0		1	1.36
Elder	17	1	3	4	1	3	5	4		38	52.00
Gorse	1	0	3	0	0	0	3	0		6	8.21
Hawthorn	19	3	17	7	1	5	11	3		66	90.40
Holly	4	0	0	1	0	0	0	0		5	6.84
[Laburnum]	0	1	0	0	0	0	0	0		1	1.36
Oak	5	2	2	1	1	2	11	4		28	38.35
[Pine (Corsican)]	0	3	0	0	0	0	0	0		1	1.36
Plum (Wild var.)	0	0	3	0	0	0	0	0		3	4.10
Privet (Wild)	1	0	0	0	0	0	0	0		1	1.36
Sycamore	1	1	0	0	0	0	0	0		2	2.73
Willow (grey)	0	0	1	0	0	0	0	0		1	1.36
Willow (white)	0	0	2	0	0	0	0	1		3	4.10
Rose (dog)	11	1	11	4	1	0	3	0		31	42.46
Rose (field)	0	0	3	1	0	0	0	1		5	6.84

## Appendix 2: Woody & Non-woody Climbers

Trees/Shrubs	Sampled hedgerows (see Figure 1)									Total Samples	% Samples
	Restored Quarry	A	B	C	D	E	F	G			
WOODY CLIMBERS	No. of 30m samples in which the species occurred									73	
Bramble	18	3	15	6	1	4	11	4		62	84.93
Honeysuckle	0	0	0	5	0	1	0	1		7	9.58
Ivy	2	0	0	0	0	0	2	2		6	8.21
NON-WOODY CLIMBERS											
Black Bryony	0	0	0	1	0	0	0	1		2	2.73
White Bryony	6	0	2	1	0	1	0	0		10	13.69
Woody Nightshade	6	0	0	0	0	0	1	0		7	9.58

## Appendix 3: Vertebrate Species

Black-headed Gull	Lapwing	Oystercatcher	Curlew
Carrion Crow	Magpie	Starling	Blue Tit
Whitethroat	Willow Warbler	Sedge Warbler	Robin
Duncock	Wren	Blackbird	Wood Pigeon
Stock Dove	Turtle Dove	Collared Dove	Green Woodpecker
Chaffinch	Greenfinch	Goldfinch	Linnet
Yellowhammer	Corn Bunting	House Sparrow	Tree Sparrow
Duncock	Skylark	Mole	Rabbit

## Appendix 4: Invertebrates

BUTTERFLIES			
Gatekeeper	Wall	Meadow Brown	Red Admiral
Painted Lady	Peacock	Small Tortoiseshell	Small Copper
Small Skipper	Ringlet	Small Heath	Small White
Green-veined White	Brimstone		
DAMSELFLIES & DRAGONFLIES			
<i>Calopteryx splendens</i>	<i>Aeshna grandis</i>		
SPIDERS			
<i>Dictyna arundinacea</i>	<i>Tibellus oblongus</i>	<i>Xysticus cristatus</i>	<i>Philodromus dispar</i>
<i>Oenoplognatha ovata</i> (9 Yellow, 25 Striped, 0 Red).			

# A study of the predatory behaviour of the Sparrowhawk in urban Doncaster

Pip Seccombe and Colin Howes

**Sparrowhawk population crash:** During the 1950s the Eurasian Sparrowhawk *Accipiter nisus*, along with most other UK birds of prey which fed on grain-eating farmland birds, were almost wiped out by the cumulative toxic effects of certain agricultural pesticides such as DDT.

Within South Yorkshire the effect was worse in lowland regions like Doncaster where the prevailing agriculture was arable. The main conduit up the predator-prey food chain for these new toxins was grain treated with certain organochlorine seed dressings being gleaned by seed-eating doves, finches, buntings and sparrows. Birds, carrying sub-lethal doses of the pesticides were fed on by their specialist natural predators such as Sparrowhawks which progressively built up damaging concentrations in their tissues. This led to a) egg-shell thinning, resulting in eggs smashing while being incubated b) adults being rendered infertile or c) direct mortality.

Original research on the eggshell-thinning phenomenon was undertaken by Derek Ratcliffe (1967 and 1980), this was followed by Dr Ian Newton who examined pre and post 1950s Sparrowhawk, Peregrine Falcon *Falco peregrinus* and Grey Heron *Ardea cinerea* egg clutches in museum collections round the country including the W.W. Nicholas and J.H. Verheese egg collections at Doncaster Museum (Newton 1986).

**The rise of the suburban Sparrowhawk:** After the banning of persistent toxic agrochemicals, Sparrowhawk populations slowly revived, becoming again a familiar part of Yorkshire's avifauna by the late 1980s. Local evidence of this was reflected by monitoring increasing numbers of road-kill and window-collision Sparrowhawks being brought from Doncaster's suburbs into the Natural History department of Doncaster Museum (see Figure 1).

This time round there were changes in favour of Sparrowhawks. Firstly there were far fewer gamekeepers to reduce populations in rural areas. Secondly, people in suburban areas increasingly put out food, particularly seed hoppers, for garden birds, creating concentrations of House Sparrows *Passer domesticus*, Greenfinches *Carduelis chloris*, Goldfinches *Carduelis carduelis* and other seed eaters including the newly established populations of Collared Doves *Streptopelia decaocto*, which were easily targeted by the hawks.



Figure 1: Numbers of local Sparrowhawk corpses\* brought to Doncaster Museum during five-year periods from 1965 to 1989.

(\*Data abstracted from the Doncaster Museum Taxidermy Day Book).

During the 1970s and 80s, the Doncaster Naturalists' Society minutes record reports of hawk-related behaviour changes in garden passerines. Here, it was noticed that House Sparrows and Finches which, in the absence of aerial predators, had become used to singing, displaying and sunning themselves conspicuously on the tops of buildings, hedgerows and bushes. They were increasingly undertaking these behaviours within the protective cover of vegetation just when Sparrowhawks were beginning to patrol their territories.

### **The survey**

Following Press publicity and with support from Doncaster Museum Service, from 1996 to 2013 members of the Doncaster Naturalists' Society and members of the public were encouraged to report Sparrowhawks hunting across local gardens and parks. On occasions when a hawk made a strike, the locality, date and general type or species of the prey was noted and if possible the sex of the hawk was also noted.

### **Results**

A total of 91 Sparrowhawk encounters were reported by 15 observers. 71 attack sequences were reported, 17 (24%) involving the larger female hawks, 11 (15%) by the smaller and more colourful male hawks and 43 (61%) where the sex of the hawk was not known.

**Strike success:** Not all attacks were successful. Of the 71 sequences, 26 (37%) targeted prey items evaded capture, 5 (7%) were caught then escaped (butter-fingers!) with only 40 (56%) resulting in direct kills.

**Prey frequency:** Of prey types 70 were birds and one a Wood Mouse *Apodemus sylvestris*. The bird prey consisted of the following 12 identified species, Their relative frequencies are indicated in Figure 2.

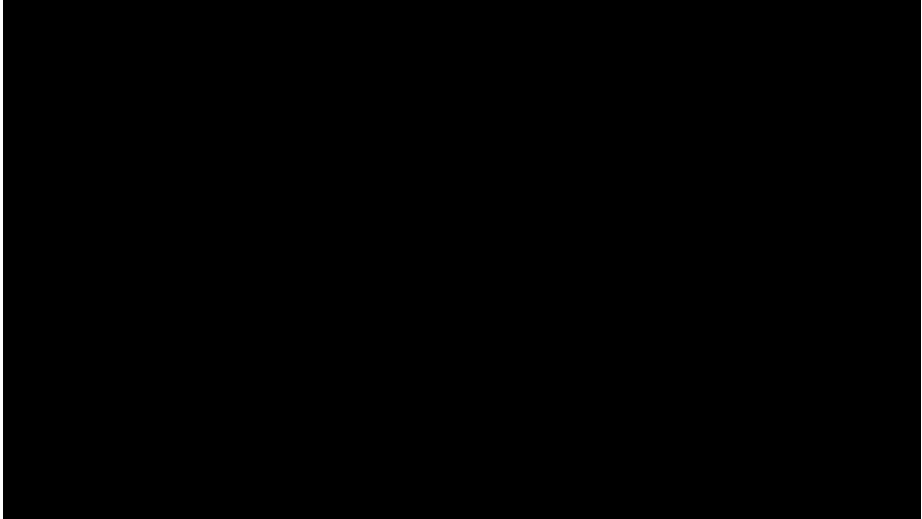


Figure 2: Relative frequencies of 71 vertebrate prey items attacked or taken.

