

The spider fauna of Scragh Bog in Co Westmeath, Ireland (Arachnida: Araneae)

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The spider fauna of Scragh Bog, a quaking bog in Co Westmeath, Ireland, was investigated for the first time. The presence of 53 species could be established, two of which are new to Ireland (*Carorita limnaea* (Crosby & Bishop), *Porrhomma oblitum* (O.P.-Cambridge)), while 30 represent new county records [*Philodromus aureolus* (Clerck), *Tibellus maritimus* (Meigen), *Misumena vatia* (Clerck), *Oxyptila trux* (Blackwall), *Neon reticulatus* (Blackwall), *Sitticus caricus* (Westring), *Pirata hygrophilus* Thorell, *Pirata piscatorius* (Clerck), *Antistea elegans* (Blackwall), *Ero cambridgei* Kulczynski, *Theridion instabile* O.P.-Cambridge, *Metellina menegi* (Blackwall), *Aphileta misera* (O.P.-Cambridge), *Araconcus crassiceps* (Westring), *Bathyphantes approximatus* (O.P.-Cambridge), *Bathyphantes parvulus* (Westring), *Carorita limnaea* (Crosby & Bishop), *Diplocephalus permixtus* (O.P.-Cambridge), *Drepanotylus uncatius* (O.P.-Cambridge), *Erigonella ignobilis* (O.P.-Cambridge), *Kaestneria pullata* (O.P.-Cambridge), *Lophomma punctatum* (Blackwall), *Maso sundevalli* (Westring), *Micrargus herbigradus* (Blackwall), *Microlinyphia impigra* (O.P.-Cambridge), *Neriene clathrata* (Sundevall), *Oedothorax gibbosus* (Blackwall), *Oedothorax retusus* (Westring), *Porrhomma oblitum* (O.P.-Cambridge), *Taranucnus setosus* (O.P.-Cambridge)].

Introduction

The spider fauna of Ireland is reasonably well investigated. Early British arachnologists included Irish records in their general treatises on the spiders of Great Britain and Ireland (Blackwall, 1861, 1864). Blackwall, among others, used records and general information supplied in manuscript form by Templeton (1830). Many authors (G.H. Carpenter, D.R. Pack-Beresford, and W.S. Bristowe) subsequently have added new names to the Irish spider species list. I myself compiled a survey of published records together with county distributions for each species, which was published in 1996 (Van Helsdingen, 1996). The number of indigenous spider species in Ireland amounted to 378 then. One species was added since (Van Helsdingen, 1996), while two more species are stated to be new to the Irish fauna in the present study. This brings the present score to 381.

The Irish spider fauna is derived from that of the main island of Britain (England, Wales and Scotland) and is distinctly poorer in species (Van Helsdingen, 1995). A number of habitats is missing or under-represented in Ireland, while others are very well developed. The wet oceanic climate has stimulated the development of bogs of different types: blanketbogs on the flat and sloping parts, raised bogs in the depressions where the water was logged. The steeper valleys became lakes, some of which have developed an infill with quaking-bogs. Scragh Bog is a good example of the latter.

Despite all the previous efforts and inventories carried out, many common Euro-

pean species remained unrecorded in Ireland in general or appear to have escaped notice in certain counties. This should explain the large number of 30 new county records (indicated by asterisks) presented here for Co Westmeath. Such common species, of which it would be very strange indeed if they should not occur in Westmeath but nevertheless have to be listed as new county records here, have been recorded from at least half the number (15) of Irish counties (31): *Philodromus aureolus* (Clerck), *Oxyptila trux* (Blackwall), *Antistea elegans* (Blackwall), *Metellina mengei* (Blackwall), *Bathypantes approximatus* (O.P.-Cambridge), *Diplocephalus permixtus* (O.P.-Cambridge), *Maso sundevalli* (Westring), *Neriene clathrata* (Sundevall), *Oedothorax gibbosus* (Blackwall), and *Oedothorax retusus* (Westring). All are ubiquitous without very special habitat requirements and can be found in all counties. Four other species had been mentioned for fewer counties, between 10 and 15, but in fact are equally euryecious (*Misumena vatia* (Clerck), *Tibellus maritimus* (Meigen), *Neon reticulatus* (Blackwall)) or characteristic for a certain type of habitat (*Lophomma punctatum* (Blackwall)) and consequently can be expected to be more generally distributed. The more interesting species, usually those with few records from Ireland are commented upon below.

