

# Pinkham Way: Preliminary Invertebrate survey 2014-2015

## 1. Introduction

I have known the Pinkham Way site for many years; during one or two visits in 1999 some casual spider searches were made in the open areas and some sweepnetting done. The result was a short list of spiders including two jumping spiders (Salticidae) which suggested that parts of the site at least would be worth further study. In early 2014 when I there was a campaign to conserve the site, since no invertebrate survey had been done I contacted the group and offered my services. This was accepted and this report relates to the survey conducted during the 12 months up to the end of February 2015.

As Recorder of Spiders for London I have been making invertebrate surveys for about thirty years; clients have included 16 London Boroughs, the Royal Parks, City of London Corporation etc. I am also National Recorder for Middlesex as well as the old county of London which means that my database holds the spider records for the whole London area (except for some adjacent parts of Essex). On the basis of this experience I hope to be able to relate observations or records of spiders in London to the regional and historical context.

In interpreting the results of the survey the following points should be borne in mind:

- (a) spider records everywhere are very patchy and even across the whole of London few sites have been intensively studied over an extended period.
- (b) few sites in Haringey have been subject to even the most elementary spider surveys
- (c) apart from woodland (both ancient and secondary) areas of natural habitat within the borough are limited - open spaces tend to be intensively managed parks or playing fields. Much of the remaining undisturbed land is railway land which has been generally inaccessible to ecologists, as a result of which there are very few records from these areas.

NB. The names of some common spiders have recently changed. Nomenclature is according to Merrett *et al.* 2014.

## **2. Materials and methods**

The survey as approved by North London Waste Authority has been limited to pitfall-trapping at five sites in the open vegetation areas in a semicircle from the (locked) gate, marked on the map as Area A. While other parts of the site are also of potential ecological interest, in particular the west-facing bank along the railway line which is the eastern boundary of the site, this survey was restricted to pitfall-trapping in Area A. A request to augment this with some sweepnetting during the summer months was refused.

At each of the five trapping sites a trio of standard pitfall traps was sunk into the ground with the lip at the level of the surface of the mineral soil. The fluid used was concentrated commercial anti-freeze together with a small quantity of domestic detergent as a wetting agent. (As indicated at the meeting, it is necessary to kill all specimens falling into pitfalls as otherwise carnivorous beetles soon dispose of all the rest of the catch.) The traps were emptied and reset on a monthly basis from late February 2014 to late February 2015.

### 3. Results

The catch was sorted and all spiders and beetles identified. Some spiders were juveniles (unidentifiable) and were discarded. In total 141 spp. of beetle (out of a British list of several thousand) and 75 spp. of spider (out of a British list of around 650) have been recorded. Lists of the two groups are included below in the Appendices.

A short survey such as this cannot hope to record more than a small proportion of the beetles present or transiting such a site. Beetles are extremely mobile, unlike spiders which tend to stay put when they find a suitable area of habitat. As a result lists of both groups should be regarded as provisional. To put these provisional totals in context the best sites in the London area are known to host at least 500 species of beetle and 250+ species of spider, although it is worth pointing out that this is as a result of long-term study. Tower Hamlets Cemetery Natural Park and Mile End Park both have around 150 spider species recorded over a period of 8 years study; with more limited diversity of habitat at Pinkham Way 100 spp. would be a very good number, though it might take 5 years to record them all.

#### Beetles

Most of the beetles recorded so far are common species both nationally and regionally. Using the traditional terms for conservation status (recently superseded), one of the beetles (*Longitarsus luridus*: Chrysomelidae) is classified as a Nationally Notable A species (recorded from between 16 and 32 ten-kilometre squares throughout the mainland of the UK), while five others (*Longitarsus dorsalis*: Chrysomelidae, *Ophonus ardosiacus*: Carabidae, *Athous campyloides* : Elateridae, *Glocianus punctiger* and *Orthochaetes setiger*: Curculionidae) are classified as Nationally Notable B species (recorded from 33 to 100 10-kilometre squares). Two further species *Bruchidius imbricornis*: Bruchidae, and *Olibrus flavicornis*: Phalacridae, are classified as RDBK (of unknown conservation status due to insufficient information). The former has as its foodplant Goat's Rue (*Gallega officinalis*) thriving on the site, and which is listed by London Invasive Species Initiative as a serious alien invader which should be eradicated along with Giant Hogweed and Japanese Knotweed.

