

# Invertebrate Survey of Eynsham Abbey Fishponds 2014



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# Invertebrates of Eynsham Abbey Fishponds

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Front page: A Leopard Moth *Zeuzera pyrina* photographed at a light trap set up at Eynsham

Abbey Fishponds on 18 July 2014

## Introduction



View of central area of Abbey Fishponds June 2014

National Grid Reference: SP 431089

County: Oxfordshire

Local authority: West Oxfordshire District Council

Parish: Eynsham

Area: c. 25 ha

Eynsham Abbey Fish Ponds were created in the 13th century by diverting the Chilbrook Stream. The Abbey buildings were completely destroyed after the Dissolution of the monasteries three centuries later. The original ponds have now almost completely filled in, and the pond basins are barely recognisable from the ground. The site is managed for conservation and recreation by Eynsham Parish Council.

## Objectives

The survey formed part of an ecological re-survey of Eynsham Fishponds, the first partial survey occurring in 2004. In this initial survey invertebrates were not included and as a result the present invertebrate survey is the first to be carried out. Only a restricted amount of funding for the survey was available and this necessarily limited the amount of time spent carrying out actual survey work on site. Rather than undertaking an all-inclusive invertebrate survey it was felt that a more focussed survey on specific invertebrate groups would be preferable.

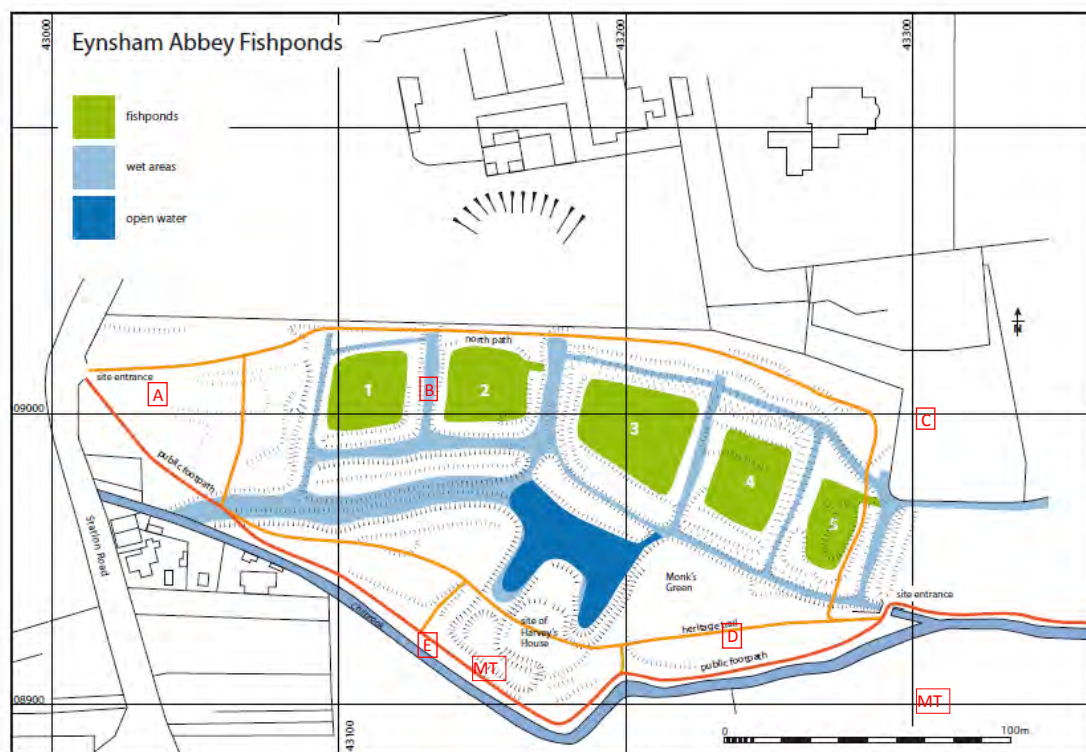
The main groups surveyed therefore have been moths and spiders – other invertebrates were recorded on an ad hoc basis as and when they were encountered during the different surveying techniques employed when surveying the spider fauna.

