

Spiders of Rodley Nature Reserve, Leeds

Introduction

This is the second consecutive year that spiders have been recorded in this urban nature reserve in Leeds, West Yorkshire (vice-county 64). For information on why the survey is being undertaken and a description of the Reserve in the context of spider ecology, readers should refer to the 2008 annual report (Wilson, 2008).

This report therefore summarises the species recorded during 2009, with particular reference to additions to the site list and any notable or interesting records.

Full details of these, and other references cited are included in the Bibliography at the end of this report (after Table 1).

Methodology

The same methodologies were applied in 2009 as last year, with the main effort focussed on pitfall trapping (see Wilson (2008) for details). However, sweep-netting, beating vegetation and generally 'grubbing about' for specimens was also undertaken as this will collect species with different life-styles. Pitfall traps were located in the same location as 2008 (see Table 1, Wilson, 2008), although for a short period, they were also placed within the eastern end of the willow coppice plot (SE 2340 3616).

The study was started earlier in 2009 with pitfall traps in place by mid-March, although they were removed at the end of May. However, collecting continued to take place on the Reserve until late September, unlike in 2008 when work was stopped in late June.

Spiders were identified using Roberts (1993). A voucher collection has been started by the author, representing those species collected on the Reserve.

Constraints to the Study

Whilst the willow coppice plot was included as part of the study in 2009, this was stopped as concerns were raised that despite the short period of time spent inside the coppice plot collecting the pitfall traps, the potential for disturbance to breeding birds was considered to be unwarranted. In order to avoid further concerns, the pitfall traps were removed. Of the seven species recorded in this area, six were collected elsewhere on the Reserve.

By late May 2009, it was noticeable that pitfall traps were becoming choked with slugs and snails, despite 'chicken-wire' mesh being placed over the top in an attempt to avoid this. Apart from developing a foul odour, this is an unwanted bycatch and so it was decided that all pitfall traps would be removed. It is possible that as the ground vegetation matures, the humidity around the traps increases, to the slugs and snails liking and to the detriment of collector's comfort! Consequently, it is probable that no further pitfall trapping will take place at Rodley during the summer months. This is not necessarily a setback as two years of studies during this period has probably collected, using this method, the majority of species active at this time of year. Pitfall trapping in late summer (after the hay cut) and through the autumn and winter will probably yield additional species, not yet recorded; something to consider for 2010?

Results

A total of 47 species of spider were recorded by all methods in 2009, the same number of species recorded in ¹2008. These are listed in taxonomic order in Table 1 following the national checklist published by Merrett and Murphy (2000). Of these, 16 were new to the

¹ Two female *Clubiona phragmitis* C.L. Koch, 1843 were captured in pitfall traps in the grassland but inadvertently omitted from the 2008 report.

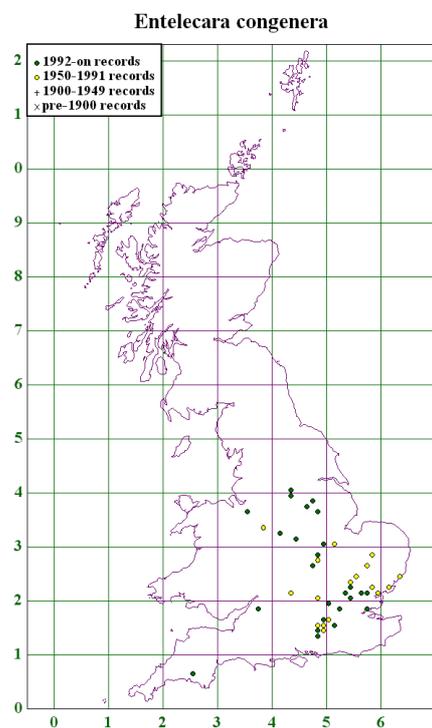
Reserve (identified with a '*' in Table 1), thus bringing the total number of species recorded in the two years to 65.

Discussion

The total of 47 species recorded in 2009 and 2008 can possibly be explained by the similar recording effort employed. However, the addition of 16 species this year can partly be explained by the concerted effort to collect during the late summer and early autumn when orb-web species (Araneidae), not recorded in 2008, are active and a specific investigation of new habitats (e.g. the gorse (*Ulex europaeus*) bushes).

Of the new additions, two species are worthy of particular mention; both small money-spiders (Linyphiidae).