#### Spiders

While most of the spiders recorded so far, are common and widespread species a few have only been recorded from a few sites and are associated with particular natural habitats such as mature and undisturbed (unmown) grassland, and woodland edges. I have noted a number of key points which I will use as the basis of the discussion below.

- (1) Of five common pioneer species characteristic of disturbed ground only two (*Erigone dentipalpis* and *E. atra*) have been recorded, and only then in very small numbers. These 'recreation-ground species' (Duffey, pers comm.) are scarce on the site which is most unusual for urban grassland sites except those that have been very carefully managed, or left undisturbed for many years (Milner, 2013).
- (2) Eight species of wolf spider (characteristic grassland species) have been recorded including *Pardosa nigriceps*, an uncommon species in London.

- (3) The presence of both the Field Sheet-web Spider *Agelena labyrinthica* (Agelenidae), and a small orb-web spider *Agalenatea redii* (Argiopidae) both indicate undisturbed grassland/low bushes; they are recorded from few London sites and 14-17 Middlesex sites.
- (4) Four species of jumping spider have been recorded; these are generally found on relatively undisturbed sites.
- (5) The occurrence of *Argenna subnigra* is noted; this has only been recorded from 3 sites in London county and only 9 in Middlesex. This species is associated with undisturbed natural (unimproved) grassland.
- (6) The frequent occurrence of *Tegenaria silvestris* is noted. This scarce spider of woodland edges has only been recorded from 7 London sites and 8 Middlesex sites.

## 4. Discussion

The area trapped (within a 60-70 metre radius from the gate) is characterised by generally having a thin layer of topsoil over what appears to be mostly builders' rubble. In the long term this makes for an excellent substrate for natural grassland; deeper soil would naturally be colonised by secondary woodland sooner or later, but as in other areas around the edges of London where the geological base is sand or gravel of the Claygate Beds and Bagshot Sands the natural vegetation is probably grassland verging into heathland. Much of the rest of the site is covered with secondary woodland and scrub, or dense beds of Comfrey (*Symphytum* sp.) suggesting high nutrient levels. In many urban areas such places as Area A soon gather nutrients, especially nitrogen and phosphorus due largely to the accumulation of dog waste; the Parkland Walk is a good example. The effect is to encourage those plants which respond most strongly to increased nutrients such as coarse grasses and nettles which soon overwhelm other plants and shade them out. Studies of invertebrates throughout the London area have shown that when this happens, the invertebrate fauna also deteriorates and soon becomes dominated by a few carnivorous beetles such as carabids (ground beetles) and staphilinids (rove beetles). Spiders are often reduced to a few pioneer species and, in the winter, to a few common winter-active species such as *Centromerita concinna*, *Stemonyphantes lineatus* and *Walckenaeria acuminata* (Linyphiidae).

From the catch of spiders so far I have picked out a number of significant observations from which I think some conclusions can be drawn.

(1) Urban sites which are not formal parks and have 'reverted to nature' tend at first to be overrun with pioneer invertebrates such as those mentioned above. In grassland that is heavily mown and trampled (such as lawns and playing fields) the spider fauna is dominated by small money spiders in particular two *Erigone* spp. two *Oedothorax* spp. and *Milleriana inerrans* ((1) above). These are the five key 'weed' species that characterise disturbed grass sites as opposed to typical grassland spiders in less disturbed grassland such as wolf spiders. In Area A only two of the 5 'weed' species have so far been found, and both of those only in small numbers. This is indicative of a site that has been undisturbed for at least a few years (the fence around the whole site was erected in 2009-10); even a heavily mown and trampled grassland site can improve significantly in a five-year period as has been shown by the author at Mile End Park (Milner, 2013).

(2) In Area A these 'weed' species referred to above have been almost completely replaced by wolf spiders (Lycosidae). Eight species of wolf spider at the same site is a good number – the best sites in the London area would have 10 or more (Alexandra Park has only 8 spp. recorded), but one of the species recorded *Pardosa nigriceps* is relatively scarce in the London area – only recorded from 6 sites in the old County of London for example, and not recorded at Alexandra Park.