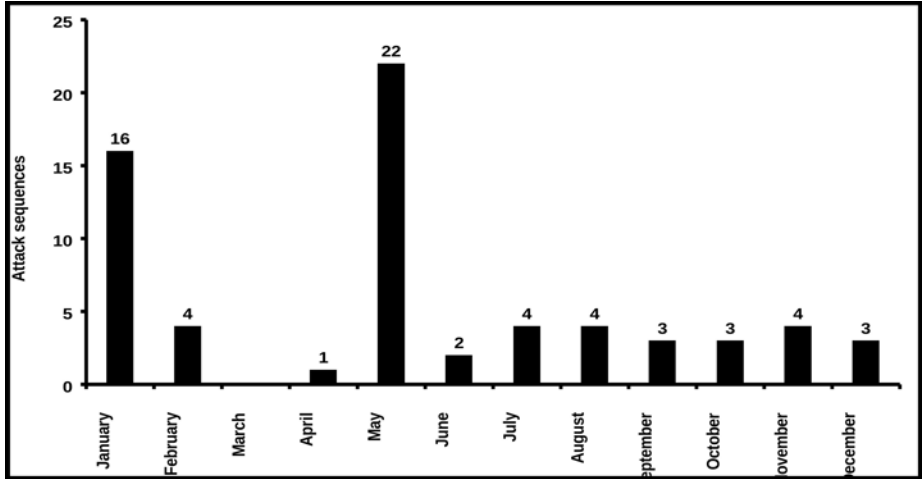


Figure 3: Seasonality of 66 observed attacks where the month was recorded

**Seasonality:** The dates of 66 attacks, when recorded and their frequencies displayed in Figure 3, reveal two significant peaks of observations, the first in January and the second in May.

### Differences in prey taken by males and females

In order to examine differences in size categories of prey attacked by males and females, Collared Dove, Wood Pigeon, Rook and young Mallard were classified as 'Large', Blackbirds and Starling were 'Medium-sized' and House Sparrow, Goldfinch, Greenfinch, Long-tailed Tit, Spotted Flycatcher and Robin were 'Small'. The percentages of these prey size categories taken by males is shown in Figure 4 and by females in Figure 5.

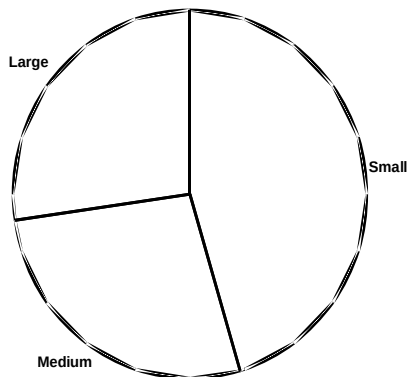


Figure 4: Male Sparrowhawk prey. Size categories of prey in 11 recorded encounters.

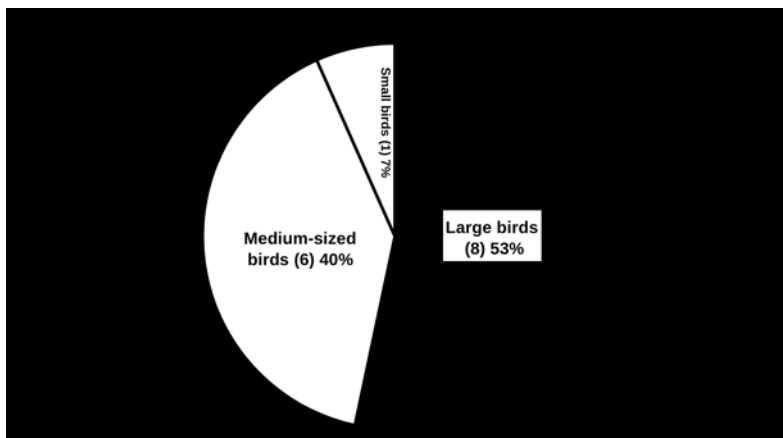


Figure 5: Female Sparrowhawk prey. Size categories of prey in 15 recorded encounters.

## Conclusions

**Gender segregation in prey size selection:** The literature reviewed in the RSPB birdguide website shows that male Sparrowhawks regularly take prey up to 40g in weight and occasionally up to 120g concentrating on Paridae (titmice), Fringillidae (finches), Emberizidae (Buntings) and Passeridae (sparrows). The larger females regularly take prey up to 150g and occasionally up to 500g, concentrating on Turdidae (thrushes) and Sturnidae (starlings) though within these limits both sexes will take almost all bird species available in any given locality, concentrating on those that are conspicuous or easily caught (see photo of female with a Wood Pigeon, Figure 3, centre pages).

The current study does indeed show that a wide size range of prey types are taken by both sexes but male Sparrowhawks do indeed seem to have a preference for smaller species and the females more frequently take medium-sized and larger prey.

**Seasonality:** The two peaks of observed predatory activity revealed in Figure 3 require comment. The January peak was possibly the result of householders maintaining bird tables and feeders for garden birds during winter weather. This created a guaranteed concentration of birds around houses where gardens would effectively become larders for the hawks in sites which were being disproportionately observed by interested householders. Here the January peak consisted of 6 Collared Doves, 2 Blackbirds, 2 Greenfinches, 1 Goldfinch, 1 Long-tailed Tit, 1 unidentified small passerine, 1 Rook and 1 Starling. Why this January peak didn't continue throughout the winter months is a puzzle. Considering the abundance of titmice visiting suburban bird-feeders it was surprising that the only titmouse recorded was the Long-tailed Tit, one of the least frequent of this family. The taking of a Rook was exceptional.

It was expected that observed predatory activity would increase when adults were feeding dependent young, The second and largest peak did indeed occur in spring but there were problems. Female Sparrowhawks seldom hunt during the extended period when they are brooding eggs and chicks during which time they are fed by the male bringing prey to the nest (Newton 1980). Since males catch smaller prey items it was assumed that the May batch of prey would consist of the spring crop of easily caught debutante fledgling passerines. Sadly none of the May records were accompanied by the sex of the captors so this factor had to be deduced from the size categories of the prey (larger prey items by females and smaller items by males). In fact an examination of the prey recorded in May showed that these consisted of 13 Collared Doves, 6 Starlings and only 3 House Sparrows. Since the dominant Collared Dove element is not typical of male-caught prey it is more likely to reflect females 'feeding up' prior to laying eggs and prior to the fasting period on the nest.



There was insufficient evidence to show seasonality in migrant prey species, though the summer diet included the single Spotted Flycatcher. Blackbirds were only present in the autumn and winter diet and the only Long-tailed Tit was no doubt part of a winter foraging tit flock.

**Collared Dove:** A significant component of the post 1950s Sparrowhawk success story is the recent availability of the seed-eating Collared Dove *Streptopelia decaocto*. It expanded its distributional range across Europe from the near-east, arriving in Britain in the mid 1950s and becoming ubiquitous in urban/suburban areas by the 1980s. It enjoys nesting in tall Leylandii hedges and other exotic conifers much beloved of modern housing estates and its prolonged breeding period (March to October) produces an almost constant supply of young doves which have now become a staple diet of suburban Sparrowhawks, accounting for 46% of the diet in our Doncaster study.

**Educational feedback:** Preliminary results of this 'Citizen Science' study were displayed in Doncaster Museum's '*Red in Tooth and Claw*' exhibition August 2004-June 2005 and at the Yorkshire Naturalists' Union Conference on the Biodiversity of Urban Parks and Gardens held in Harrogate March 2005 (Secombe 2007).

### **Acknowledgements**

Thanks are due to the following members and friends for contributing records: Nora Boyle, Tony Bryan, Rev. Martin Greenland, Trish Haig, Sheila Hill, Colin Howes, Andrea Marshall, Ian McDonald, Alan Newton, Michael Oliver, David Pearce, Pip Secombe, Mike Snow, Peter Topham, Maurice Whitta. Thanks are also due to Carolyn Dalton, Manager, Doncaster Museum and Art Gallery, for allowing access to the Doncaster Museum Taxidermy Day Book and for permission to publish the abstracted data.

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# A memorable year for plant galls

Tom Higginbottom

2013 has been a remarkable year for galls in South Yorkshire. My first highlight was walking along the hedgerows in a field near my home in Skellow and discovering twelve examples of the sexual generation of the uncommon gall wasp *Andricus quercusramuli* on the catkins of an Oak tree. As the gall has white fluffy structure it is not surprising that it is referred to as the cotton wool gall (see Fig. 4a, centre pages). I had never seen so many before on a single tree and one amazing example was up to 50mm across. Turkey Oak is common in the hedges of the minor roads around Skellow. In recent years I have recorded the sexual generation of *A. grossulariae* on the catkins. The summer agamic generation forms galls on the bud or acorn of the common Oak. This generation has been recorded in Skellow and the Brodsworth Community Woodland. Mugwort grows beside the A1M near the Five Lane Ends and is often galled by an aphid *Cryptosiphum artemisiae* causing a reddish thickening of the leaves.