## Survey Methodology

5 locations for siting single pitfall traps were identified and set on 12 June 2014. Locations are marked on the site map below (A, B, C, D & E) and traps were emptied on 14 June. Time constraints meant that only one pitfall trapping session was possible and consequently the resulting captures were low.

2 full days (12 June and 5 Sept) were spent on site collecting, principally spiders. Suction sampling, and sweep netting were the main collecting methods employed with the occasional use of a beating tray on trees and shrubs.

Two moth traps were set up on the night of July 11<sup>th</sup> following the Foray Day. The locations of the traps are marked on the map below - MT.



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Site map showing location of pitfall traps (A-E) 12 – 14/6/14, and moth traps (MT) 11/7/2014

The Fishponds Foray day on July 18<sup>th</sup> was planned to include visits by groups of children from the local primary school to take part in some 'minibeast' hunts which I was asked to lead. As it turned the children did not appear and so very little collecting was done during the day as I was also involved in answering queries from visitors on spiders and invertebrates in general. The weather was extremely hot – too hot in fact for there to be

much insect and spider activity and the attempts made to collect with a sweep net yielded very few species.

## MOTHS



On the evening of the Fishponds Foray on Friday July 18<sup>th</sup> two moth traps were set up. One was the standard Robinson trap with the moths being attracted to a mercury vapour lamp and falling into an enclosed space within the trap underneath the lamp. The other consisted of a mercury vapour lamp set up on a stand standing on white sheets spread over the ground (see photo above).

In total 103 species were recorded (32 micro-moths and 71 macro moths) from the 2 traps. Considering that we had to stop trapping at around 0030 hrs due to the onset of rain this was a very good total for around 2½ hours of trapping. As some species do not fly until well after midnight we would have expected an increase in this total had we been able to continue trapping. The Abbey Fishponds site is in close proximity to many domestic gardens



containing a wide variety of plants, many of which will provide a food source for moth caterpillars. It is therefore perhaps not surprising that we recorded so many species. However, 2014 seems to have been a good year throughout the country for moths, the very warm weather during the early summer providing good, warm, sultry conditions at night which are ideal for moth trapping. No particularly rare species were recorded but to record over 100 species in just over a couple hours was impressive.



Female Black Arches moth *Lymantria monarcha*  
attracted to the light trap



## SPIDERS

52 species of spider were recorded. Many (almost half) were members of the largest family of UK spiders, the Linyphiidae, which formed the main component of the vacuum sampling survey method. The original fishponds areas were extremely difficult to access, due to the almost impenetrable vegetation, and only one collecting effort was made in this area each survey day attempting to use a sweep net to sample vegetation at virtually head height. I had expected to find a greater variety of species in this area but only 8 species were actually found. The dominance of the vegetation by Hairy Willowherb and Stinging Nettle not only made collecting very difficult but prevented any collection from the ground layer with the vacuum sampler. Both these plants are not known as 'good' for spiders and so it is probably not surprising that the number of spiders recorded from the fishponds themselves was so low.

One interesting habitat was the partially collapsed dry stone wall on the northern boundary of the site. The loose matrix of stone provided a habitat for spiders such as *Textrix denticulata*, not a common species in the south of the country being found more often further north, and *Segestria senoculata* – an attractively marked tube web spider.



*Textrix denticulata* – recorded  
from dry stone wall habitat

Other areas surveyed did not yield anything unexpected apart from one species of long-jawed spider *Tetragnatha nigrata*, a generally uncommon species found only in the southern half of the UK.

## OTHER GROUPS

Species from other invertebrate groups observed on survey visits

### **Longhorn Beetles**

*Leipus nebulosus* (12/6/14) NB - this species has recently been split into 2 but the paper describing this is not yet public.