(3) Two species which are indicators of undisturbed grassland both occur in Area A; *Agelena labyrinthica* (Agelenidae) and *Agalenatea redii* (Argiopidae). These are not species which appear soon after disturbance has been reduced but take much longer to appear, or are able to

hang on in small patches of good habitat so may be evidence of 'relic' grassland. Their presence here even in very small numbers confirms the quality of the grassland habitat.

(4) Area A appears to have remained generally low on nutrients, the vegetation cover is relatively sparse so that in a dry summer it develops a fair amount of bare ground. These features are extremely positive for maintaining a botanically diverse sward, and for encouraging a diverse invertebrate assemblage including, unusually for London, at least four jumping spiders on the one site. Sites in London with as many as four jumping spiders recorded are very scarce: the best parts of Hampstead Heath, Hounslow Heath and other high-value sites are the only such places.

(5) *Argenna subnigra* is a scarce species only found on 'acid grassland' and a few relic grassland sites in London and only recorded from 9 sites throughout Middlesex. As with the two species in (3) this may be a 'relic' of previously mature rough grassland habitat.

(6) *Tegenaria silvestris* occurs in considerable numbers on the site. This again is a scarce spider in the London area restricted to the better sites both grassland and woodland as it is a spider whose preferred habitat seems to be woodland edges.

Apart from *A. labyrinthica* none of the spiders mentioned in (3), (5) and (6) have been recorded from Alexandra Park; it has just two recorded jumping spiders.

## **Conclusions**

Combining the observations listed above (1) to (6) it is clear that (a) the site has considerable conservation value and (b) low levels of disturbance have been a major contributory factor to its present condition. This limited survey restricted to 12 months in Area A should be seen as more of a 'taster' than a comprehensive study; for this a much longer time frame would be necessary, as well as a fuller coverage of the site as a whole. Studies at other sites show that a comprehensive list of beetles may take many years to build up, and to a lesser extent this is true of spiders; many small species occur in extraordinarily small numbers and are very difficult to find. Pitfall-trapping alone is insufficient to assess the whole spider fauna of a site although it is more effective than other methods but does only find those species (a majority of the species present) that are active at ground level.

In the context of Haringey it is very difficult to assess the site; the only sites that have been intensively studied in the Borough are woodlands such as Queen's Wood and Coldfall Wood, and to a much lesser extent parts of Alexandra Park and The Willows. Tottenham. On the basis of the very sparse information available it is likely the best open habitats are on railway land while genuine mature undisturbed grassland is almost absent from the Borough as a whole. From this point of view it should be an urgent matter to conserve the site, as well as extending the survey area to include the northern bank.

JEDM 6/3/2015

## 5. References

Merrett, P., Russell-Smith, A. & Harvey, P. (2014) A revised check list of British spiders. *Arachnology* 16 (4): 134-144

Milner, J.E.D. (2013) Spiders and management of Clinton Road Meadow at Mile End Park, London Borough of Tower Hamlets, 2005-2012. *Lond. Nat.* **92**:99-109

## 6. Appendices

### Appendix 1. List of beetles recorded

First column is National Conservation status (if any), followed by name of beetle, date of first record and the author's reference No.

Main plant-feeding families are Elateridae (click beetles), Apionidae (tiny weevils), Chrysomelidae (flower beetles) and Curculionidae (weevils)