Swellings in the upper part of the stem of Creeping Thistle caused by the fly *Urophora cardui* were first seen in Yorkshire in 2006 by Sheila Hill in the Fishlake area. In successive years it became a common gall in South Yorkshire. In 2013 it appears to be less abundant but small colonies have been recorded at Brodsworth, Skellow, Hampole, Potteric Carr and on the grassy slopes by the Keepmoat Stadium. *Taphrina alni* is a fungal galler causing dramatic tongue-like growths on the female catkins of Alder. These structures are green at first but occasionally they are even more impressive later with reddish or purple colours. In 2013 I was surprised to record this gall at sites where I had never seen it before. On individual trees it was frequent at Potteric Carr, Bentley Tip and Brodsworth but the finest examples with large purple tongues, were discovered on Alders growing behind the travellers' site in Sprotbrough.

This year galls on Oak have been more abundant than for many years. The spangle galls *Neuroterus quercusbaccarum* and *N. numismalis* have covered the underside of many Oak leaves. The pea galls *Cynips divisa* and *C. agama* have been seen more frequently than for a number of years. The less common *Cynips* species were also recorded; *C. longiventris* the striped pea gall which has red stripes around the circumference, and the larger cherry gall, *C. quercusfolii*. Sometimes as many as three different Oak gallers completely smothered the underside of some leaves. In 2011 Bill Ely found an example of *Andricus aries*, the ramshorn gall, on the bud of an Oak at Lindholme which was the first Yorkshire record (see Fig. 4d, centre pages). The tapering projections of the gall structure look like miniature examples of rams' horns. These gallers often seem most common on the epicormic shoots of Oak; these are the small twig-like growths arising from the bark of mature Oak trees. Having discovered these

galls in recent years at Sandall Park and Sandall Beat Wood, in 2013 I decided to have another search. Again there were a few examples in Sandall Park but in Sandall Beat I discovered over fifty examples, with it occurring slightly more frequent on mature Oaks to the east of the railway line. In December I found three examples at Potteric Carr on the same tree near the Piper Marsh Hide. At Denaby Ings a mixture of old and new galls were also recorded.

Gall wasps attack other hosts, not just the Oak. The gall wasp *Diastrophus rubi* causes swellings on bramble twigs. About three years ago the Invertebrate Group of the BPGS decided to investigate this gall causer. Unfortunately so few examples were discovered in different parts of the country that it was decided there was no point in pursuing this research. There has been a small colony of *D. rubi* in Melton Wood for many years. In November I decided to investigate this site again and was amazed at what I discovered. In a twenty metre stretch of a woodland ride, looking at the brambles on both sides of the pathway, I found over sixty *D. rubi*. Some were obviously from the previous year with old straw-coloured twigs and many exit holes, but many were on green twigs without exit holes and therefore galls of 2013.

In September I was invited by Bracken and Jo Gibson to visit a fascinating site near Stapleton north of the Brockadale Reserve. We searched through habitats including vegetable plots, old meadows and woodland. Over seventy galls were recorded. Seeing the aphid gallers on Norway Spruce *Adelges abietis* and *A. cooleyi* were new species for me. Galls on Oak were common and this was yet another site for *Andricus aries*. On Pear leaves it was interesting to see pustules of the mite galler *Eriophyes pyri* and also distinctive orange spots of the fungal galler *Gymnosporangium sabinae*. The old meadows were host to many different herbaceous plants. We found the flower heads of the Meadow Vetchling swollen by the midge *Contarinia lathyri*, while some of the leaflets had been swollen and folded by the midge *Dasineura lathyri*. The pods of Tufted Vetch had been thickened by the midge *Dasineura spadicea* and those of Common Vetch by another midge *Dasineura viciae*. Ribwort Plantain had irregular swellings to the leaves which may have been caused by a nematode, possibly *Ditylenchus dipsaci*. Distinctive gall-like swellings were found on the upper stems of Great Willowherb (see Fig. 4b, centre pages). A specimen was sent to Harry Beaumont, who replied "the galls on *Epilobium hirsutum* are those of *Mompha bradleyi*. This is a moth that has only appeared in Yorkshire (all records from the Rotherham and Doncaster districts) over the past couple of years. The moths emerge from the galls/stems in late August/early September and overwinter as adults."

An enjoyable feature of natural history which generates enthusiasm is the discovery of new species. While wandering along the Dearne Way Cycle Track near Cadeby I discovered leaves of Aspen twisted and rolled with a distinctive

reddish colour. A midge *Aceria dispar* had caused this transformation forming a gall I had never recorded before. Wild Carrot is also common along the track and there were a few examples of the fruits swollen by the midge *Kiefferia pericarpicola*, though not as frequent as in 2012. There was also another unfamiliar gall: the top of the flower stalk beneath the flower umbel was distinctly swollen, caused by another midge *Lasioptera carophila*, another new record. The visit to the Yorkshire Sculpture Park was another success for the discovery of new gall causers. The leaves of Greater Stitchwort had been distorted by the aphid *Brachycolus stellariae*. An upper stem of Common Ragwort had been distinctly swollen, with evidence of frass and exit holes indicating the past presence of the micro-moth *Cochylis atricapitana*. But the most significant records were the two galls discovered on Hornbeam, an uncommon tree in Yorkshire. The mite *Aculops macrotrichus* (see Fig. 4c, centre pages) had caused the veins on the underside of some leaves to become distorted and wavy while the midge *Zygiobia carpini* had caused pale coloured swellings on the underside of leaves where the veins meet the mid-rib.



## The Fungi Photographer - a short unscientific report on the species within this genus of the Family - Photographers

**Ken Woolley**

Autumn and early winter is the best time to observe these species wandering around, singularly or in small groups, as they seek out their fungi prey. In this article I hope to enable observers to identify the individual species of the Fungi Photographer.

### (1) The Casual, aka The *Au Naturel*

Some consider this species as the origin of the family. Equipment carried is minimal and consists of a compact or basic bridge camera and only rarely a simple tripod. This light-weight equipment enables them to move rapidly from fungus to fungus. Disturbance around the prey is nil to minute, with only the odd coke can, crisp or fag packet being removed. These items are only displaced as this species believes that to leave them *in situ* would in effect, gild the lily.

### (2) The Gardener

The current consensus is that this species has two or more sub-species, two of which are The Sympathetic and The Enthusiastic, however the author considers these to be merely variants. His personal observations have noted how quickly

they can switch their attack strategy, depending on the location and/or the density of the vegetation around the targeted fungi.

Choice of photographic equipment for this and subsequent species is a DSLR plus a macro-lens, preferably one to one; i.e. true macro. In addition it has a sturdy tripod - one that can be lowered to near ground level, and a reflector and a diffuser are *de rigueur*. As an aside it is amusing to listen in to the squabbles that take place, *ad nauseam*, between individuals in each species. These disputes are always about which make or model of camera is the best or the best model of macro lens etc., etc. The Casual is the one species that is immune to such quibbles and treats the arguments as beneath its notice, though more plausibly it is just not an equipment freak.

Tools that are carried vary between a Swiss army knife (with its tiny scissors) and a pair of small, nail type, scissors. However, it has been known for this species to use a small pair of secateurs. They are used to clear the attack line to the victim and to aid the attacker's focus. The secateurs are useful in overcoming the vicious claws of an obstinate bramble as it quite vigorously defends its territory.

### (3) The Clear Feller

This name is derived from the forestry term "to clear fell". If you don't know what that means b\*\*\*\*y look it up yourself as this article is overlong already (chunter over with). Depending on your point of view this species is either a step forward or backwards on the evolutionary scale. An area on all sides of the prey is cleared down to ground level. Semi-decomposed leaves are usually left in place but on occasion clearance to bare earth takes place. Cutting equipment is similar to The Gardener's but of heavier duty.

### (4) The Excavator

The *modus operandi* is a *la* The Clear Feller regarding site clearance. However, this species then proceeds to excavate down into the earth to expose and lay bare the base of the stipe - stalk or stem to you and me. This is usually done with care as the intention is to photograph the naked undamaged leg; oops, sorry, I mean stipe. I do apologize but all this talk of bare and naked re-focused my mind on a totally different subject and species. Additional tools used by The Excavator could be a small trowel or a stout stick of suitable size and even a small brush.

WARNING Only those with strong constitutions should read about the grisly antics of the last two species in this family.

### (5) The Exhumer

The entire seeding body of the prey is exhumed intact by The Exhumer. Only as much ground clearance is carried out as is needed to enable the lifting of the naked body (concentrate on what you are doing boy) of the victim clear of the

ground in pristine condition. Photography of the complete body then takes place from every conceivable angle. Normally no attempt is made to re-enter the innocent fungus; "not much point, is there?". Clearance equipment would be similar to that used by The Excavator.

#### (6) The Surgeon

In an even more gruesome act The Surgeon goes a step further than The Exhumer and, heaven forbid, proceeds to slice open the body from apex to base or vice versa. Thankfully I have not witnessed this process so am unable to inform you as to what sort of surgical implement is used to accomplish this dissection. All this so as to take "pictures" of the prey's insides. YUK. I refuse to write any more regarding this species as my stomach is churning.