Figure 1: National distribution (10 km squares) of *Entelecara congenera* (excluding current record) © Spider Recording Scheme, British Arachnological Society



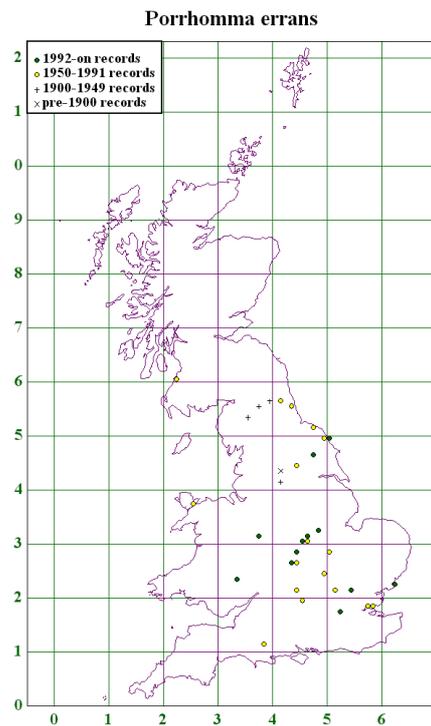
The gorse bushes close to the visitor centre and adjacent to the sewage treatment compound (SE 234 363) were investigated on the 30th May 2009. Ten species were collected, including common species such as the crab-spider *Philodromus cespitum* and the comb-footed spiders *Neottiura bimaculata* and *Theridion tinctum*. Three small money-spiders were also knocked from the gorse. One individual was the fairly common and widespread *Entelecara acuminata*, which I've recorded from my back garden, but two females were tentatively identified as *Entelecara congenera*, a nationally notable species. The species, in particular the females, are very similar to *E. acuminata*, the main diagnostic character being the distance between the two posterior eyes! The specimens were initially sent to the national spider recorder (Peter Harvey) who confirmed he was happy with my determinations, but suggested that they should be sent to Dr. Peter Merrett for a second opinion. Dr. Peter Merrett subsequently confirmed that the two specimens collected are indeed, this species. This is a completely new species for the vice-county, and an extension to its known range in

the British Isles (see Figure 1). *E. congenera* is a scarce species, typically recorded on pine, gorse, heather and other bushes (Harvey, Nellist and Telfer, 2002) so the specimens were collected in the known habitat.

The second species is *Porrhomma errans* (represented by a single male), captured in one of the pitfall traps set in the grassland. Whilst not a new record for the vice-county (there being two historical records in 1990 at Wighill, near Boston Spa), it is still a scarce species nationally (see Figure 2). This is a species whose precise habitat requirements are unknown, although all previous records are associated with grassland of some description (Harvey, Nellist and Telfer, 2002).

The draft national status review lists *P. errans* as Near Threatened (Dawson, Harvey and Russell-Smith, 2008), which means that it is a species that is close to qualifying for a threatened category (Critically Endangered, Endangered or Vulnerable) in the near future (International Union for Conservation of Nature and Natural Resources (IUCN), 2001).

Figure 2: National distribution (10 km squares) of *Porrhomma errans* (excluding current record) © Spider Recording Scheme, British Arachnological Society



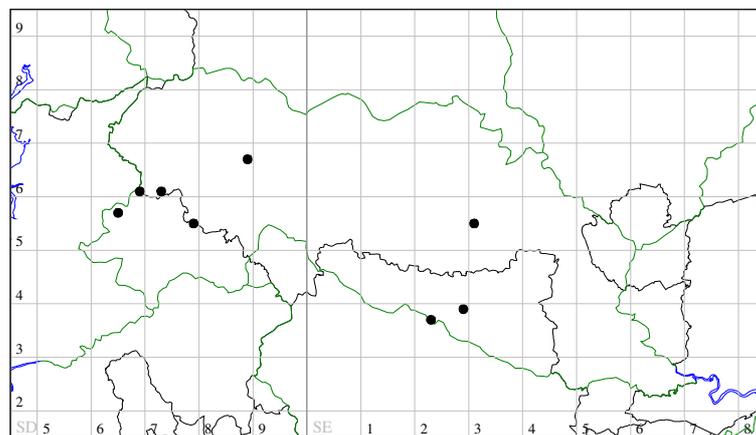
Of the orb-web spiders collected, three are worth making comments on. The two ‘cucumber’ spiders, *Araniella cucurbitina* and the very similar *A opisthographa*, so called because of their bright green abdomens have now both been recorded on the Reserve, the latter for the first time in 2009. Whilst these are both fairly widespread and common in England and Wales (Harvey, Nellist and Telfer, 2002), they have been rarely recorded in the vice-county. The former species is the commoner of the two, but both can typically be seen, if searched for carefully, hidden in the foliage of trees and bushes.