Carabidae	Ground Beetles		
	<i>Amara aenea</i>	27/05/14	019056
	<i>Amara communis</i>	29/07/14	019168
	<i>Amara convexior</i>	24/04/14	019029
	<i>Amara lunicollis</i>	24/04/14	019031
	<i>Amara ovata</i>	24/04/14	019029
	<i>Amara similata</i>	24/04/14	019029
	<i>Bembidion guttula</i>	26/11/14	019788
	<i>Bembidion obtusum</i>	27/05/14	019053
	<i>Bembidion properans</i>	29/07/14	019169
	<i>Curtonotus (Amara) aulicus</i>	26/09/14	019240
	<i>Harpalus latus</i>	24/04/14	019029
	<i>Harpalus rubripes</i>	24/04/14	019029
	<i>Leistus spinibarbis</i>	23/10/14	019767
	<i>Nebria brevicollis</i>	23/10/14	019768
	<i>Notiophilus substriatus</i>	26/03/14	018997
Nb	<i>Ophonus ardosiacus</i>	29/07/14	019172
	<i>Ophonus puncticeps</i>	26/08/14	019191
	<i>Ophonus rupicola</i>	26/09/14	019240
	<i>Paradromius linearis</i>	24/04/14	019031
	<i>Phyllotreta nigripes</i>	27/05/14	019054
	<i>Poecilus cupreus</i>	26/09/14	019240
Hydrophilidae			
	<i>Cercyon haemorrhoidalis</i>	29/07/14	019170
	<i>Megasternum concinnum</i>	27/05/14	019056
Staphylinidae                      Rove Beetles			
	<i>Aleochara bipustulata (complex)</i>	26/09/14	019240
	<i>Aloconota gregaria</i>	26/11/14	019788
	<i>Anotylus sculpturatus</i>	26/03/14	018997
	<i>Atheta aquatica</i>	29/07/14	019170
	<i>Atheta crassicornis</i>	06/01/15	019810
	<i>Autalia impressa</i>	26/11/14	019788
	<i>Bolitobius analis</i>	24/04/14	019031
	<i>Cypha longicornis</i>	27/05/14	019056
	<i>Drusilla canaliculata</i>	29/07/14	019169
	<i>Megarthritis prosseri</i>	26/06/14	019108
	<i>Metopsia clypeata (=retusa)</i>	26/11/14	019788
	<i>Micropeplus staphylinoides</i>	27/05/14	019054
	<i>Mocyta (Atheta) fungi</i>	27/05/14	019054
	<i>Oxyptoda brachyptera</i>	26/09/14	019240
	<i>Philonthus carbonarius (varius)</i>	26/03/14	018997
	<i>Philonthus cognatus</i>	29/07/14	019169
	<i>Philonthus varians</i>	26/09/14	019240



Platydracus stercorarius	26/08/14	019195
Quedius curtipennis	29/07/14	019168
Quedius picipes	26/11/14	019788
Quedius schatzmayri	26/09/14	019240
Quedius semiobscurus	27/05/14	019056
Sepedophilus nigripennis	29/07/14	019170
Stenus aceris	23/10/14	019769
Stenus brunnipes	26/11/14	019788
Stenus clavicornis	27/05/14	019053
Stenus fulvicornis	26/06/14	019106
Stenus ossium	26/11/14	019788
Stenus subaeneus	26/03/14	018997
Sunius propinquus	29/07/14	019170
Tachinus signatus	25/02/15	019827
Tachyporus chrysomelinus	26/06/14	019105
Tachyporus hypnorum	26/03/14	018997
Tachyporus nitidulus	24/04/14	019031
Tasgius globulifer	26/03/14	018997
Tasgius morsitans	23/10/14	019770
Tasgius winkleri	26/09/14	019240
Xantholinus elegans	29/07/14	019169
Xantholinus linearis	26/03/14	018997
Xantholinus longiventris	26/06/14	019106
Phalacridae		
RDBK Olibrus flavicornis	24/04/14	019031
Coccinellidae            Ladybirds		
Psyllobora vigintiduopunctata	26/06/14	019105
Rhizobius litura	24/04/14	019029
Scymnus (Pullus) haemorrhoidalis	27/05/14	019056
Subcoccinella 24-punctata	24/04/14	019031
Tytthaspis sedecimpunctata	27/05/14	019053
Nitidulidae		
Meligethes aeneus	29/07/14	019158
Meligethes pedicularius	29/07/14	019172
Latridiidae		
Cartodere bifasciatus	29/07/14	019175
Cortinicara gibbosa	29/07/14	019158
Enicmus transversus	29/07/14	019175
Cryptophagidae		
Atomaria atricapilla	27/05/14	019054
Atomaria lewisi	26/06/14	019107
Cryptophagus distinguendus	24/04/14	019031
Cryptophagus laticollis	26/06/14	019105
Cryptophagus pilosus	26/03/14	018997
Cryptophagus setulosus	27/05/14	019054
Byrrhidae                Pill Beetles		
Byrrhus pilula	26/03/14	018997
Scarabaeidae            Scarab Beetles		

