The Spiders of Potteric Carr Nature Reserve,
Doncaster, South Yorkshire (vice-county 63)

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Introduction

Potteric Carr is a mosaic of woodland, grassland and wetland habitats located immediately to the south-east of Doncaster, South Yorkshire, occupying just over 200 ha (site centre national grid reference: SE 597 002). The site is a Nature Reserve managed by the Yorkshire Wildlife Trust (YWT) and just over half (by area) is designated as a Site of Special Scientific Interest (SSSI), primarily for its wetland communities although the citation also refers to the unusual limestone flora that has developed on the old railway ballast and the diverse invertebrate and avian faunas present (English Nature, 1983).

As a consequence of its statutory status, its proximity to an urban area, the visitor facilities provided by the YWT and the diversity of habitats present, a wide variety of naturalists have historically studied the flora and fauna. Whilst the majority of visitors record the bird species, frequent attention is paid to the less well recorded groups, notably fungi and invertebrates. Over the years, these visitors have recorded a wide range of taxa that have included an estimated hundred (or so) rare or notable species (e.g. Red Data Book) (Bateson, 2009).

Having visited the Reserve on a number of occasions myself during 2007 and 2008, curiosity was awakened as to the Reserve's potential spider diversity. In early 2009, permission was obtained from the YWT (as the landowner) and Natural England (as the site is statutorily protected), to undertake a study of the spiders on the Reserve. As a consequence of undertaking this study, additional historical information on the spider species recorded on the Reserve since the early 1970s was acquired. This article therefore summarises the results of the 2009 study and all the historical records known to the author, providing a description of the spider fauna recorded on this flagship YWT Reserve.

Methodology

The 2009 fieldwork was undertaken at various locations within the designated (SSSI) section of the Reserve. Unimproved acid grassland, deciduous woodland, marginal vegetation adjacent to an artificial drainage channel and pioneer vegetation on former arable land were studied thoroughly (see Table 1) using a variety of methods including pitfall traps, sweep-netting, beating vegetation, and water-netting (to search for *Argyroneta aquatica*).

Table 1: Locations of pitfall traps (in 2009), with comments on habitat studied at Potteric Carr.

Location	Grid Reference	Tetrad	Habitat
Black Carr Field	SE 5988 0029	SE 50V	Unimproved acid grassland grazed by rabbits, surrounded by woodland (Black Carr Wood). Scattered immature pedunculate oak (*Quercus robur*) trees and silver birch (*Betula pendula*)

Location	Grid Reference	Tetrad	Habitat
			are encroaching within this grassland. A single specimen Douglas-fir (*Pseudotsuga menziesii*) was present until autumn 2009. Four pitfall traps were set, two in an area fenced off to protect the sward and flowering plants, in particular devil's-bit scabious (*Succisa pratensis*) from the intensive rabbit grazing and two outside the fenced area, to compare any differences in the fauna.
Black Carr Wood	SE 6004 0024	SE 60A	An oak dominated deciduous woodland with some Scot's pine (*Pinus sylvatica*). Four pitfall traps were set in deep leaf-litter at this location.
Huxter Well Marsh	SK 6039 9976	SK 69E	Former arable fields that are now being managed for the benefit of lowland waders (e.g. lapwing (*Vanellus vanellus*)). The substrate is a mix of soil and small stones with a sparse vegetation of fine-leaved grasses and scattered forbs. Four pitfall traps were set in this location.
Loversall Delph	SE 5898 0033	SE 50V	An artificial drain (delph) with a diverse aquatic and marginal vegetation located close to birch-oak woodland. Four pitfall traps were set in this location.

Collecting by other methods, was also undertaken elsewhere, notably Loversall Field (SE 588 004), Childers Wood (SE 594 006), Corbett's Field (SE 599 004) and Sedum House (SE 589 006).

Historical records of spiders collected from Potteric Carr were obtained from two sources. An 18 month study was undertaken between May 2001 and September 2002 that intensively surveyed a short stretch of Loversall Delph between SE 58 00 and SE 59 00 (Bateson, 2002) that included the area subsequently surveyed in 2009. This study recorded a total of 1,310 species of plants, fungi and animals, including 94 species of spider (Bateson, 2002).

