

**Biodiversity Duty:
Arachnida (spiders and harvestmen) Survey of the
Collections Centre, Nantgarw**



Arctosa leopardus: an uncommon species of wolf spider found at the Collections Centre.

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Introduction

From 1 October 2006, all public authorities in England and Wales have a duty to have regard to the conservation of biodiversity in exercising their functions (Section 40 of the Natural Environment and Rural Communities Act 2006). As part of the Museum's response to this legislation, biodiversity audits are being carried out at all of its sites. In this report, a list of species of arachnid (spiders and harvestmen) is presented from a survey of the grounds of the Collections Centre, Nantgarw during June 2009. However it must be remembered that most species of spider are seasonal and they also have a wide range of lifestyles. Thus this brief survey can only provide an indication of the species present on the site.

Methods

A site visit was made to the Nantgarw Collection Centre on the 15/06/2009. Approximately 4 hours was spent collecting at the sides and rear of the building using vacuum sampling (Stewart and Wright, 1995). Each sample was visually sorted and all arachnids removed and preserved for later identification. Species were identified using the keys of Roberts (1985 and 1987) for the spiders and Hillyard (2005) for the harvestmen.

Results

This brief survey identified 23 species of arachnid on the site. Table 1 lists the species found. Most of these are common and ubiquitous, and are typical for the vegetation structure found on the site. However three notable species were found in the survey;

- Two females of the wolf spider *Arctosa leopardus* (see frontpiece image) were collected from the site. This spider has a very local distribution and is typically found in wet heathland, dune slacks and other wet marshy places. The spiders were collected on the open stoney ground to the rear of the building. Whilst the area was dry on the day of collecting, the presence of *Juncus sp* and water snails showed that this area is seasonally wet.
- The Salticid or jumping spider *Heliophanus flavipes* is the more locally distributed of the three Salticid spiders found by the survey. This species can be found in a wide variety of disturbed habitats such as shingle beaches and wasteland, preferring drier sunny conditions.
- Another locally distributed spider found on the site is the small linyphid spider *Cnephalocotes obscurus*. There are few records in the South Wales region for this spider which can be found in a wide range of habitats including disused quarries and gravel pits.

Table 1: Species list for the Collections Centre, Nantgarw.

Order / Family	Species	Notes
Araneae (Spiders)		
Araneidae	<i>Araneus diadematus</i>	Common on mixed vegetation
	<i>Zygiella x-notata</i>	Common
Hahniidae	<i>Hahnia nava</i>	Common
Linyphiidae	<i>Bathyphantes gracilis</i>	Common
	<i>Cnephalocotes obscurus</i>	Frequent locally
	<i>Erigone atra</i>	Very common in low vegetation
	<i>Erigone dentipalpis</i>	Very common in low vegetation
	<i>Lepthyphantes tenuis</i>	Very common
	<i>Oedothorax fuscus</i>	Common
	<i>Oedothorax retusus</i>	Common
Lycosidae	<i>Pardosa pullata</i>	Common
	<i>Trochosa ruricola</i>	Widespread in southern UK
	<i>Arctosa leopardus</i>	Very local
Salticidae	<i>Salticus scenicus</i>	Common in southern UK
	<i>Euophrys frontalis</i>	Common in southern UK
	<i>Heliophanus flavipes</i>	Local
Tetragnathidae	<i>Pachygnatha degeeri</i>	Common
	<i>Tetragnatha extensa</i>	Common
Theridiidae	<i>Enoplognatha ovata</i>	Very abundant on vegetation
Thomisidae	<i>Xysticus cristatus</i>	Common
Opiliones (Harvestmen)		
Phalangidae	<i>Mitopus morio</i>	Common
	<i>Oligolophus tridens</i>	Common
	<i>Phalangium opilio</i>	Common

Other species recorded at time of survey.

Collembola (Springtails)		
Entomobryidae	<i>Entomobrya nivalis</i>	All are common species.
Isotomidae	<i>Isotomurus palustris</i>	
Bourletiellidae	<i>Deuterosminthurus pallipes</i>	
Dicyrtomidae	<i>Dicyrtomina ornata</i>	
Isopoda (woodlice)		
Armadillidiidae	<i>Armadillidium nasatum</i>	Often found on disturbed sites.
Lepidoptera (Moths)		
Arctiidae	<i>Tyria jacobaeae</i>	On the day of visiting there were many thousands of the colourful caterpillars feeding on the ragwort on the site.

Discussion and recommendations

The Nantgarw Collections Centre is a recent development on what can be termed a brownfield site. Any site that has been altered by human industrial activity can be considered brownfield. This not only includes derelict areas in towns and cities but quarries, brick-pits, old railway lines and disused airfields. As has been identified by the Phase 1 habitat survey (Rich 2009), the site contains no naturalised habitats, although disturbed sites such as this are proving to be important for many species of

invertebrate (e.g. Eyre *et al* 2003). The three local/uncommon species of spider recorded from the site were all found in the open area at the rear of the building (see photo below). Maintaining this open habitat and preventing scrub invasion would be the main recommendations for preserving the sites arachnid biodiversity. In addition the recommendations in the Phase 1 habitat survey (and associated vascular plant survey) would likely enhance arachnid diversity through the improvement of the overall vegetation structure on the site.



Grassy/moss area, with some damp patches, on made ground in the NW corner of the site. It is in this area that the key species of spider such as *Arctosa leopardus* were found.

References

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