	<i>Onthophagus coenobita</i>	26/09/14	019240
Elateridae		Click Beetles	
	<i>Agriotes lineatus</i>	27/05/14	019053
	<i>Agriotes sputator</i>	24/04/14	019029
Nb	<i>Athous campyloides</i>	26/06/14	019106
Chrysomelidae		Flower Beetles	
	<i>Altica palustris</i>	24/04/14	019029
	<i>Cassida rubiginosa</i>	24/04/14	019029
	<i>Longitarsus atricillus</i>	23/10/14	019769
Nb	<i>Longitarsus dorsalis</i>	26/03/14	018997
	<i>Longitarsus flavicornis</i>	26/03/14	018997
	<i>Longitarsus gracilis</i>	26/11/14	019788
Na	<i>Longitarsus luridus</i>	26/03/14	018997
	<i>Longitarsus melanocephalus</i>	24/04/14	019029
	<i>Longitarsus membranaceus</i>	24/04/14	019031
	<i>Longitarsus pratensis</i>	26/03/14	018997
	<i>Longitarsus suturellus</i>	27/05/14	019052
	<i>Neocrepidodera transversa</i>	26/09/14	019240
	<i>Psylliodes napi</i>	24/04/14	019029
	<i>Psylliodes chrysocephala</i>	25/02/15	019827
	<i>Sphaeroderma testaceum</i>	26/09/14	019240
Tenebrionidae			
	<i>Lagria hirta</i>	26/09/14	019240
Oedemeridae			
	<i>Oedemera nobilis</i>	26/06/14	019107
Leiodidae			
	<i>Catops fuliginosus</i>	26/11/14	019788
	<i>Catops nigricans</i>	27/05/14	019054
	<i>Nargus velox</i>	23/10/14	019767
	<i>Sciodrepoides watsoni</i>	29/07/14	019172
Bruchidae			
RDBK	<i>Bruchidius imbricornis</i>	26/09/14	019240
	<i>Bruchus rufipes</i>	24/04/14	019029
Apionidae		Tiny Weevils	
	<i>Apion frumentarium</i>	26/03/14	018997
	<i>Aspidapion aeneum</i>	26/03/14	018997
	<i>Ceratapion gibbirostre</i>	27/05/14	019054
	<i>Ceratapion onopordi</i>	27/05/14	019054
	<i>Holotrichapion pisi</i>	26/11/14	019788
	<i>Protapion assimile</i>	27/05/14	019055
	<i>Protapion fulvipes</i>	29/07/14	019158
	<i>Taeniapion urticarium</i>	24/04/14	019029
Curculionidae		Weevils	
	<i>Anthonomus rubi</i>	29/07/14	019158

	<i>Barypeithes pellucidus</i>	24/04/14	019029
	<i>Ceutorhynchus pallidactylus</i>	27/05/14	019054
	<i>Euophryum confine</i>	26/06/14	019106
Nb	<i>Glocianus punctiger</i>	26/03/14	018997
	<i>Gymnetron pascuorum</i>	27/05/14	019054
	<i>Hypera nigrirostris</i>	26/03/14	018997
	<i>Hypera postica</i>	26/03/14	018997
	<i>Hypera zoilus</i>	23/10/14	019768
	<i>Leiosoma deflexum</i>	26/03/14	018997
	<i>Mecinus pascuorum</i>	29/07/14	019172
	<i>Mecinus pyraster</i>	26/03/14	018997
Nb	<i>Orthochaetes setiger</i>	24/04/14	019029
	<i>Otiorhynchus rugosostriatus</i>	26/09/14	019240
	<i>Otiorhynchus sulcatus</i>	29/07/14	019169
	<i>Parethelcus pollinarius</i>	26/03/14	018997
	<i>Rhinoncus pericarpus</i>	26/03/14	018997
	<i>Sitona hispidulus</i>	26/03/14	018997
	<i>Sitona humeralis</i>	26/03/14	018997
	<i>Sitona lepidus</i>	26/09/14	019240
	<i>Sitona lineatus</i>	26/03/14	018997
	<i>Trichosirocalus troglodytes</i>	26/03/14	018997
	<i>Tychius junceus</i>	27/05/14	019052

#### Cassidae

	<i>Cassida vibex</i>	24/04/14	019029
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## Appendix 2. List of spiders (all records for the site)

Columns as follows:

1. National Conservation status.
2. Name of species.
3. No. of London (old county of) sites recorded.
4. No. of Middlesex sites recorded.
5. The last five columns refer to the first record of the species for the site: Method, Date of first record, nos of males, females and total.