#### In Summary

Species such as The Gardener can take no high moral ground over The Exhumer or The Surgeon as taking advantage of the actions of others is normal in this Family. Observers should therefore take this trait into account when trying to identify these species. Further unscientific investigation could and indeed should take place on the mores, morals and in some cases voyeuristic nature of these species; but not by me - I have had enough!



## Award for Helen Kirk

Helen, who was a member of the Doncaster Naturalists' Society for many years, was awarded a British Empire Medal for her services to Nature Conservation at a ceremony in October 2013. She fought hard for the cessation of peat working on Thorne and Hatfield Moors, and continues her work as the Executive Secretary of the Thorne and Hatfield Moors Conservation Forum.

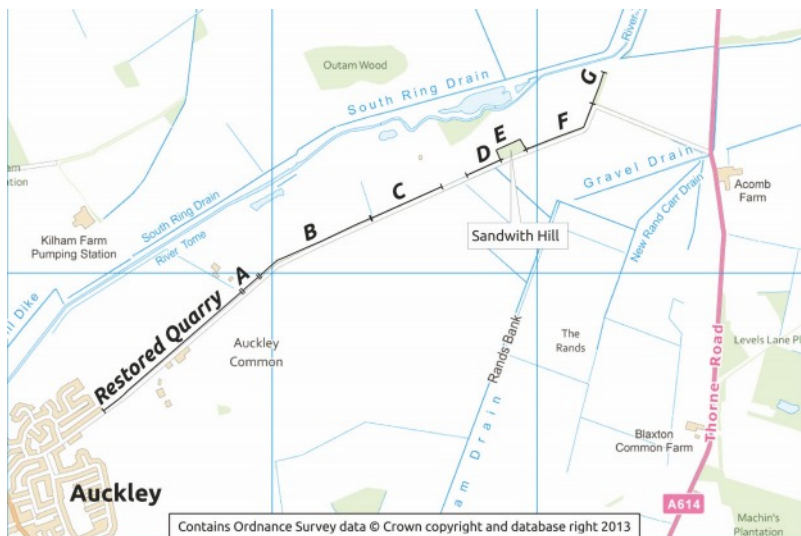


Figure 1: Hedgerow sections surveyed in the Aukley Common survey. See page 133.



Figure 2: Plants found during the Aukley Common survey.

- a) Purging Buckthorn
- b) Black Bryony
- c) Viper's Bugloss.



Figure 3: Female Sparrowhawk with a large prey item. See page 142.

*P.Simmons*

Figure 4: Plant galls found during 2013. See page 148.

- a) Cottonwool gall on an Oak catkin
- b) A micro-moth galler on Great Willowherb
- c) *Aculops macrotrichus*, a midge galler on Hornbeam
- d) Ramshorn gall on an Oak bud

*T.Higginbottom*



a



b



c



d



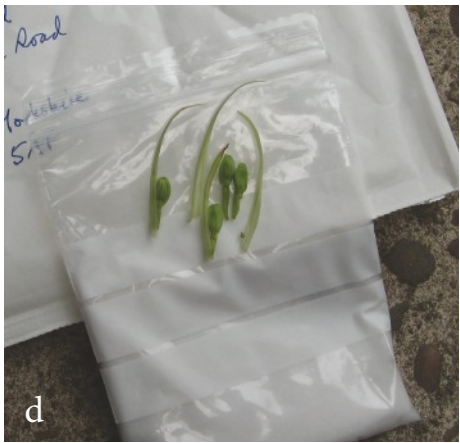


Figure 5: The Doncaster Lizard orchid. See page 153.

- a) An individual flower
- b) The developing seed pod
- c) The pollen clusters
- d) Samples ready for the post

*L.Hill*



Figure 6: a) A section of the New Junction Canal between Braithwaite and Sykehouse. See p162. *J.Simmons*  
 b) A Sedge Warbler, found in 4 of the last 5 years. *P.Simmons*

Figure 7: Activities of the Society . See page 171.

a) Discussing the wildlife at Lindholme  
 b) A True-Lover's Knot moth at Lindholme *J.Simmons*



# The strange case of the headless lizard

Louise Hill

## Chapter 1 The Mysterious Arrival

In June 2011 Tim Bailey and Cassie Williams of the YWT made the chance discovery of the first-ever recorded occurrence of the nationally-rare Lizard Orchid *Himantoglossum hircinum* in South Yorkshire. This botanical marvel is an exotic sight more-commonly seen on the continent. It occurs in Kent and Cambridgeshire but is very rarely seen in the North of England.

The discovery prompted the following comment from Geoffrey Wilmore, BSBI Vice County Recorder for VC62: *“This is truly a remarkable find. Apart from one very historical record (probably over 100 years ago) in N. Yorkshire - VC 62, there have never been any records whatsoever for Yorkshire for Lizard Orchid. It is, without doubt, the most significant regional record for at least the last 30 years, in fact since Orchis simia turned up briefly in VC61 in the 1980s.”*

Understandably, the precise location of the plant was kept under wraps but a general location was provided in a very last minute addition to The South Yorkshire Plant Atlas. It was a prestigious dot on the map for any county atlas and, quite rightly, a photograph of this striking flower was included in the book which was launched at Doncaster Museum later in that year.

The plant flowered the following year but the season was unkind. The very wet and cool summer meant that the slugs took their toll. The lower leaves were lost and the flower spike was a very poor specimen compared to the previous year. No ripe seed pods were seen in either of the two years after the plant was found.

The location of the plant, on the edge of a footpath, was always a cause for concern. An attempt was made to find out who owned and, more importantly, managed the verges of the path but to no avail. This inability to advise the relevant landowner or manager was an important aspect of this case.

## Chapter 2 The Severance Package

During a recreational stroll around the area on the 6<sup>th</sup> June 2013, Dr Colin Howes came upon a very sorry sight; the freshly-decapitated flower head of the Lizard Orchid, cut down in its prime less than a day, or possibly even just hours, before. The damage appeared to have been done by a ride-on mower and, in all likelihood, was an entirely accidental and inadvertent act, but one which may have serious consequences for the plant.

Close questioning of a nearby grounds maintenance team did not shed any light on the affair.... Keen to salvage some value from the unfortunate situation, Colin gathered up the severed flower head in the hope that some material might be used to provide a sample for DNA analysis.

Later that evening, I was presented with a sandwich box containing the flower spike wrapped in damp tissue. It was still turgid and had several developing flower buds. I sought advice from Geoffrey Wilmore who directed me to Professor Richard Bateman of Kew who has been researching the genetics of British *Himantoglossum* populations. Several developing flower buds and bracts were placed in a sachet of desiccant and were duly sent to him. It is hoped that this material may be analysed in the future. I sought advice from Professor Bateman on whether it might be possible to keep the flower alive until it seeds. In reply, Professor Bateman made the following comments: "*Looking at your photo, I think that the plant is insufficiently advanced to set seed. However, it will indeed be self-fertile, and by the time their ovaries swell, the spikes do seem to be potentially independent of the rootstock, so it just might be worth the long-odds attempt at pollination. Good luck!*"

### **Chapter 3 Intensive Care**

Ever the optimist, I decide to attempt to keep the flower alive. For the next few weeks I tended the flower spike, standing it outside in a deep vase, changing its rainwater daily and adding a few grains of 'Phostrogen' plant food to the water. Fortunately the stem included several lower leaves which I hoped would continue to photosynthesise.

To my delight, the spike did continue to thrive. One by one the remaining flower buds developed and I was able to record the unfurling of the long tongue or labellum which give the flower its scientific name. The flowers were fully open by the 27<sup>th</sup> June so I placed the vase beside a Southern Marsh Orchid that I have growing beside my garden ponds in the hope that a visiting pollinator might visit the open flowers.

A visit to the original location of the orchid was made on the 30<sup>th</sup> June to see if the plant had sent up any new growth. It was very difficult to locate the plant as no green rosette leaves were evident. Eventually I found the hollow stump of the severed stem, brown and shrivelled with few signs of living material.

By the 4<sup>th</sup> July there was no sign of pollination having occurred so I thought I'd better help the process along by removing the pollinia and fertilising the two flowers by hand. During this delicate procedure, which requires close inspection of the flower using a magnifying glass and a steady hand wielding a cocktail stick, I discovered why the orchid's scientific name is *hircinum* – it really does smell of goats! Despite the rather unpleasant odour, I persevered and managed

to remove the pollinia and transfer some of the pollen grains to the stigma. Removing the pollinia took some effort and I wonder which native invertebrates would have the strength to remove these during natural pollination processes.

#### **Chapter 4 A Happy Event**

Success!! By the 13<sup>th</sup> July it was obvious that the ovary had started to swell and the labellum had shrivelled. I did hope that the remaining flower buds might continue to develop but they had been too badly damaged by the mower.