### **Ladybirds (*Coleoptera* – *Coccinellidae*)**

7-spot ladybird *Coccinella 7-punctata* (5/9/14)

14-spot ladybird *Propylea 14-punctata* (5/9/14)

22-spot ladybird *Psyllobora 22-punctata* (5/9/14)

Kidney-spot ladybird *Chilocorus renipustulatus* (5/9/14)

Larch ladybird *Aphidecta oblitterata* (5/9/14)

### **Dragonflies and Damselflies (*Odonata*)**

Banded Demoiselle *Calopteryx splendens* (12/6/14)

Common Blue Damselfly *Enallagma cyathigera* (12/6/14)

Broad-bodied Chaser *Libellula depressa* (18/7/14)

### **Bush Crickets (*Orthoptera* - *Tettigoniidae*)**

Speckled Bush-cricket *Leptophyes punctatissima* (5/9/14)

### **Butterflies (*Lepidoptera* - *Satyridae*)**

Speckled Wood *Parage aegeria* (12/6/14)

## Recommendations

During the 2 full days surveying the Abbey Fishponds it became apparent that the biodiversity of the site was not great either botanically or entomologically. The domination of the original fishponds areas by Hairy Willowherb and Stinging Nettle reduces the botanical diversity of these areas substantially and consequently the entomological interest is limited. To counter this, the introduction of some native wild flower mix and native shrub/tree planting could dramatically improve not only the botanical diversity but also through the introduction of a greater variety of food plants the invertebrate diversity.

As the archaeological value of the site has already been recognised and acted upon through the restoration of one of the original fishponds it would be sensible to continue this restoration programme. As well as providing more archaeological data the excavation of any of the remaining original fishponds could provide material to create some landscaping in other parts of the site (rather than excavated material being removed entirely from the site). This landscaping could then be planted up with a native wild flower seed mix and native shrubs and trees (if possible clearing as much as possible of the existing vegetation prior to any excavation work). In seeking to carry out more restoration of the fishponds area the additional benefit to the biodiversity of the site as outlined here may possibly make any funding bid more attractive to potential grant giving bodies. Landscaping could also involve some habitat creation to introduce some habitat niches not found on the site at present.

Other options to improve the habitat variety and/or biodiversity

- To encourage solitary bee and wasp activity it would be well worth establishing a few patches of bare ground by simply lifting small patches of turf to expose the underlying soil, particularly in areas open to the sun where there may be the possibility of the bare ground drying out.
- Ground moving invertebrates will shelter under shaded areas on the ground surface. Artificial shelter areas can be established by laying down small sections of corrugated metal sheeting or old pieces of carpet on the ground in selected locations around the site. These would provide an undisturbed retreat for a range of invertebrates particularly beetles and spiders. The metal sheeting also is a favourite

shelter site for slow worms and grass snakes – particularly if located in areas exposed to direct sunlight.

- Where grassland mowing is part of the management programme small areas of grassland should not be mown and should be left to die off naturally thereby maintaining some of the vegetation structure required by those invertebrates requiring specific overwintering sites in dead meadow and grassland vegetation. In addition if grass cutting is carried out by scythe, piles of cut grass left on site to dry out can create an attractive habitat for ground moving spiders such as the *Lycosidae* – wolf spiders.