### DYSDERIDAE

Comm	<i>Dysdera crocata</i>	18	11	pitfall	27/05/2014	0	1	1
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### MIMETIDAE

Comm	<i>Ero furcata</i>	23	21	pitfall	26/08/2014	0	1	1
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### THERIDIIDAE

Loc	<i>Episinus angulatus</i>	7	14	search	18/06/1999	0	1	1
Comm	<i>Phylloneta sisypbia</i>	9	34	search	03/05/1999	0	1	1
Comm	<i>Neottiura bimaculatum</i>	21	53	sweep	27/05/1999	1	0	1
Loc	<i>Enoplognatha latimana</i>	7	12	pitfall	29/07/2014	0	1	1

### LINYPHIIDAE

Comm	<i>Walckenaeria acuminata</i>	30	38	pitfall	26/03/2014	0	1	1
Comm	<i>Walckenaeria antica</i>	32	35	pitfall	24/04/2014	5	0	5
Loc	<i>Walckenaeria atrotibiali</i>	16	20	pitfall	29/07/2014	1	0	1
Loc	<i>Dismodicus bifrons</i>	13	22	pitfall	27/05/2014	1	0	1
Comm	<i>Maso sundevalli</i>	21	36	sweep	27/05/1999	1	2	3
Comm	<i>Pocadicnemis juncea</i>	24	41	search	03/05/1999	0	2	2
Loc	<i>Pelecopsis parallela</i>	15	15	pitfall	24/04/2014	1	0	1
Loc	<i>Cnephalocotes obscurus</i>	16	22	search	18/06/1999	0	1	1
Comm	<i>Monocephalus fuscipes</i>	25	36	pitfall	26/03/2014	12	1	13
Comm	<i>Micrargus herbigradus</i> s	30	46	pitfall	26/03/2014	1	0	1
Loc	<i>Micrargus subaequalis</i>	24	21	pitfall	26/06/2014	1	0	1
Comm	<i>Erigonella hiemalis</i>	19	20	pitfall	26/03/2014	1	0	1
Loc	<i>Panamomops sulcifrons</i>	19	17	pitfall	24/04/2014	1	0	1
Comm	<i>Erigone dentipalpis</i>	51	49	pitfall	06/01/2015	1	0	1
Comm	<i>Erigone atra</i>	52	58	pitfall	26/11/2014	1	0	1
Comm	<i>Meioneta saxatilis</i>	21	30	search	03/05/1999	1	0	1
Comm	<i>Centromerus sylvaticus</i>	15	30	pitfall	06/01/2015	1	1	2
Comm	<i>Centromerita bicolor</i>	28	39	pitfall	26/03/2014	0	1	1
Comm	<i>Centromerita concinna</i>	15	17	pitfall	26/11/2014	1	0	1
Comm	<i>Bathyphantes gracilis</i>	48	68	sweep	29/07/2014	0	1	1
Comm	<i>Bathyphantes parvulus</i>	21	30	pitfall	06/01/2015	1	0	1
Comm	<i>Diplostyla concolor</i>	42	68	pitfall	26/03/2014	1	0	1
Comm	<i>Stemonyphantes lineatus</i>	30	31	pitfall	26/03/2014	1	1	2
Comm	<i>Tenuiphantes tenuis</i>	60	77	search	18/06/1999	1	1	2
Comm	<i>Tenuiphantes zimmermanni</i>	38	49	pitfall	26/11/2014	1	0	1
Comm	<i>Tenuiphantes flavipes</i>	42	51	pitfall	29/07/2014	1	0	1
Loc	<i>Tenuiphantes tenebricola</i>	2	2	pitfall	25/02/2015	0	1	1
Comm	<i>Palliduphantes ericaeus</i>	28	45	pitfall	26/06/2014	1	0	1
Loc	<i>Palliduphantes pallidus</i>	24	22	pitfall	06/01/2015	1	1	2
Comm	<i>Linyphia hortensis</i>	19	25	search	03/05/1999	1	0	1
Comm	<i>Neriene clathrata</i>	37	47	sweep	27/05/1999	1	2	3