The second source is the British Arachnological Society Spider Recording Scheme (BASSRS) dataset. Data up to the end of 2001 is available to the public on the National Biodiversity Network website (http://data.nbn.org.uk/) with updates periodically published online. The dataset associated with Potteric Carr SSSI lists 48 species of spider that were recorded before 2009. However, the complete BASSRS dataset lists a total of 119 species (including the aforementioned 48 species) recorded within the Reserve's boundaries between 1970 and 2008 (i.e. including areas outwith the SSSI boundary).

Aims

The original aim, before the historical records were made available, was to survey the Reserve for spiders and to submit a report to the YWT and Natural England describing the fauna recorded and any interesting species of note. It was also agreed that the area of unimproved grassland (Black Carr

Field) would have a particular focus to elucidate any relevant information informing the Reserve's site management plan that was, in February 2009, being updated. However, during the year, a number of historical sources were made available to the author providing additional information on the spiders recorded at Potteric Carr. As these sources are not readily available, all species historically recorded have been included in the final species list in Appendix 1 to this report; and where appropriate, reference to these noteworthy species have been included in the text.

Results

A total of 97 species of spider were recorded on the Reserve in 2009 by all methods. Previous surveys had recorded a total of 119 species, of which 70 species alone were recorded in vegetation alongside Loversall Delph (Bateson, 2002). The 2009 survey added an additional 37 species to the Reserve list, which now stands at 156 species. Thus 59 species not captured in 2009, have previously been taken on the Reserve. Appendix 1 lists all the species recorded and the various locations where they have been caught.

The 97 species captured reflects the thorough survey effort employed during 2009, 71 % of all samples in this decade were taken during this year; and 59 % of all samples since 1970 (see Table 2 for data). However, it is probably also a reflection of the habitat diversity present within the Reserve as the variation in physical structure in the various vegetation communities will be a factor in determining spider diversity. The continuous capture of new species over a number of years suggests that there are still additions to be made. For example, 38 % of the species collected in 2009 had not previously been recorded; the cumulative species total for each decade has yet to level off (i.e. reach an asymptote); and the high percentage of new species recorded in each decade (1980s (69 %); 1990s (50 %); and 2000s (63 %)), all suggest that there are more species present on the Reserve.

Table 2: Spider recording by decade (1970 – 2000) © British Arachnological Society

Period	Number of Samples	Number of Species	Cumulative Total
1970s	47	36	36
1980s	67	54	73
1990s	14	10	78
2000s	599	123	156
2009 (present study)	*430*	*97*	-
Total	**727**	**156**	

Of the 97 species recorded in 2009, one (*Steatoda phalerata*) was a new record for vice-county 63. A single male was captured in a pitfall trap in Huxter Well Marsh in May. This is an uncommon, though widespread species in the UK with records in England, Wales and Scotland (Harvey, Nellist and Telfer, 2002). Within Yorkshire, Smith (1982) did not note this species in any of the vice-counties (61 – 65), though this would appear to be an oversight as the national database has a record for this species at Strensall Common, near York (VC 62 [north-east Yorkshire]), from June 1962 with Clifford Smith as the recorder! There are two subsequent records in Yorkshire (both VC 64 [mid-west Yorkshire]). *Steatoda phalerata* is a ground dwelling species that actively hunts

ants. It is typically recorded in low vegetation in dry grassland, heathland or sand dunes (Harvey, Nellist and Telfer, 2002).

A further 14 species recorded at Potteric Carr can be considered to be uncommon and these are listed, with comments, in Table 3.

Table 3: Uncommon species recorded at Potteric Carr (1970 – 2009) © British Arachnological Society