Five counties with scores of around 200 species form the top of the list of species richness: Clare (215), Kerry (202), Antrim (200), Carlow (198), and Dublin (197). Westmeath has been less favoured with attention than the two westcoast counties, which seem to have had more appeal to zoologists. Clare has its limestone Burren, and the peat-bog areas of renowned quality of Co Kerry have been the destination of many of us. Belfast and Dublin must have been centres of activity and thus are responsible for the high number of recorded species in Cos Antrim and Dublin, respectively. Westmeath, with 69 species, scores very low. The present study raises it to 99. During my short visits I selected 333 specimens belonging to 53 species for preservation and further study. Thirty species constitute new Westmeath county records, two of which are new for Ireland.

Scragh bog

Scragh Bog is a small quaking bog with a central transitional bog. It is a relatively small area of 23 ha and can be found just northeast of Lough Owel and 10 km to the north-west of Mullingar (fig. 1). The grid references are N421594 (UTM 29U PV 0836). It is an elongate area which runs roughly from SSE to NNW, where it tapers out to a narrow tip. It is an interesting site in that it shows the transition from fen to bog. The south-eastern end is carr, which partly was afforested with *Picea*, *Pinus* and *Abies* as late as 1951 when the activity was stopped. The ever-spreading and invading pest of *Rhododendron ponticum* L. is prominently present there. Going north there is transitional zone with local patches of willow-trees (*Salix* spec.) and birch (*Betula* spec.), while the northwestern end is treeless. The surplus of water which the bog cannot hold is drained through a single stream at the north-western tip. For a description of the vegetation and a phytosociological analysis the reader is referred to Michael O'Connell (1981).

The motive to visit Scragh Bog in County Westmeath and study its spider fauna was the Dutch efforts in relation to this bog area. In order to help Irish nature conser-

vationists to save important bog areas and fens from further persecution by 'progress' and 'development' and subsequent destruction, the Dutch Foundation for the Conservation of Irish Bogs raised funds in the Netherlands and actually bought Scragh Bog. The foundation was the initiative of Victor Westhoff, a common friend of Willem Vervoort, to whom this 'Festschrift' is dedicated, and myself. In the meantime the reserve has been handed over to the Irish Government and will be managed by the National Forest and Wildlife Service as a National Nature Reserve.

Scragh Bog is certainly a very interesting site. Despite the relative short time available for collecting on only two occasions the results are promising for more intensive inventories in the future. I visited the reserve in 1993 on June 3rd and very shortly on June 5th, and again in 1994 on the 19th of June. I have collected exclusively outside the forested parts, next to and in the *Salix*-covered areas and towards the northern end. I gave only slight attention to the western border during the first day of my visit and spent most of my time on the northern end and the eastern border. All collecting was carried out by sweeping, sifting of moss and litter, and collecting by hand.

A survey of the species collected is presented in table 1.

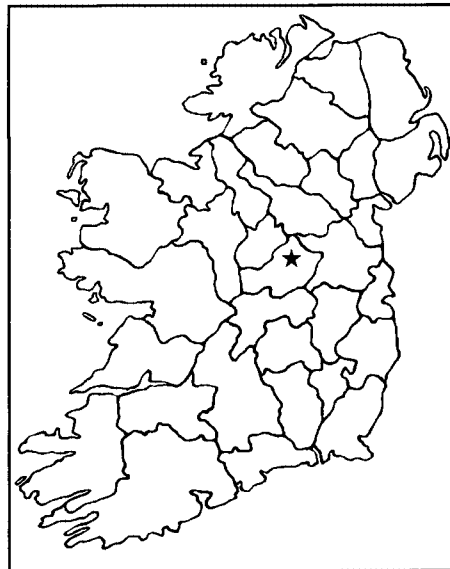


Fig. 1. Map showing the geographic position of Scragh Bog in Co Westmeath.

Table 1. Spiders collected in Scragh Bog, Co Westmeath, Ireland in 1993 and 1994.

A (♀) symbol denotes a subadult female. An asterisk (*) means a new county record, a double asterisk (**) a new Irish record.