## Moth Records Eynsham Abbey Fishponds 18 July 2014

Code	Taxon	Vernacular
161	<i>Zeuzera pyrina</i>	Leopard Moth
366.1	<i>Cameraria ohridella</i>	
411	<i>Argyresthia goedartella</i>	
424	<i>Yponomeuta evonymella</i>	Bird-cherry Ermine
464	<i>Plutella xylostella</i>	Diamond-back Moth
647	<i>Hofmannophila pseudospretella</i>	Brown House Moth
937	<i>Agapeta hamana</i>	
946	<i>Aethes rubigana</i>	
972	<i>Pandemis heparana</i>	Dark Fruit-tree Tortrix
989	<i>Aphelia paleana</i>	Timothy Tortrix
1011	<i>Pseudargyrotoza conwagana</i>	
1036	<i>Acleris forsskaleana</i>	
1064	<i>Celypha rosaceana</i>	
1076	<i>Celypha lacunana</i>	
1104	<i>Endothenia quadrimaculana</i>	
1108	<i>Lobesia abscisana</i>	
1159	<i>Rhopobota naevana</i>	Holly Tortrix
1183	<i>Epiblema foenella</i>	
1201	<i>Eucosma cana</i>	
1247	<i>Grapholita funebrana</i>	Plum Fruit Moth
1260	<i>Cydia splendana</i>	
1292	<i>Calamotropha paludella</i>	
1293	<i>Chrysoteuchia culmella</i>	Garden Grass-veneer
1304	<i>Agriphila straminella</i>	
1328	<i>Schoenobius gigantella</i>	
1331	<i>Acentria ephemerella</i>	Water Veneer
1338	<i>Dipleurina lacustrata</i>	
1344	<i>Eudonia mercurella</i>	
1376	<i>Eurrhynx hortulata</i>	Small Magpie
1388	<i>Udea lutealis</i>	
1405	<i>Pleuroptya ruralis</i>	Mother of Pearl
1413	<i>Hypsopygia costalis</i>	Gold Triangle
1470	<i>Euzophera pinguis</i>	
1640	<i>Euthrix potatoria</i>	Drinker
1648	<i>Drepana falcatoria</i>	Pebble Hook-Tip
1651	<i>Cilix glaucata</i>	Chinese Character
1653	<i>Habrosyne pyritoides</i>	Buff Arches
1654	<i>Tethea ocularis</i>	Figure of Eighty
1673	<i>Hemistola chrysoprasaria</i>	Small Emerald
1692	<i>Scopula immutata</i>	Lesser Cream Wave
1702	<i>Idaea biselata</i>	Small Fan-footed Wave

1708	<i>Idaea dimidiata</i>	Single Dotted Wave
1713	<i>Idaea aversata</i>	Riband Wave
1724	<i>Xanthorhoe spadicearia</i>	Red Twin-spot Carpet
1732	<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar
1738	<i>Epirrhoe alternata</i>	Common Carpet
1742	<i>Camptogramma bilineata</i>	Yellow Shell
1790	<i>Triphosa dubitata</i>	Tissue
1792	<i>Philereme transversata</i>	Dark Umber
1811	<i>Eupithecia tenuiata</i>	Slender Pug
1830	<i>Eupithecia absinthiata</i>	Wormwood Pug
1858	<i>Chloroclystis v-ata</i>	V Pug
1887	<i>Lomaspilis marginata</i>	Clouded Border
1906	<i>Opisthograptis luteolata</i>	Brimstone Moth
1922	<i>Ourapteryx sambucaria</i>	Swallow-tailed Moth
1931	<i>Biston betularia</i>	Peppered Moth
1961	<i>Campaea margaritaria</i>	Light Emerald
1991	<i>Deilephila elpenor</i>	Elephant Hawk-moth
1997	<i>Furcula furcula</i>	Sallow Kitten
2007	<i>Pheosia tremula</i>	Swallow Prominent
2011	<i>Pterostoma palpina</i>	Pale Prominent
2019	<i>Clostera curtula</i>	Chocolate Tip
2030	<i>Euproctis similis</i>	Yellow Tail
2031	<i>Leucoma salicis</i>	White Satin
2033	<i>Lymantria monacha</i>	Black Arches
2035	<i>Thumatha senex</i>	Round Winged Muslin
2038	<i>Nudaria mundana</i>	Muslin Footman
2044	<i>Eilema griseola</i>	Dingy Footman
2047	<i>Eilema complana</i>	Scarce Footman
2050	<i>Eilema lurideola</i>	Common Footman
2064	<i>Phragmatobia fuliginosa</i>	Ruby Tiger
2077	<i>Nola cucullatella</i>	Short Cloaked Moth
2089	<i>Agrotis exclamationis</i>	Heart and Dart
2092	<i>Agrotis puta</i>	Shuttle-shaped Dart
2102	<i>Ochropleura plecta</i>	Flame Shoulder
2107	<i>Noctua pronuba</i>	Large Yellow Underwing
2109	<i>Noctua comes</i>	Lesser Yellow Underwing
2110	<i>Noctua fimbriata</i>	Broad-bordered Yellow Underwing
2111	<i>Noctua janthe</i>	Lesser Broad-bordered Yellow U'wing
2128	<i>Xestia triangulum</i>	Double Square-spot
2155	<i>Melanchra persicariae</i>	Dot Moth
2160	<i>Lacanobia oleracea</i>	Bright-line Brown-eye
2173	<i>Hadena bicruris</i>	Lychnis
2192	<i>Mythimna conigera</i>	Brown-line Bright Eye
2193	<i>Mythimna ferrago</i>	Clay