Family	Species	Comments
Theridiidae	*Enoplognatha thoracica*	Three other sites in VC 63 have recorded this species. Smith (1982) described it as "...*far from common*". The species is widespread in southern Britain but records north of the Mersey are scattered (Harvey, Nellist and Telfer, 2002).
Linyphiidae	*Ceratinella scabrosa*	Only recorded at Thorne and Hatfield Moors nature reserves outside Potteric Carr in VC 63. Smith (1982) referred to records for Cleveland (VC 62) but none since about 1920. Harvey, Nellist and Telfer (2002) describe it as a local and rather rare species, preferring woodland. It was recorded in vegetation adjacent to Loversall Delph, which is close to woodland, during the survey undertaken by Bateson (2002).
	Ceratinopsis stativa	Recorded at two other sites in VC 63. Not recorded by Smith (1982). This is considered to be an uncommon species nationally, associated with dry grasslands (Harvey, Nellist and Telfer, 2002). This species was recorded with some regularity in Black Carr Field in 2009.
	Porrhomma convexum	Known only from two sites outside Potteric Carr in VC 63, but widespread in Yorkshire (Smith, 1982). The species is widely scattered in Britain, with a preference for damp situations (Harvey, Nellist and Telfer, 2002), which conforms to the habitat where it was recorded.
	Bathyphantes setiger	Outside Thorne and Hatfield Moors nature reserves, this is only recorded at Potteric Carr in VC 63. A rare species in Yorkshire according to Smith (1982), this species has a westerly distribution in Britain. Though widespread in Wales, it is uncommon elsewhere (Harvey, Nellist and Telfer, 2002). It has a preference for wet areas.
	Floronia bucculenta	Known from four sites in VC 63 in addition to Potteric Carr and fairly frequent within

Family	Species	Comments
		the Vale of York (Smith, 1982). Nevertheless, this is an uncommon and infrequent species; Yorkshire being at the edge of its range in Britain where it could be considered as reasonably widespread (Harvey, Nellist and Telfer, 2002).
Araneidae	*Araneus marmoreus* var. *pyramidatus*	Known from only two other sites outside Potteric Carr (Thorpe Marsh Yorkshire Wildlife Trust reserve and Hatfield Moors. The nominate variant *marmoreus* has also been recorded from Thorne Moors and Rushy Moor, Doncaster (August 1982) so potentially, it could be present at Potteric. Smith (1982) notes populations within the Vale of York and nationally, this species is recorded in eastern England with the majority of records south of Yorkshire (Harvey, Nellist and Telfer, 2002).
Lycosidae	*Pirata piscatorius*	Known from only Potteric Carr and Thorne Moors in VC 63, Smith (1982) only knew it from some heathland sites within the Vale of York. Nationally, this species is present in East Anglia (the Fens) and is widespread in Wales, favouring very wet areas (Harvey, Nellist and Telfer, 2002). Within Potteric Carr, it was recorded in vegetation associated with Loversall Delph (Bateson, 2002).
Dictynidae	*Lathys humilis*	This is a scarce species in VC 63, known from five other tetrads. Within Yorkshire, most records are after 1978 and are associated with the Vale of York (Smith, 1982). Nationally, this species becomes scarce north of the Wash and Yorkshire is more-or-less at its northern limit in Britain (Harvey, Nellist and Telfer, 2002).
Clubionidae	*Clubiona neglecta*	Recorded from three other sites in VC 63 and infrequently elsewhere in Yorkshire (Smith, 1982). Nationally, this species has a patchy distribution with some areas (e.g. Thames Basin and Merseyside) suggesting a frequent distribution whereas other areas (e.g. Midlands, south-west, southern and north-east England) it is scarce (Harvey, Nellist and Telfer, 2002). It is a species of sparsely vegetated open habitats.
Thomisidae	*Philodromus praedatus*	Still classified as a nationally scarce (Nb) species although in reality, this species is

Family	Species	Comments
		probably overlooked (Harvey, Nellist and Telfer, 2002). It is still only recorded in four sites in VC 63 and Smith (1982) made no reference to this species. Nationally, it is predominantly recorded in the south-east of England (Harvey, Nellist and Telfer, 2002). However, it is now known to inhabit small oak trees in open situations and the scattered small oak in Black Carr Field looked promising during the initial visit in February 2009. A single female was beaten from such a situation in June 2009, and confirmed by dissection by Peter Harvey.
	Diaea dorsata	This attractive green crab-spider was beaten from oak in Black Carr Field and represents the second ever record for VC 63, the first being in 1866, in Bradford. Smith (1982) notes that this was the first spider ever to be formally recorded in Yorkshire (by Dr. R. H. Meade). Nationally, this is a southern species with very few records north of the Wash (Harvey, Nellist and Telfer, 2002).
	Xysticus erraticus	Potteric Carr is one of only two sites in VC 63 where this species is known, the other being Wharncliffe Wood (recorded in June 1987). Smith (1982) knew of only five recent records before the early 1980s in Yorkshire. Nationally, this has a widespread but patchy distribution, favouring grassland and heathlands (Harvey, Nellist and Telfer, 2002). At Potteric, it was recorded in Black Carr Field.
Salticidae	*Talavera aequipes*	Potteric Carr is the only known site for this jumping-spider in VC 63 and was last recorded in May 1970 (by Colin Howes). Other sites in Yorkshire are in the north-east (Smith, 1982). Nationally, this is a predominantly southern species although it is fairly frequent in the Midlands, favouring open, sunny habitats with plenty of bare ground (Harvey, Nellist and Telfer, 2002).