The next problem was the task of keeping the flower stalk alive whilst the seed pod ripened. With daily water changes and the addition of plant food, this was achieved. The lower leaves gradually turned brown and I had to keep cutting off the lower section of stem to prevent rot. Like the Gingerbread Man of the childrens' story, by the end of the summer the stem was nearly 'three quarters gone' through gradual amputation until the stem was only an inch high. I placed the plant on an indoor window and continued to water until the surviving stem tissue had turned brown and threatened to spread to the seed pod. At this point I stopped watering and dried the seed head over the winter.

In January 2014 the seed pods were completely dry and, when crushed, were found to contain a large number of very fine seeds. Hopefully these are viable. It remains to be seen whether the cutting of the stem has killed off the main plant.

#### **Chapter 5. Many Happy Returns?**

I intend to spread some of the seeds around the site of the original plant. Orchids are notoriously fickle and require a fungal associate in the soil in order for the seeds to germinate. Despite the precarious location of the 'mother' plant, it is the only guaranteed location where the fungus must be present. Another batch of seed has been spread next to the marsh orchid beside my pond. Others, I might scatter to the winds. So keep you eyes open! – there may be a lizard popping up near you.

As for solving the decapitation mystery, perhaps that's a case for Sherlock Holmes.....

For photographs of the original plant and stages in its care, see the front cover and Figure 5, centre pages.

# A study of Carp at Cusworth Lakes

Colin Howes

Data collected during the 1960s and early 1970s for a survey of fresh water fish of the Doncaster region showed that Cusworth Park Lakes supported a wide range of fish species including the following ten species (Bunting *et al.* 1974).

Three-spined Stickleback *Gasterosteus aculeatus*

Roach *Rutilus rutilus*

Perch *Perca fluviatilis*

Tench *Tinca tinca*

Bream *Abramis brama*

Common Carp *Cyprinus carpio* and varieties Leather Carp and Mirror Carp

Eel *Anguilla anguilla*

Rudd *Scardinius erythrophthalmus*

Chubb *Leuciscus cephalus* (ephemeral introduction).

Wels Catfish *Silurus glanis* (ephemeral introduction).

As children, the three Jackson brothers, Glen, Garry and Andrew, were keen young anglers. Glen became an enthusiastic Carp specialist, making detailed records of the specimens he caught in the lakes at Cusworth Country Park.

The Common Carp at Cusworth were in three forms, 'Common', 'Mirror' and 'Leather' but Glen only reported catching the normal Common form with its entire and regular patterned complement of body scales and the rather striking Mirror Carp, so called because its few large and patchily distributed body scales were thought to resemble mirrors. This genetic mutation does not seem to inhibit growth: indeed many British record fish have been Mirror Carp. Their patchy scaling makes each fish unique and individually identifiable, leading to the specialist carp angling fraternity referring to most UK Mirror Carp over 40lb by individual nicknames. The lack of body scales in the Mirror Carp is widely believed to be due to selective breeding by monks managing monastery fish ponds in order to make the fish easier to prepare for the table.

In 1987 the Cusworth Carp became the subject of Glen's successful school GCSE project, a copy of the results being lodged with the environmental records files at Doncaster Museum. What made Glen's project particularly significant was that during 1984, 85, 86 and 87 each fish he caught was carefully weighed, recorded and released. This made it possible to examine the weight range of the Cusworth population and more particularly to monitor the mean annual weight increments.

Figure 1 shows that during the study years of 1984 to 1987, 256 specimens (167 Common Carp and 89 Mirror Carp) were caught and weighed. The weights ranged from 1lb to 17lbs, the mean weight for the total four year sample was 6.15lb (Common Carp 6.05lb, Mirror Carp 6.34lb).

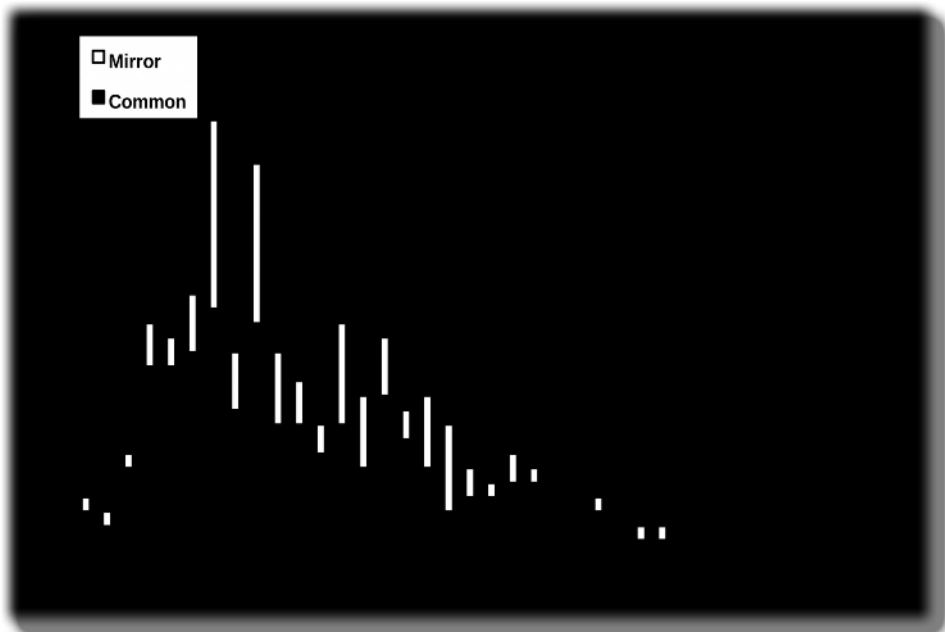


Figure 1: Weight range and weight distribution of Common and Mirror Carp forms in Cusworth Lakes (based on 256 captures monitored 1984-1987).

An indication of breeding and initial weight increment was indicated by examining the weights of young fish in the 1lb to 2.5lb weight categories each year (see Table 1).

Table 1: Recruitment and growth of young fish

Weight	1984	1985	1986	1987
1lb	0	2	1	0
1.5lb	1	1	0	0
2lb	0	1	4	1
2.5lb	0	4	6	3

In calculating the mean weight for each year, Figure 2 shows a progressive increase from 5.46lb to 6.57lb over the four year study. However, it also showed that the rate of increase was slowing from 6.6% to 3.9% per annum. Despite anglers providing considerable supplementary food by ground-baiting, the slowing rate of weight increment may have been indicative of the limitations of the lakes to support such a demanding biomass.

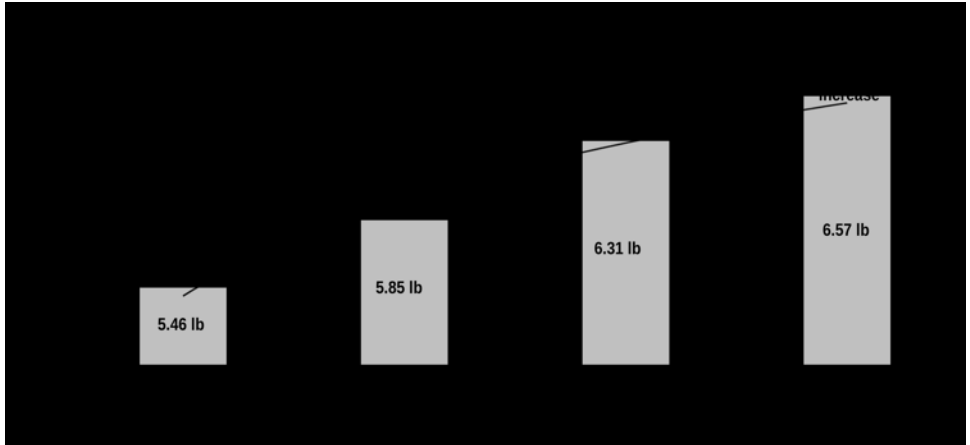


Figure 2: Showing a) the annual increase in the mean weight of Carp and b) the slowing rate of % annual increment from 1984 to 1987.

I would like to thank Glen Jackson for donating a copy of his project to Doncaster Museum and Carolyn Dalton Doncaster MBC Museum Manager for permission to research and publish the data.

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# Doncaster Lakeside spiders have a ‘website’ in the spotlight

Colin A. Howes

## Introduction

Although spiders aren't everyone's cup of tea, the ones in residence under the road bridge which carries Lakeside Boulevard over the entrance to the Lakeside 'Marina' (SE595014), have turned out to be one of Lakeside's wildlife highlights.

It is a waterside species, not of trees, bushes and water plants but of the built environment, preferring concrete, brickwork and metal structures and is particularly attracted to modern outdoor light fittings. In fact it is perfectly designed for the Lakeside environment.

Our spider has the rather unwieldy scientific name *Larinioides sclopetarius* but I think we could more appropriately call it the 'Security light' spider (Though it is also known as the Bridge Spider – *Ed.*).

## Species description

Related to the orb-web spinning *Aranea* spiders, it has a similar body shape to the familiar 'Garden' or 'Cross' Spider *A. diadematus*. It has a distinctly velvety appearance, and the dark markings of the head, carapace and abdomen are conspicuously highlighted by clear white, characteristically angular, outlining (Jones 1983 & Roberts 1995).