2198	<i>Mythimna impura</i>	Smoky Wainscot
2278	<i>Acronicta megacephala</i>	Poplar Grey
2279	<i>Acronicta aceris</i>	The Sycamore
2291	<i>Craniophora ligustri</i>	Coronet
2297	<i>Amphipyra pyramidea</i>	Copper Underwing
2312	<i>Ipimorpha subtusa</i>	Olive
2318	<i>Cosmia trapezina</i>	Dun-bar
2321	<i>Apamea monoglypha</i>	Dark Arches
2322	<i>Apamea lithoxylaea</i>	Light Arches
2336	<i>Apamea ophiogramma</i>	Double Lobed
2341	<i>Mesoligia furuncula</i>	Cloaked Minor
2343.9	<i>Mesapamea secalis</i> agg.	Common Rustic agg.
2352	<i>Eremobia ochroleuca</i>	Dusky Sallow
2381	<i>Hoplodrina alsines</i>	Uncertain
2382	<i>Hoplodrina blanda</i>	Rustic
2450	<i>Abrostola tripartita</i>	Spectacle
2477	<i>Hypena proboscidalis</i>	Snout
2489	<i>Zanclognatha tarsipennalis</i>	Fan-foot



**Spiders and other invertebrates collected from pitfall traps (14/6/14), suction sampling and other collecting methods (12/6/14 & 5/9/14)**

	Grassland VS	Fishpond 4	Car park	Collapsed dry stone wall on N. boundary	PITFALL 1	PITFALL 2	PITFALL 3	PITFALL 4	PITFALL 5	Grassland & pond edge	Collapsed dry stone wall on N. boundary	Yew branches NE Corner	Eastern path	Fishpond 4	Southern path & Car Park
	12.6.14				14.6.2014					5.9.2014					
<b>ARANAEA: Spiders</b>															
SEGESTRIIDAE															
Segestria senoculata				1f							1m 1f				
THERIDIIDAE															
Episinus angulatus	1f		1f										1m		
Anelosimus vittatus													1f		
Theridion pictum														1f	
Platnickina tinctoria		2f	1m												
Neottiura bimaculata	2m 6f		1f												
Enoplognatha ovata	2m		1m							1f			1m 1f		2f
LINYPHIIDAE															
Walckenaeria nudipalpis					1f								1f		
Gnathonarium dentatum	2m 2f														
Dismodicus bifrons	1m 5f														
Hypomma bituberculatum	3f														
Maso sundevalli	2m 1f														
Pocadicnemis pumila	2f														

	Grassland VS	Fishpond 4	Car park	Collapsed dry stone wall on N. boundary	PITFALL 1	PITFALL 2	PITFALL 3	PITFALL 4	PITFALL 5	Grassland & pond edge	Collapsed dry stone wall on N. boundary	Yew branches NE Corner	Eastern path	Fishpond 4	Southern path & Car Park
	12.6.14				14.6.2014					5.9.2014					
Oedothorax gibbosus	1m 5f														
Oedothorax retusus										1m			1m		
Lophomma punctatum	1m 1f														
Micrargus herbigradus	2f														
Meioneta saxatilis	1m 2f		1f										1f		
Bathyphantes approximatus	3m 2f														
Bathyphantes gracilis	2m														1f
Bathyphantes parvulus	1f														
Kaestneria pullata	2m 1f														
Floronia bucculenta										1m					
Leothyphantes minutus										1m					
Tenuiphantes tenuis	2m	1f								6m 1f			6m 1f		
Tenuiphantes zimmermani				1f											
Tenuiphantes flavipes	1f														
Palliduphantes pallidus	1m		1f				1m						1m 1f		
Linyphia triangularis												1f			1m
Neriere clathrata	5f		2f							1f			3f		
TETRAGNATHIDAE															
Tetragnatha montana		1m	1m										1m	1m	
Tetragnatha nigrita	1m														
Pachynatha clerki										1m			1m		1m
Metellina segmentata										2m 2f		2m 2f			