Of all the areas studied, particular attention was given to the habitats in Black Carr Field (SE 598 002), an area of unimproved acidic grassland occupying 1.2 ha, surrounded by deciduous woodland (Black Carr Wood) on three sides and a narrow woodland strip and the Mother Drain

separating this site from Huxter Well Marsh to the south. Within the grassland are scattered early-mature pedunculate oak, sapling silver birch and a specimen Douglas-fir; the latter was felled in autumn 2009 due to collapsing main branches, which was considered a safety issue. A total of 57 species were recorded within this habitat community, of which 18 species were beaten from the scattered oaks and on one occasion, the Douglas-fir, while 41 species were collected in the pitfall traps or swept from the grassland itself. Of the uncommon species referred to in Table 3, six species (*Enoplognatha thoracica*, *Ceratinopsis stativa*, *Lathys humilis*, *Philodromus praedatus*, *Diaea dorsata* and *Xysticus erraticus*) were recorded in this habitat community. Other species recorded such as *Drassodes cupreus*, *Haplodrassus signifer* and *Drassyllus pusillus* suggest that the grassland is a relic habitat as these species are associated with dry grassy heaths or calcareous (chalk) grassland (i.e. free-draining). The presence of notable fungi such as the yellow waxcap *Hygrocybe ceracea*, which requires unfertilised grassland, supports the assumption that this grassland is of conservation importance.

Within Black Carr Field, an area of the grassland (5 m x 5 m) was fenced off to prevent rabbits overgrazing the flora, resulting in a profusion of devil's-bit scabious. The Reserve management was considering fencing off other areas so a decision was made to locate two pitfall traps within the fenced off area and two outside, but both within the same grassland community, to investigate if this was having an effect on spider diversity or abundance. Although the sample size collected in 2009 was small ($n = 7$), applying the Mann-Whitney *U*-test (Fowler, Cowen and Jarvis, 1998) suggested that there is no significant difference in the medians (average) of either, the number of different species, or the variation in abundance between the unfenced and fenced areas ($U = 27.5$; $p > 0.05$). Therefore, it can be concluded that fencing off more areas will not have any significant effect on the ground-dwelling (epigeic) spider community present.

Loversall Delph was also surveyed in July 2009 for the presence of *Argyroneta aquatica*. Two females and an immature male were collected, confirming its presence. Bateson (2002) had previously recorded this species in his 18 month study in the Delph. Further studies elsewhere on the Reserve in similar habitat (well vegetated waterbodies) would be beneficial.

Finally, two species of spider (*Tetragnatha montana* and *Larinoides cornutus*) were collected at Potteric Carr that had been parasitised by an ichneumon wasp. The larvae were attached externally to the spider's abdomen, in each instance. The two spiders were sent, via the University of Manchester, to the University of Helsinki, Finland for identification (by Niclas Fritzén). The parasite on *T. montana* was identified as either *Acrodactyla carinator*, or *A. quadrisculpta* (Hymenoptera: Ichneumonidae, Pimplinae), it not being possible to be certain as to which. The species on *L. cornutus* was determined as *Polysphincta rufipes* (Hymenoptera: Ichneumonidae, Pimplinae).

Habitat Management Recommendations

Black Carr Field

The grassland with scattered silver birch saplings and early-mature pedunculate oak trees is likely to be a relic habitat of significant nature conservation importance, judging by some of the species recorded here. Management should maintain the mosaic of short-grazed and taller swards within

the grassland with rabbit-proof fencing. The scattered trees, in particular the early-mature oaks and birch saplings are also an important habitat feature in this setting and provide a different habitat to the more mature specimens within Black Carr Wood itself. A number of scarce spiders have been recorded here and the lack of similar habitat elsewhere on the Reserve is likely to mean that the spider community present here is probably not present elsewhere within the Reserve.