## Status, distribution and behaviour

In Britain it is described as very locally distributed throughout England and Wales and generally rather uncommon (Jones 1983 & Roberts 1995). Across Yorkshire, Clifford Smith (1982 & 1985) described it as uncommon, being recorded from only eight 10km squares (SE/14; 42; 50; 61; 63; 64; 65; 71). These are mainly in lowland regions, six being within the Humber Head Levels natural area, three of which are in the Doncaster region. The most significant site apart from Lakeside is the rather splendid 160m long aqueduct carrying the New Junction Canal over the river Went and its adjacent soak drains (SE/6418; 6518) (Howes 1999).

The most noticeable populations at Lakeside are on the series of lighting panels either side of the bridge underpass. Here the very dense and tough webs are set to snare the millions of aquatic insects like mosquitoes, and mayflies which emerge from the water and are immediately attracted to the adjacent lights. The strong air flows, amplified by the funnelling effect of the bridge structure will also concentrate an aerial plankton of insects across the toughened webs. Similar insect-festooned webs can be seen on the promenade lighting around the lake

and the flood lights of the lofty Lakeside hotels and office blocks. Since such high air velocity is likely to destroy the webs of most other orb-web builders, the particularly tenacious silk of *L. larinioides* probably accounts for why this species dominates in these situations. It may also indicate a potential industrial application for the silk.

Although active all year round, they are more numerous and more active in mid to late summer. On 6 August 2012 there were approximately 200 adults occupying webs around and above the rows of lights which illuminate the bridge underpass, with dozens of cocoons protecting the eggs of the next generation, tightly attached to the underside of the concrete bridge structure.

How these recently built urban buildings and structures are so rapidly colonised is fascinating. The tiny 'spiderlings', freshly emerged from their cocoons, position themselves in a strong air-flow, they then extrude a filament of silk into the wind (like a kite), then let go. The wind disperses these little aeronauts to serendipitously colonise new structures down-wind. This technique is called 'ballooning'.

Most species of spiders build their own webs and woe betides any other spider that comes near ... even courtship has its hazards. These spiders are quite different and if disturbed will move from web to web without attracting aggression from their neighbours. Although colonial spiders do occur, this is extremely rare in the arachnid world.

Though the rather splendidly patterned females can grow to 14mm in length, the extremely scarce males (less than 1% of the population) are quite puny and insignificant ... know the feeling!

Reports and images of the fascinating wildlife at Doncaster Lakeside Park is featured in the very attractive website of the Lakeside Wildlife Action Group: <http://lakesidewildlifeactiongroup.weebly.com/>

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# Mouse tales

## Sheila Hill

Any one who has kept small rodents as pets will be aware that they are considerably more intelligent and resourceful than you thought they were, as the following accounts will demonstrate.

Years ago, before Louise (your Illustrious President) and her brother left home, we had a prolonged contest with a mouse which nearly resulted in victory for the mouse. This mouse had probably been brought into the house in a sack of potatoes dug up from our allotment. The potatoes were stored in an old bath which stood in the extension at the back of our house. The mouse was heard fidgeting about in the bath so the potatoes were emptied one by one (all five sacks of them). No mouse, just chestnut shells and droppings. Round one to the mouse. Emptying all of the many boxes in the extension failed to reveal the mouse so, lacking a mouse trap of any kind, we decided to improvise a trap and leave it overnight. The trap consisted of a bucket baited with food and with a piece of wood leaning against it to act as a ladder. A piece of polythene with a hole in the middle was stretched over the top. The idea was that the mouse would run up the ladder, slide down the polythene, fall into the bucket and become trapped. That was the idea.

What actually happened was pretty near the idea, except for the ending. A microphone with headphone was rigged up to monitor events from upstairs, and very soon the mouse was heard to rustle over the polythene and fall into the bucket. Satisfied with success, we then fell asleep. In the morning we went to view the prisoner, and found no mouse and no bait. Round two to the mouse. The next night the bucket was replaced by a glass bottle and the next morning there was the mouse, trapped at last! It was left in the bottle whilst the other mouse-hunters were summoned to view the catch. We all arrived two minutes later to find no mouse and no bait. Houdini had done it again! Round three to the mouse. The next night the bottle was left as before and in the morning no mouse and no bait. Round four to the mouse. That bottle was replaced by a bottle with a narrower neck into which the mouse declined to go. The next night saw the same bottle in place but with a bell on a piece of cotton hanging over the mouth of the bottle. At midnight the bell rang for the start of round five and we all leapt into action. The inevitable result was that too many hunters spoiled the catch, and the mouse escaped again! After an indescribably hilarious few minutes it was caught in a box, and the dented pride of *Homo sapiens* was restored to normal. I think that bearing in mind that the mouse had out-witted us four times it won the contest on points.

Ten years ago I discovered that we had an extended family of house mice living just outside the back door. They were so fascinating to watch, especially when young mice appeared, that they were left to get on with their lives unmolested. The inevitable happened and a mouse was spotted in the house sprinting across the floor. It was eventually cornered in the kitchen and the door was quickly closed, with me on the other side. The mouse then demonstrated an astonishing ability to dislocate its joints by squeezing under the door through a gap only just big enough to accommodate a 'Bic' pen. It re-assembled itself and went on its way, until it was eventually caught and ejected from the house.

The third encounter with a mouse involved Andrew, Louise's brother. A mouse had taken up residence in his loft and he had been using humane traps to catch it but with no success. Each time the mouse evaded capture but stole the bait. The trap was then baited again. Somehow the trap became tipped onto its side closing its snap-action door in the process, trapping the bait but not the mouse. The canny mouse saw that this new position needed different tactics and skilfully gnawed a hole in the corner of the trap from the outside, ate the bait and left the scene. It must be one of the few mice who have ever gnawed their way into a mouse-trap!

All this mouse behaviour seems to prove that it isn't the size of the brain that matters but what you do with it. In this case it was a single-minded approach which won the day for the mouse, aided by our under-estimation of the adversary.



## Breeding birds along the New Junction Canal

### Joyce Simmons

Over the past 5 years we have carried out surveys as part of the British Trust for Ornithology's Waterways Breeding Bird Survey. They involve walking from Braithwaite north to Sykehouse Lock (4km) along the New Junction Canal and recording all birds seen. We do this twice per year, in April/May and May/June, preferably with visits at least 6 weeks apart. The counts are given in Table 1.

Although at first glance the straight cut of the canal, with its rigid sides and neat towpath, looks an unlikely habitat for birds, we have found an astonishing

number of species - 69 so far - and regularly around 45 in a single visit. Not that all will breed right beside the water, some are just using the canal as a motorway. These species include Canada and Greylag Geese, Black-headed Gulls, Shelduck, Cormorant and waders such as Oystercatchers. Grey Herons only come for the fish and breed colonially elsewhere. Some species, such as Wheatear, are on passage to their breeding grounds.

The status of breeding birds is monitored countrywide by birdwatching volunteers and professionals, and birds which have declined significantly have been given a conservation concern designation (Eaton *et al.*, 2009). Amber status indicates a decline of 25% in the last 25 years, and Red status indicates a decline of 50% in the last 25 years. A high proportion of the birds present in our survey area have Red or Amber status, indicating how important this damp and scrubby habitat is for so many species.

The towpath runs along the west side of the canal and is used by fishermen, cyclists and walkers. For much of the length there is a 5 metre high hawthorn hedge with a reedy/brambly ditch beyond, with ponds surrounded by bushes and trees. Further away are grazed fields with high hedges and mature trees. The east side is undisturbed willow and hawthorn scrub (see Figure 6a, centre pages). The excellent habitat leads to a huge number of breeding migrants - Whitethroats, Lesser Whitethroats, Chiffchaffs, Willow Warblers, Blackcaps and the occasional Garden Warbler all competing to sing louder than the rest. Garden Warbler, however, has been absent for the past 2 years.

The relatively low number of tits may not be indicative of low populations, they are very difficult to observe in the dense hedges. Therefore song becomes a very important identifier and explains why Wren numbers vary so much between visits - almost all those recorded are singing males. This applies to many other species as well, as breeding warblers and other birds may only sing for a few days after arrival and between broods. The damp meadows of the surrounding area support small numbers of breeding Curlew and Lapwings. These are mainly identified by their calls and only occasionally by sight as the high hedge restricts vision to the side of the canal.

We have been particularly pleased to see Cuckoos and Turtle Doves, both of which have declined severely in recent years in our area. In 2010 it was thrilling to watch 2 male cuckoos battle loudly in song as they flew in and out of the branches of a large oak. The winner joined a female who gave her fluting call. No doubt the likely prey of Dunnocks or Meadow Pipits were not so thrilled.

Turtle Doves are prized members of the list. Their breeding numbers in Britain are drastically declining, so we look for them eagerly each year. In 2013 we heard 3 males singing on our early visit, but saw no trace of them on our later

visit. This can be interpreted as that they moved on elsewhere, or that we just failed to see them. We can only hope it was the latter.