Another orb-web species recorded for the first time is reputedly, our heaviest species, *Araneus quadratus*. A globose female was swept from grassland near the visitor centre in mid-August. Although widespread throughout England and Wales, there is a distinct lack of records for the vice-county (see Figure 3), an indication of how poorly recorded this area is. Until 1999, the only record for this species in the vice-county was from Harrogate, when a certain Linnaeus Greening recorded it

in 1899. It is surely far more common than the map suggests

Figure 3: Distribution of *Araneus quadratus* (including current record) in VC 64 (2 km squares) © Spider Recording Scheme, British Arachnological Society

377 *Araneus quadratus* Clerck, 1757



Of the seven species captured in pitfall traps in the coppice plot before their removal, one was recorded here and as yet, not elsewhere on the Reserve. This was one of the few ‘money-spiders’ that has a patterned abdomen, *Lepthyphantes zimmermanni*. Five species of the diverse genus *Lepthyphantes* have been recorded on the Reserve so far, two in 2008 and all five this year. *L. zimmermanni* is a common and widespread species, nationally as well as in Yorkshire and a long with a sibling species, *L. tenuis*, has a tendency to build its small hammock-web in low vegetation. A study in North Wales has suggested that in lowland areas, *L. zimmermanni* is generally recorded in woodland leaf-litter to the exclusion of *L. tenuis*, which is recorded in grassland areas (Gallon, 2000). It is therefore interesting to observe that despite the brevity of recording in the willow coppice plot, *L. zimmermanni* was only recorded here in 2009 whilst *L. tenuis* was recorded in both the grassland and hedgerow

habitats. Whilst the presence of *L zimmermanni* in the willow coppice plot should not be interpreted as being exclusive to this habitat, there is limited leaf-litter habitat within the Reserve; the hedgerow being too narrow to allow the build up of leaf-litter. It is worth noting that after two years of recording, none of the pitfall traps at the base of the hedgerow have recorded *L zimmermanni*. Another potential location where this species may occur is the willow carr on the banks of the River Aire but whether the environmental conditions here are suitable for this species, with the potential for flooding is not known.

Neither species are rare, indeed both can be considered to be some of the most common and widespread species in the British Isles (Harvey, Nellist and Telfer, 2002). However, the distribution of these two species within the Reserve serves to reflect the importance of investigating the different microhabitats that may be present in order to fully understand the spider fauna in any given site.

Conclusions

The second year studying the spider fauna of Rodley NR has continued to provide new records for the national spider recording scheme and yielded an additional 17 species for Reserve.

It is anticipated that further survey work will be undertaken, author's commitments elsewhere permitting, in 2010, although this effort may be more focussed at other times of the year, in particular in late summer, autumn and winter. If so, it is possible that further species will be recorded that will be new to the Reserve. Providing this is undertaken, a more accurate understanding of the total species diversity will be achieved.

Finally, during the course of 2009, two books have been published which may interest readers. "*Spiders. The Ultimate Predators*" (Dalton, 2009) is a lavishly illustrated book providing an introduction to spiders and describes the various methods by which this diverse group (there are estimated to be 40,000 species worldwide) capture their prey. The second book, "*Arachnids*" (Beccaloni, 2009) is again illustrated with plenty of photographs and provides an introduction to spiders and the other, lesser well-known orders belonging to the Arachnida, such as the whip-spiders (Amblypygi), the wonderfully named vinegaroons (Uropygi) and the more familiar scorpions (Scorpiones). None of these creatures are native to the British Isles and so won't be found at Rodley, which is fortunate, if one is not endeared to these creatures, but I'd recommend both publications as providing a non-technical read for these much maligned inhabitants of the undergrowth.

A copy of this report has been submitted to West Yorkshire Ecology (Biological Record Centre), the national Spider Recording Scheme organiser (Peter Harvey) and Leeds City Council. All individual records have been submitted to the national recording scheme.

Acknowledgements

I would like to thank Peter Harvey for confirming various specimens sent to him during the year and Dr. Peter Merrett for confirmation of the female *Entelecara congenera*.