Huxter Well Marsh

This habitat community has only recently been developed from arable fields that have been brought in to conservation management since the mid-2000s. The vegetation structure is still developing and is currently a short grassland-type community, but with extensive bare ground to varying extents. The substrate, in the area studied, appears to consist of soil, small stones and other material that provide a microhabitat that was not observed elsewhere on the Reserve. Without intervention, this combination of short grassland, bare ground and exposed coarse substrate will vegetate over, reducing the community's value for certain spider species, and other invertebrates. Bare ground is an important, but yet overlooked habitat for many invertebrates and a scarce resource in natural environments (Key, 2000). It is therefore recommended that areas are periodically scarified or even returned to completely bare ground to re-start the seral succession, thus maintaining a continuum of this scarce habitat resource.

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Appendix 1: Spiders recorded at Potteric Carr (1970 – 2009)

Family	Species	Status	Historical Record	Loversall Field	Loversall Delph	Huxter Well Marsh	Black Carr Wood	Black Carr Field	Other Woodland	Buildings
Mimetidae	*Ero cambridgei* Kulczynski, 1911		H	x						
Theridiidae	*Steatoda phalerata* (Panzer, 1801)					x				
	Theridion sisyphium (Clerck, 1757)		H					x		
	Theridion impressum L.Koch, 1881							x		
	Theridion varians Hahn, 1833							x		
	Theridion tinctum (Walckenaer, 1802)							x		
	Neottiura bimaculata (Linnaeus, 1767)		H							
	Paidiscura pallens (Blackwall, 1834)		H					x		
	Enoplognatha ovata sens. str. (Clerck, 1757)		H	x				x		
	Enoplognatha thoracica (Hahn, 1833)						x	x		
	Robertus lividus (Blackwall, 1836)		H				x			
	Pholcomma gibbum (Westring, 1851)		H							
Linyphiidae	*Ceratinella scabrosa* (O.P.-Cambridge, 1871)		H							
	Walckenaeria acuminata Blackwall, 1833		H							
	Walckenaeria antica (Wider, 1834)						x	x		
	Walckenaeria cucullata (C.L.Koch, 1836)		H				x			
	Walckenaeria nudipalpis (Westring, 1851)		H							
	Walckenaeria unicornis O.P.-Cambridge, 1861		H							
	Walckenaeria kochi (O.P.-Cambridge, 1872)		H							
	Walckenaeria cuspidata Blackwall, 1833		H							
	Dicymbium nigrum (Blackwall, 1834)					x				
	Entelecara acuminata (Wider, 1834)							x		
	Moebelia penicillata (Westring, 1851)		H							
	Gnathonarium dentatum (Wider, 1834)		H							
	Tmeticus affinis (Blackwall, 1855)		H							

Family	Species	Status	Historical Record	Loversall Field	Loversall Delph	Huxter Well Marsh	Black Carr Wood	Black Carr Field	Other Woodland	Buildings
	Gongylidium rufipes (Linnaeus, 1758)		H							
	Dismodicus bifrons (Blackwall, 1841)		H							
	Hypomma bituberculatum (Wider, 1834)		H	x						
	Gonatium rubens (Blackwall, 1833)		H							
	Pocadicnemis pumila (Blackwall, 1841)		H							
	Pocadicnemis juncea Locket & Millidge, 1953		H			x	x	x		
	Oedothorax gibbosus (Blackwall, 1841)		H							
	Oedothorax fuscus (Blackwall, 1834)		H			x		x		
	Oedothorax agrestis (Blackwall, 1853)				x					
	Oedothorax retusus (Westring, 1851)		H			x		x		
	Oedothorax apicatus (Blackwall, 1850)					x				
	Ceratinopsis stativa (Simon, 1881)							x		
	Tiso vagans (Blackwall, 1834)		H				x	x		
	Tapinocyba praecox (O.P.-Cambridge, 1873)							x		
	Monocephalus fuscipes (Blackwall, 1836)		H		x		x			
	Lophomma punctatum (Blackwall, 1841)		H		x					
	Gongylidiellum vivum (O.P.-Cambridge, 1875)							x		
	Micrargus herbigradus sens. str. (Blackwall, 1854)		H					x		
	Erigonella hiemalis (Blackwall, 1841)		H		x			x		
	Savignia frontata Blackwall, 1833		H							
	Diplocephalus cristatus (Blackwall, 1833)		H							
	Diplocephalus permixtus (O.P.-Cambridge, 1871)		H							
	Diplocephalus latifrons (O.P.-Cambridge, 1863)		H		x		x			
	Diplocephalus picinus (Blackwall, 1841)				x		x			
	Araeoncus humilis (Blackwall, 1841)		H							
	Milleriana inerrans (O.P.-Cambridge, 1885)		H							
	Erigone dentipalpis (Wider, 1834)		H			x		x		