Each year we add new species to the list. There have been 3 new raptors in the last couple of years - Buzzard, Hobby and Sparrowhawk. Sparrowhawk is probably resident, but may not particularly be on the increase. Buzzard and Hobby are following national trends; the Buzzard has spread from the west, and the Hobby is now breeding further north, with several nesting records in our area. It is pleasing to add Kingfisher to the list, though the lack of high banks beside the waterway means that nesting must be away from the canal, perhaps beside one of the many ponds on the west side, which are undisturbed.

The eastern side of the canal has been included in the Humberhead Levels Environmental Action Zone, and hopefully this will increase the area of wet meadows and other high-quality bird habitat. The western side already has a good deal of land (eg that owned by the Burnet and the Carstairs Trusts) which is under some form of environmental management and stewardship.

We will continue our yearly visits, and will report to *The Doncaster Naturalist* on future trends.

Table 1. New Junction Canal WBBS counts 2009-2013

	BoCC* Status	2009		2010		2011		2012		2013	
		Early Apr	Late May	Early May	Late Jun	Early Apr	Late Jun	Early May	Late Jun	Early May	Late Jun
Black-headed Gull		15	25	14	18	16	01	06	12	09	24
Blackbird		2	10	6	5	20	10	1	5	2	16
Blackcap		18	24	24	20	26	19	34	24	16	18
Blackcap		11	10	9	9	15	6	12	7	9	5
Blue Tit		4	1	3	16	9	13	12	5	1	12
Bullfinch	A	3	7	1		4	4	4	5		
Buzzard							2			1	
Canada Goose				2				1			
Carrion Crow		16	17	17	14	21	4	23	17	22	22
Chaffinch		10	15	9	7	6	12	13	10	1	3
Chiffchaff		6	11	9	15	20	8	16	11	8	12
Coal tit									1		
Collared Dove		4	4	2	1	2	4	5		3	
Common Tern									1		4
Coot			3	6	4	6	5	3	4		
Cormorant			1		2		1		3	1	2
Cuckoo	R		2	2	4		4	1	2	2	
Curlew	A	3	2	4	3	3	3	4	3	1	3
Dunnock	A	5	4	7	1	7	5	9	4	3	5
Feral Pigeon				1	7						1

		2009		2010		2011		2012		2013	
Garden Warbler			3	2	1	1	1				
Goldfinch		9	8	4	6	9	8	15	14	5	
Great Spotted Woodpecker					1	1	1	1	2		
Great Tit		8	2	2	5	5	7	16	1	1	6
Green Woodpecker	A	1		3		1					
Greenfinch		4	1	2	3	4		3		1	
Grey Heron		1		1	1	1	1	4	2		2
Greylag Goose		2		2		4	1	8	2	6	2
Hobby											1
House Martin	A	4	13	19	19	5	20	7	41	8	44
House Sparrow	R	4	12	11	5	2	7	2	8	8	3
Jackdaw				6		2		1	1	1	7
Jay		4		2			4	1	1		
Kingfisher											1
Kestrel	A	1	5	2		2	1		2	1	1
Lapwing	R		1		1		1				
Lesser Black-backed Gull					2				7		
Lesser Whitethroat				5	2	3	5	2	3	2	1
Linnet	R	3	8	14		10	5	13	9	6	4
Long-tailed Tit		1	1	3			2	3	1	2	
Magpie		3	5	5	10	11	6	5	14	3	8
Mallard	A	26	32	34	15	21	27	9	21	25	11
Meadow Pipit	A	2	2	2	3	2	1		1		1
Mistle Thrush	A						1				
Moorhen		10	9	4	5	8	5	4	4	3	5
Mute Swan			2	2	1	2	2	1			2
Oystercatcher	A			1							
Pheasant		19	9	3	9	17	6	10	9	7	14
Pied Wagtail		2	1	2		1	1			2	3
Red-legged Partridge							1				
Reed Bunting	A	2	4	6	3		2	2		2	7
Robin		6	6	3	4	7	5	10	4	8	4
Rook								20	12	4	15
Sedge Warbler			1	2			4				1
Shelduck	A	2	2								
Skylark	R	1		1	2	3		2	3	1	
Song Thrush	R	4	2	3	4	2	1	2	3		3
Sparrowhawk										1	
Starling	R	6	27	4	23	2	1	10	3	3	9
Stock Dove	A			1	4	3	3	2	3		6
Swallow	A	1	18	6	9	2	7	9	6	13	11
Swift	A			1			4		5		5

		2009	2010	2011	2012	2013					
Tree Sparrow	R			2	4	1					
Turtle Dove	R	5		3				4	3		
Wheatear							1				
Whitethroat	A	15	23	10	5	14	19	17	16	18	
Willow Warbler	A	20	26	22	14	30	25	20	17	11	15
Wood Pigeon		39	23	22	22	37	35	50	29	17	32
Wren		16	22	9	23	10	9	18	21	13	16
Yellowhammer	R	5	3	4	9	8	3	5	3		4
		40	44	52	45	45	52	46	48	41	44
								Ave. no. of species/yr = 45.7			

\*Birds of Conservation Concern: A=Amber, R=Red (Eaton *et al.*, 2009)

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## A few things you may not know about songbirds

### Sheila Hill

The information in this account has been taken from *Mayhew's London* written by Henry Mayhew and published in 1851.

Over 150 years ago London was a lot smaller and quite rural at its edges. It was densely populated and its inhabitants had to use every means possible to procure a living. Many men used to walk the streets selling an astonishing range of goods, amongst which were caged songbirds. The birds were caught in the country areas by bird-catchers who then sold them to the bird-sellers. Many birds did not survive for long, about one third died soon after capture. Bullfinches were popular because they could be trained to become 'piping' bullfinches. This training had to be started when the birds were very young. They were kept unfed in a darkened room so that they would be alert, then the trainer would play notes on a bird-organ. Eventually the birds began to imitate the notes and they were then fed and allowed light as a reward. The lessons were repeated until they learned to pipe a tune which they would repeat for the rest of their lives.



Bullfinches were not the only birds taken for selling. The number of birds taken for selling in London alone in one year is quite astonishing. How the figures quoted below were obtained is not explained. It seems rather unlikely that bird-sellers kept meticulous records of the number of birds which passed through their hands. The numbers involved must indicate a large reservoir of birds in the wild.

	Number caught in one year
Linnets	70000
Bullfinches	30000
Goldfinches	70000
Chaffinches	15000
Greenfinches	7000
Nightingales	Small number
Robins	3000
Thrushes	35000
Blackbirds	28000
Larks (singing)	60000
Larks (for eating)*	324000

\*These birds were not taken by London bird-catchers but were supplied, 'table-ready', from Cambridgeshire.

In addition to the sale of caged birds there was another drain on the bird population in the form of the trade in birds' nests complete with eggs. One young trader listed 26 species of birds whose nests he sold. In summer he also sold Slow worms, Adders, Effets (lizards), Frogs ('For the French -- they eats them'), Hedgehogs (for killing black beetles) and Snails (for birds and the French). In winter he sold wild flowers and roots and much other plant material.

This trader was a conservationist's nightmare. He was also a source of much information on the nesting habits of birds. He knew where and when to find them and how many eggs they laid. He knew a lot about any creature which could be sold. It seems no nest was safe from him, even nests high in trees. The nest which he found hardest to find was that of the Bottle-tit (Long-tailed Tit). He was not without sympathy for the birds whose nests he took. He regretted his actions, but it was his living.

The section of the book which deals with the bird-catchers and sellers, and vendors of the local flora and fauna, is very informative on the way the wildlife living in close proximity to London was exploited by the local population.

# Tickhill Castle's herbal armoury

Colin A. Howes

Of the flowering plants currently naturalised or previously recorded at Tickhill Castle, an unusually high proportion are introduced aliens known to have some culinary or medical application. It is therefore likely that they represent survivals from earlier (possibly very much earlier) herb gardens, the products of which would have been important to the health and welfare of the castle inhabitants.

The presence of plants, whose medical properties were believed to promote the healing of broken bones, flesh wounds, burns and bruises, or assist in the relief of pain, may throw some light on the lifestyle and activities of the inhabitants during more brutal phases in the castle's history. Indeed it could be claimed that the herb garden was as vital an element in the defensive strategy of the castle as were the moat, defensive walls, arms and a reliable supply of food and water.

The following notes are predominantly based on quotations by Nicholas Culpeper (b. 18 October 1616 – d. 10 January 1654) from his *Complete Herbal* (1653). There are also additional notes by the botanist and author John Hill (1716-1775) from his *The Family Herbal* (1772) and C.F. Layel in her *Herbal Delights* (1937).

## ***Acanthus mollis* Bears Breeches**

A native of southern Europe from Spain to Thrace. It was referred by Culpeper as '*Brank Ursine*'.