Richard Wilson
Leeds, December 2009

Table 1: Species of Spider Recorded at Rodley NR, Leeds (March – September 2009). * = New to the Reserve

Family	Species	Status	Hedgerow	Grassland	Wetland	² Other
Theridiidae ('comb-footed spiders')	<i>Theridion sisyphium</i> (Clerck, 1757)		x			x
	* <i>Theridion tinctum</i> (Walckenaer, 1802)					x
	<i>Neottiura bimaculata</i> (Linnaeus, 1767)					x
	<i>Paidiscura pallens</i> (Blackwall, 1834)					
Linyphiidae ('money-spiders')	* <i>Walckenaeria antica</i> (Wider, 1834)			x		
	* <i>Dicymbium nigrum</i> (Blackwall, 1834)		x	x		
	* <i>Dicymbium tibiale</i> (Blackwall, 1836)		x	x		
	<i>Entelecara acuminata</i> (Wider, 1834)		x	x		x
	* <i>Entelecara congenera</i> (O.P.-Cambridge, 1879)	Nb				x
	<i>Gnathonarium dentatum</i> (Wider, 1834)		x		x	
	<i>Dismodicus bifrons</i> (Blackwall, 1841)		x	x		
	<i>Hypomma bituberculatum</i> (Wider, 1834)		x		x	
	<i>Baryphyma pratense</i> (Blackwall, 1861)				x	
	<i>Oedothorax fuscus</i> (Blackwall, 1834)				x	x
	<i>Oedothorax retusus</i> (Westring, 1851)				x	x
	* <i>Lophomma punctatum</i> (Blackwall, 1841)		x	x	x	
	<i>Erigonella hiemalis</i> (Blackwall, 1841)		x	x	x	
	<i>Savignia frontata</i> Blackwall, 1833				x	x
<i>Diplocephalus latifrons</i> (O. P.-Cambridge, 1863)			x			

² Gorse bushes and ruderal vegetation

Family	Species	Status	Hedgerow	Grassland	Wetland	² Other
	<i>Erigone dentipalpis</i> (Wider, 1834)			x		
	<i>Erigone atra</i> Blackwall, 1833		x	x		
	<i>Porrhomma pygmaeum</i> (Blackwall, 1834)				x	
	<i>Porrhomma errans</i> (Blackwall, 1841)	Nb		x		
	<i>Centromerita bicolor</i> (Blackwall, 1833)			x		
	<i>Bathyphantes gracilis</i> (Blackwall, 1841)		x	x	x	
	<i>Diplostyla concolor</i> (Wider, 1834)		x			
	<i>Lepthyphantes tenuis</i> (Blackwall, 1852)		x	x		
	* <i>Lepthyphantes zimmermanni</i> Bertkau, 1890					
	* <i>Lepthyphantes flavipes</i> (Blackwall, 1854)		x			
	<i>Lepthyphantes ericaeus</i> (Blackwall, 1853)		x			
	* <i>Lepthyphantes pallidus</i> (O.P.-Cambridge, 1871)		x			
Tetragnathidae ('big-jawed spiders')	* <i>Tetragnatha extensa</i> (Linnaeus, 1785)			x		
	<i>Tetragnatha montana</i> Simon, 1874		x			x
	<i>Pachygnatha clercki</i> Sundevall, 1823		x	x	x	
	<i>Pachygnatha degeeri</i> Sundevall, 1830			x		
Araneidae ('orb web spiders')	* <i>Araneus diadematus</i> Clerck, 1757			x		x
	* <i>Araneus quadratus</i> Clerck, 1757			x		
	* <i>Larinoides cornutus</i> Clerck, 1757			x		
	<i>Larinoides sclopetarius</i> (Clerck, 1757)				x	x
	* <i>Araniella opisthographa</i> (Kulczynski, 1905)		x			x
Lycosidae ('wolf spiders')	* <i>Pardosa palustris</i> (Linnaeus, 1758)			x		

Family	Species	Status	Hedgerow	Grassland	Wetland	² Other
	<i>Pardosa pullata</i> (Clerck, 1757)		x	x		
	<i>Pardosa amentata</i> (Clerck, 1757)		x	x	x	
	<i>Pirata piraticus</i> (Clerck, 1757)				x	
Dictynidae	* <i>Dictyna uncinata</i> Thorell, 1856		x			x
Clubionidae ('sac spiders')	<i>Clubiona stagnatilis</i> Kulczyński, 1897			x		
Philodromidae ('crab-spiders')	<i>Philodromus cespitum</i> (Walckenaer, 1802)					x
Thomisidae ('crab spiders')	<i>Xysticus cristatus</i> (Clerck, 1757)			x		
Number of Species			23	27	14	11
Key:						
Nb – Nationally notable species (recorded in less than 100 10 km squares nationally)						

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