Family	Species	Status	Historical Record	Loversall Field	Loversall Delph	Huxter Well Marsh	Black Carr Wood	Black Carr Field	Other Woodland	Buildings
	Erigone atra Blackwall, 1833		H			x		x		
	Erigone promiscua (O.P.-Cambridge, 1872)					x				
	Prinerigone vagans (Audouin, 1826)		H							
	Leptorhoptrum robustum (Westring, 1851)		H							
	Drepanotylus uncatus (O.P.-Cambridge, 1873)		H							
	Porrhomma pygmaeum (Blackwall, 1834)		H							
	Porrhomma convexum (Westring, 1851)		H							
	Meioneta rurestris (C.L.Koch, 1836)		H			x				
	Meioneta saxatilis sens. str. (Blackwall, 1844)				x			x		
	Meioneta beata (O.P.-Cambridge, 1906)							x		
	Microneta viaria (Blackwall, 1841)		H		x		x			
	Centromerus sylvaticus (Blackwall, 1841)		H		x					
	Centromerus dilutes (O.P.-Cambridge, 1875)							x		
	Tallusia expert (O.P.-Cambridge, 1871)		H					x		
	Centromerita bicolour (Blackwall, 1833)		H							
	Centromerita concinna (Thorell, 1875)		H					x		
	Macrargus rufus (Wider, 1834)						x			
	Bathyphantes approximates (O.P.-Cambridge, 1871)		H							
	Bathyphantes gracilis (Blackwall, 1841)		H					x		
	Bathyphantes parvulus (Westring, 1851)		H							
	Bathyphantes nigrinus (Westring, 1851)		H		x					
	Bathyphantes setiger F.O.P.-Cambridge, 1894		H							
	Kaestnaeria pullata (O.P.-Cambridge, 1863)		H							
	Diplostyla concolor (Wider, 1834)		H		x		x			
	Floronia bucculenta (Clerck, 1757)		H							
	Stemonyphantes lineatus (Linnaeus, 1758)		H							
	Lepthyphantes alacris (Blackwall, 1853)		H							

Family	Species	Status	Historical Record	Loversall Field	Loversall Delph	Huxter Well Marsh	Black Carr Wood	Black Carr Field	Other Woodland	Buildings
	Lepthyphantes tenuis (Blackwall, 1852)		H					x		
	Lepthyphantes zimmermanni Bertkau, 1890		H				x			
	Lepthyphantes mengei Kulczynski, 1887		H							
	Lepthyphantes flavipes (Blackwall, 1854)		H		x		x	x		
	Lepthyphantes ericaeus (Blackwall, 1853)		H							
	Lepthyphantes pallidus (O.P.-Cambridge, 1871)		H							
	Helophora insignis (Blackwall, 1841)		H						x	
	Linyphia triangularis (Clerck, 1757)		H							
	Linyphia hortensis Sundevall, 1830						x			
	Neriene clathrata (Sundevall, 1830)		H		x		x			
	Neriene peltata (Wider, 1834)		H					x		
	Microlinyphia pusilla (Sundevall, 1830)		H							
Tetragnathidae	*Tetragnatha extensa* (Linnaeus, 1785)		H	x				x		
	Tetragnatha montana Simon, 1874		H					x		
	Tetragnatha obtusa C.L.Koch, 1837		H							
	Tetragnatha nigrita Lendl, 1886		H							
	Tetragnatha striata L.Koch, 1862		H							
	Pachygnatha clercki Sundevall, 1823		H		x	x				
	Pachygnatha degeeri Sundevall, 1830		H		x	x	x	x	x	
	Metellina segmentata sens. str. (Clerck, 1757)		H						x	
	Metellina mengei (Blackwall, 1869)		H					x		
	Metellina merianae (Scopoli, 1763)		H							
Araneidae	*Araneus diadematus* Clerck, 1757		H						x	
	Araneus quadrates Clerck, 1757		H							
	Araneus marmoreus var. pyramidatus Clerck, 1757		H						x	
	Larinioides cornutus (Clerck, 1757)		H	x				x		
	Nuctenea umbratica (Clerck, 1757)		H							x