"... the leaves being boiled and used in clysters (enemas), are excellent good to mollify the belly and makes the passage slippery: The decoction drunk inwardly is excellent and good for blood flux: The leaves being bruised or rather boiled and applied like a poultice, are very good to unite broken bones and strengthen joints that have been put out: The decoction of leaves or roots being drunk or applied to the place is excellent good for the King's evil that is broken and runneth: There is scarce a better remedy to be applied to such places as are burnt with fire ... It helps the cramp and the gout: It is excellent good in hectic fevers and restores radical moisture to such as are in consumptions."

## ***Asarum europaeum* Asarabacca**

A European species possibly native in Britain. It was formerly much grown for its medicinal properties.

"This herb being drunk not only provoketh vomiting but purgeth downwards and by urine also purgeth both cholera and phlegm." ... "I shall desire ignorant people to forbear the use of the leaves: The roots purge more gently and may prove more beneficial to such as have cancers or old putrified ulcers or fistulas upon

their bodies ...”

### ***Chrysanthemum parthenium* Feverfew**

Probably a native of south-eastern Europe, Asia Minor and the Caucasus. It was cultivated as a febrifuge and was much used by headache and migraine sufferers in the days before Aspirin.

“... if they will be pleased to make use of the herb boiled in wine and drink the decoction, it cleanses the womb, expels the afterbirth and does a woman all the good she can desire of an herb.” ... “The decoction thereof made with sugar or honey put thereto is used by many with good success to help the cough and suffering of the chest by colds: Also to cleanse the reins and bladder and helps expel the stones in them. The powder of the herb taken in wine with some oxymel (syrup of honey and vinegar), purges both cholera and phlegm and is available for those that are short winded ...”... “It is very effectual for all pain in the head coming of a cold, cause the herb being bruised and applied to the crown of the head ...”.

According to John Hill in 1772, it “... exceeds whatever else is known” in controlling the worst headache. It was highly regarded as a febrifuge, hence its popular name.

### ***Dianthus caryophyllus* Clove Pink**

A native of south-east Europe and North Africa.

The herbalist Mrs C.F. Layel in 1937 gives the following account “The old fashioned clove carnations were deep purple in colour with a spicy aromatic smell of cloves. The leaves were greyish-green. So popular were these clove gilly flowers in the seventeenth and eighteenth centuries that they were used in soups, sauces, syrups and cordials. The flowers themselves decorated salads, were candied and preserved and were made into reviving vinegars and above all as ‘slops in wine’, floated in the drinks of betrothed couples, The carnations actually known as ‘Slops-in-Wine’ were a small variety of the clove gilly flower”.

### ***Morus nigra* Mulberry**

A native of western Asia.

“The ripe berries open the body and the unripe bind it, especially when they are dried and then they are good to stay fluxes, laxes and womens’ courses. The bark of the roots kills the broad worms in the belly. The juice or syrup made of the juice of the berries helps all inflammation or sores in the mouth or throat. The juice of the leaves is a remedy the bites of serpents and for those that have taken aconite. A decoction made of the bark and leaves is good to wash the teeth when they ache. The leaves stay the bleeding at the mouth or nose or the

bleeding of piles or of a wound if bound into the places.”

### ***Papava somniferum* Opium Poppy**

A native of southern Europe and cultivated for medical uses.

“Opium is nothing more than the milky juice of the plant concentrated into a solid form. It relaxes the nerves, abates cramps and spasmodic complaints”.

“It promotes perspiration but checks all evacuations and is good for stopping purging and vomiting.” “An overdose causes immoderate mirth or stupidity, redness of the face, swelling of the lips, relaxation of the joints, giddiness of the head, deep sleep accompanied by turbulent dreams and convulsive startings, cold sweats and frequently death.”

### ***Polygonatum multiflorum* Solomon’s Seal**

“The root is available for wounds, hurts and outward sores to heal and close up those that are green and to dry and restrain the flux of humours of the old ones. It stays vomiting, bleeding and fluxes in men and women. It stays joints and that do not stay firm when set and broken bones in any part of the body if the roots be bruised and applied.” ... “It dispels congealed blood that comes of blows, bruises etc., it also takes away the pain and black and blue marks that come from the same cause.”

### ***Ruscus aculeatus* Butcher’s Broom**

“The decoction from the root drank and a poultice made of the berries and leaves being applied are effectual in knitting and consolidating broken bones of parts out of joint.”

Further notes on the herbal/medicinal uses of plants growing at Tickhill Castle are in Elizabeth Fowler’s contribution (Some Plants of Historical Interest) in Hippisley-Cox, C.I. (1985) *Tickhill Castle, an Historical Summary and Interim Report on the Investigations 1984-5*. Doncaster Museum.

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# Butterfly mating puzzle

**Mick Townsend**

On 20th May 2013 at Thorpe Marsh Nature Reserve, and near to Stocking Copse, a female Green-veined White butterfly was attempting to attract a suitor by wafting her tail in the air. Perched on a Cuckoo Flower *Cardamine pratensis*, the larval food plant, it was over a minute before she attracted any attention and even then the male that approached seemed unsure of what to do, fluttering around uncertainly before closing in. I am not sure whether or not the male succeeded in mating because if there was any contact it was very brief, no more than half a second. In any case the female seemed unsatisfied as she continued to raise her abdomen alluringly.

Soon she attracted the attention of another male, but he was an Orange Tip. He zeroed in intently but quickly realised that she was not what he was looking for and flew off over the rest of the Cuckoo Flower colony. The Green-veined White continued to wave her abdomen and was still doing so when I left the scene.

Does anyone know how long is needed for successful mating? Is it possible that the mating was successful and if so do females seek multiple mates?



## President's Report AGM January 2014

**Louise Hill**

The Society has had another active year working with various other groups and organisations. I am pleased to report that membership is increasing and we now have 51 members.

We have held many of the regular field meetings such as the dawn chorus, bat hibernation visits to the Don Gorge, fungus forays and walks at Lakeside.

The society has provided assistance to others including a preliminary survey of Robin Wood (Bentley High Street Primary School), surveys at Cadeby and Conisbrough for the YWT Limestone Grassland Project and a visit to Crimpsall Island on the River Don in conjunction with the River Stewardship Company.

Several ad-hoc summer meetings have resulted in some very enjoyable outings and some good records (see Figure 7, centre pages). Fossil hunting on a local pit heap and butterfly walks in search of Purple Hairstreak at Ash Hill Farm and Thorpe Marsh were highlights for me.

Our Winter afternoon meetings at the Museum have been very successful in attracting higher attendances, especially speakers with cross-subject appeal such as Dean Lomax with his talk on Fossils of the Whitby Coast. Even our evening meetings at Parklands Club can have up to 18 members in attendance for the President's Address!

We have made good use of our DNS display board to advertise the Society at various events such as the South Yorkshire Natural History Day at Treeton, the Yorkshire Naturalists' Union Conference in York, the Yorkshire Nature Festival at Potteric Carr and the Lindholme Summer Fete.

Members of the Society have been doing their bit to make sure the rarities of Doncaster are put on the map, including several South Yorkshire Red Data Book Plant days at Austerfield, Cusworth and Potteric. I have also been doing my bit to encourage interest in recording grasses and sedges by hosting two identification workshops for YWT Volunteers.

The Society has been represented at meetings of various other groups including Doncaster Biodiversity Action Partnership, the Revival project on the River Don, the Local Records Centre Steering Group and the Local Sites Partnership. Members of the Society also feature in the newly-formed group set up to advise on management of Lindholme Old Moor on Hatfield Moor.

We've also been keeping up to date with the latest alien arrivals with two members attending the Invasive Plants Workshop held at the Hepworth Gallery in Wakefield in the Spring. Many members also attended the YNU Spring Conference in York despite the blizzards.

Members of the Society are continuing with the task of cataloguing the natural history archives at the Museum and assisting with some natural history enquiries. Several members also took part in some practical volunteering at Spurn Point on one of the post storm-surge litter pick events.

Thanks are due to all the Committee for their assistance throughout the year and to members for supporting the activities of the Society. Also, many thanks are due to those who contributed articles to 'The Doncaster Naturalist' and especially to Paul Simmons for preparing this latest edition.

**The Doncaster Naturalist** is produced by the Doncaster Naturalists' Society on an occasional basis. This issue has been edited and designed by Paul Simmons, and printed by Process Print Solutions, Knottingley.

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

President: Louise Hill

Secretary: Sheila Hill

Recorder: Pip Seccombe

The Society's website is: **[www.doncasternaturalhistorysociety.co.uk](http://www.doncasternaturalhistorysociety.co.uk)**  
and contact can be made via: **[doncasternats@talktalk.net](mailto:doncasternats@talktalk.net)**

### **Events programme**

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

All are welcome to attend.

### **Membership**

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

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Cover photo: Doncaster's first Lizard Orchid. See p153 to follow its rescue from an untimely beheading. *Photo: T.Prosser*

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