	Grassland VS	Fishpond 4	Car park	Collapsed dry stone wall on N. boundary	PITFALL 1	PITFALL 2	PITFALL 3	PITFALL 4	PITFALL 5	Grassland & pond edge	Collapsed dry stone wall on N. boundary	Yew branches NE Corner	Eastern path	Fishpond 4	Southern path & Car Park
	12.6.14				14.6.2014					5.9.2014					
ARANEIDAE															
Araneus diadematus										1m		1 imm			1m
Larinoides cornutus		1m	1f												
Araniella cucurbitina													1f		
Zygiella x-notata															1m 1f
LYCOSIDAE															
Pardosa amentata		1f						1m 1f							
Trochosa terricola								1m							
Pirata hygrophilus						1m	1m						2m		
PISAURIDAE															
Pisaura mirabilis										1 imm					
AGELENIDAE															
Textrix dentulata				1f											
Tegenaria silvestris											2f				
DICTYNIDAE															
Dictyna uncinata														1m 3f	

	Grassland VS	Fishpond 4	Car park	Collapsed dry stone wall on N. boundary	PITFALL 1	PITFALL 2	PITFALL 3	PITFALL 4	PITFALL 5	Grassland & pond edge	Collapsed dry stone wall on N. boundary	Yew branches NE Corner	Eastern path	Fishpond 4	Southern path & Car Park
	12.6.14				14.6.2014					5.9.2014					
AMAUROBIDAE															
Amaurobius similis				1f											
CLUBIONIDAE															
Clubiona reclusa		1f													
Clubiona phragmitis	1m														
Clubiona lutescens	2m														
PHILODROMIDAE															
Philodromus cespitum		1m 6f													
THOMISIDAE															
Xysticus ulmi	1m	3f												1m	
<b>PSEUDOSCORPIONES</b>															
<b>False Scorpions</b>															
Chthonioidea															
Chthonius ischnocheles			1												

	Grassland VS	Fishpond 4	Car park	Collapsed dry stone wall on N. boundary	PITFALL 1	PITFALL 2	PITFALL 3	PITFALL 4	PITFALL 5	Grassland & pond edge	Collapsed dry stone wall on N. boundary	Yew branches NE Corner	Eastern path	Fishpond 4	Southern path & Car Park
	12.6.14				14.6.2014					5.9.2014					
<b>ISOPODA: ONISCIDEA</b>															
<b>Woodlice</b>															
PHILOSCIIDAE															
Philoscia muscorum			1				2								
ONISCIDAE															
Oniscus ascellus			5												
PORCELLIONIDAE															
Porcellio scaber			4				6								
<b>COLEOPTERA: Beetles</b>															
CARABIDAE - Ground Beetles															
Pterostichus madidus					1		1		1						
Nebris brevicollis					1										
Agonum marginatum								1							
STAPHYLINIDAE - Rove Beetles															
Quedius fuliginosus									1						

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## References

Gregory, S. 2009 *Woodlice and Waterlice (Isopoda: Oniscidea & Asellota) in Britain and Ireland*. Field Studies Council

Harvey, P.R., Nellist, D.R. & Telfer, M.G. (eds) 2002. *Provisional atlas of British spiders (Arachnida, Araneae), Volumes 1 & 2*. Biological Records Centre.

Kirby, P. 1992 *Habitat Management for Invertebrates: a practical handbook*. Royal Society for the Protection of Birds

Luff, M. L. 2007 *RES Handbook, Volume 4, Part 2: The Carabidae (Ground Beetles) of Britain and Ireland* Field Studies Council