Family	Species	Status	Historical Record	Loversall Field	Loversall Delph	Huxter Well Marsh	Black Carr Wood	Black Carr Field	Other Woodland	Buildings
	Araniella cucurbitina (Clerck, 1757)		H							
	Araniella opisthographa (Kulczynski, 1905)		H					x		
	Zygiella atrica (C.L.Koch, 1845)		H							
	Cyclosa conica (Pallas, 1772)							x		
Lycosidae	*Pardosa palustris* (Linnaeus, 1758)					x	x	x		
	Pardosa pullata (Clerck, 1757)		H			x	x	x		
	Pardosa prativaga (L.Koch, 1870)		H		x	x		x		
	Pardosa amentata (Clerck, 1757)		H		x	x	x			
	Pardosa saltans Töpfer-Hofmann, 2000				x		x	x	x	
	Alopecosa pulverulenta (Clerck, 1757)					x	x	x		
	Trochosa ruricola (De Geer, 1778)				x		x			
	Trochosa terricola Thorell, 1856				x	x	x	x		
	Pirata piraticus (Clerck, 1757)		H			x				
	Pirata hygrophilus Thorell, 1872		H		x					
	Pirata piscatorius (Clerck, 1757)		H							
Pisauridae	*Pisaura mirabilis* (Clerck, 1757)		H						x	
Tegenaridae	*Textrix denticulata* (Olivier, 1789)		H						x	
	Tegenaeria saeva Blackwall, 1844		H							
	Tegenaeria agrestis (Walckenaer, 1802)		H							
Cybaeidae	*Argyroneta aquatica* (Clerck, 1757)		H		x					
Hahniidae	*Antistea elegans* (Blackwall, 1841)		H							
Dictynidae	*Dictyna arundinacea* (Linnaeus, 1758)		H	x				x		
	Dictyna uncinata Thorell, 1856		H							
	Lathys humilis (Blackwall, 1855)							x		
Amaurobidae	*Amaurobius ferox* (Walckenaer, 1830)								x	
	Coelotes atropos (Walckenaer, 1830)		H							
Clubionidae	*Clubiona reclusa* O.P.-Cambridge, 1863		H							

Family	Species	Status	Historical Record	Loversall Field	Loversall Delph	Huxter Well Marsh	Black Carr Wood	Black Carr Field	Other Woodland	Buildings
	Clubiona stagnatilis Kulczynski, 1897		H						x	
	Clubiona phragmitis C.L.Koch, 1843		H							
	Clubiona neglecta O.P.-Cambridge, 1862		H							
	Clubiona lutescens Westring, 1851		H		x					
	Clubiona brevipes Blackwall, 1841							x		
Gnaphosidae	*Drassodes cupreus* (Blackwall, 1834)		H					x		
	Haplodrassus signifer (C.L.Koch, 1839)							x		
	Zelotes latreillei (Simon, 1878)					x	x			
	Drassyllus pusillus (C.L.Koch, 1833)				x		x	x		
	Micaria pulicaria (Sundevall, 1831)		H							
Zoridae	*Zora spinimana* (Sundevall, 1833)		H		x			x		
Philodromidae	*Philodromus aureolus* (Clerck, 1757)		H					x		
	Philodromus praedatus O.P.-Cambridge, 1871	Nb						x		
Thomisidae	*Tibellus oblongus* (Walckenaer, 1802)		H					x		
	Diaea dorsata (Fabricius, 1777)					x		x		
	Xysticus cristatus (Clerck, 1757)		H	x			x	x		
	Xysticus erraticus (Blackwall, 1834)							x		
	Xysticus ulmi (Hahn, 1831)		H	x				x		
	Ozyptila praticola (C.L.Koch, 1837)		H							
Salticidae	*Salticus scenicus* (Clerck, 1757)									x
	Salticus cingulatus (Panzer, 1797)							x		
	Neon reticulatus (Blackwall, 1853)		H							
	Talavera aequipes (O.P.-Cambridge, 1871)		H							
18	**156**	**1**	**119**	**8**	**25**	**21**	**27**	**57**	**10**	**2**

H = historical record

x = recorded in 2009