## TETRAGNATHIDAE

Comm	<i>Pachygnatha clercki</i>	26	52	pitfall	25/02/2015	1	0	1
Comm	<i>Pachygnatha degeeri</i>	48	66	pitfall	26/03/2014	4	0	4
Comm	<i>Metellina mengei</i>	16	45	search	03/05/1999	3	0	3

## ARANEIDAE

Loc	<i>Agalenatea redii</i>	5	14	search	03/05/1999	1	0	1
Comm	<i>Araniella cucurbitina</i>	18	37	search	18/06/1999	1	0	1

## LYCOSIDAE

Comm	<i>Pardosa pullata</i>	41	64	search	03/05/1999	0	6	6
Comm	<i>Pardosa prativaga</i>	28	52	pitfall	24/04/2014	8	1	9
Comm	<i>Pardosa amentata</i>	18	43	pitfall	24/04/2014	0	1	1
Comm	<i>Pardosa nigriceps</i>	6	14	pitfall	24/04/2014	1	0	1
Comm	<i>Pardosa saltans</i>	13	20	search	18/06/1999	0	1	1
Comm	<i>Alopecosa pulverulenta</i>	35	52	search	18/06/1999	0	1	1
Comm	<i>Trochosa ruricola</i>	12	32	pitfall	26/03/2014	2	0	2
Comm	<i>Trochosa terricola</i>	26	39	pitfall	24/04/2014	0	1	1

## PISAURIDAE

Comm	<i>Pisaura mirabilis</i>	32	55	search	03/05/1999	0	1	1
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## AGELENIDAE

Comm	<i>Agelena labyrinthica</i>	5	17	search	18/06/1999	0	6	6
Loc	<i>Tegenaria silvestris</i>	7	8	pitfall	24/04/2014	1	0	1

## HAHNIIDAE

Loc	<i>Hahnia nava</i>	19	28	pitfall	24/04/2014	3	2	5
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## DICTYNIDAE

Comm	<i>Dictyna arundinacea</i>	11	24	sweep	27/05/1999	1	0	1
Comm	<i>Dictyna uncinata</i>	24	54	search	03/05/1999	1	4	5
Loc	<i>Argenna subnigra</i>	3	9	pitfall	27/05/2014	1	0	1

## AMAUROBIIDAE

Comm	<i>Amaurobius ferox</i>	21	17	pitfall	24/04/2014	1	0	1
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## CLUBIONIDAE

Comm	<i>Clubiona reclusa</i>	24	40	sweep	27/05/1999	0	1	1
Comm	<i>Clubiona comta</i>	16	25	pitfall	26/06/2014	1	0	1

## GNAPHOSIDAE

Comm	<i>Drassodes lapidosus</i>	23	22	search	18/06/1999		1	1
Loc	<i>Zelotes latreillei</i>	15	21	pitfall	24/04/2014	1	1	2
Loc	<i>Drassyllus pusillus</i>	8	14	pitfall	27/05/2014	1	0	1
Comm	<i>Micaria pulicaria</i>	21	20	search	03/05/1999	0	1	1

## ZORIDAE

Comm	<i>Zora spinimana</i>	13	28	pitfall	26/03/2014	1	0	1
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PHILODROMIDAE

Comm	<i>Philodromus cespitum</i>	12	37	search	18/06/1999	0	1	1
Comm	<i>Tibellus oblongus</i>	13	38	search	03/05/1999		1	1

THOMISIDAE

Comm	<i>Xysticus cristatus</i>	48	55	search	18/06/1999	0	1	1
Loc	<i>Xysticus kochi</i>	21	16	pitfall	24/04/2014	1	0	1
Loc	<i>Ozyptila ?simplex</i> (imm)	9	11	pitfall	24/04/2014		1	1

SALTICIDAE

Comm	<i>Heliophanus flavipes</i>	10	20	search	03/05/1999	0	2	2
Comm	<i>Euophrys frontalis</i>	25	33	search	03/05/1999	1	2	3
Loc	<i>Talavera aequipes</i>	9	6	pitfall	27/05/2014	1	0	1
Loc	<i>?Sitticus pubescens</i> (imm)	6	5	pitfall	24/04/2014	0	1	1

CORINNIDAE

Comm	<i>Phrurolithus festivus</i>	19	28	pitfall	24/04/2014	0	1	1
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