	1993	1994
<i>Dictyna arundinacea</i> (L., 1758)		1 ♀
<i>Clubiona reclusa</i> O.P.-Cambridge, 1863	1 ♀, 1 (♀)	
<i>Clubiona stagnatilis</i> Kulczynski, 1897	2 ♂ ♂, 2 ♀ ♀ 2 juvs.	1 ♂
* <i>Philodromus aureolus</i> (Clerck, 1758)	1 ♂	
* <i>Tibellus maritimus</i> (Meigen, 1875)	1 ♀	
* <i>Misumena vatia</i> (Clerck, 1758)	1 ♂	
* <i>Oxyptila trux</i> (Blackwall, 1846)	2 ♂ ♂	1 ♂, 2 ♀ ♀
<i>Xysticus ulmi</i> (Hahn, 1831)	3 ♀ ♀	
* <i>Neon reticulatus</i> (Blackwall, 1853)		1 ♂, 1 ♀
* <i>Sitticus caricis</i> (Westring, 1861)	2 ♀ ♀	
<i>Pardosa pullata</i> (Clerck, 1758)	3 ♀ ♀	
* <i>Pirata hygrophilus</i> Thorell, 1872	2 ♀ ♀	4 ♂ ♂, 6 ♀ ♀
<i>Pirata piraticus</i> (Clerck, 1758)	3 ♂ ♂, 5 ♀ ♀	3 ♂ ♂, 10 ♀ ♀
* <i>Pirata piscatorius</i> (Clerck, 1758)	1 (♂) 1 juv.	

<i>Dolomedes fimbriatus</i> (Clerck, 1758)	3 juv.	2 juv.
* <i>Antistea elegans</i> (Blackwall, 1841)	1 ♀	2 ♀ ♀, 2 juvs
* <i>Ero cambridgei</i> Kulczynski, 1911	1 ♀	
<i>Enoplognatha ovata</i> (Clerck, 1758)	6(♂ ♂), 2 juvs	1 ♂
* <i>Theridion instabile</i> O.P.-Cambridge, 1871		2 ♂ ♂, 4 ♀ ♀
<i>Theridion sisypium</i> (Clerck, 1758)	2(♂ ♂), 2 ♀ ♀, 2(♀ ♀), 2 juvs	2 ♀ ♀
* <i>Metellina menegi</i> (Blackwall, 1869)	2 ♂ ♂, 1 ♀	2 ♂ ♂, 3 ♀ ♀
<i>Pachygnatha clercki</i> Sundevall, 1823	2 ♂ ♂	1 ♂
<i>Tetragnatha extensa</i> (L., 1758)	5 ♂ ♂, 8 ♀ ♀, 2(♀ ♀)	
<i>Tetragnatha montana</i> Simon, 1874	1 ♂, 1 ♀, 2(♀ ♀)	2 ♀ ♀
<i>Araniella cucurbitina</i> (Clerck, 1758)	1 ♀	
<i>Larinioides cornutus</i> (Clerck, 1758)	1 ♂, 1(♀), 2 juvs	
* <i>Aphileta misera</i> (O.P.-Cambridge, 1882)	1 ♀	
* <i>Araeoncus crassiceps</i> (Westring, 1862)		1 ♀
<i>Baryphyma trifrons</i> (O.P.-Cambridge, 1863)	7 ♀ ♀	
* <i>Bathyphantes approximatus</i> (O.P.-Cambridge, 1871)	1 ♂, 1 ♀	1 ♂, 6 ♀ ♀
<i>Bathyphantes gracilis</i> (Blackwall, 1841)		3 ♀ ♀
* <i>Bathyphantes parvulus</i> (Westring, 1851)	3 ♂ ♂	1 ♂, 1 ♀
** <i>Carorita limnaea</i> (Crosby & Bishop, 1927)	3 ♂ ♂, 2 ♀ ♀	2 ♂ ♂, 7 ♀ ♀
* <i>Diplocephalus permixtus</i> (O.P.-Cambridge, 1871)		2 ♀ ♀
* <i>Drepanotylus uncatus</i> (O.P.-Cambridge, 1873)	1 ♀	
<i>Erigone dentipalpis</i> (Wider, 1834)	1 ♀	
* <i>Erigonella ignobilis</i> (O.P.-Cambridge, 1871)		1 ♂, 15 ♀ ♀
<i>Gnathonarium dentatum</i> (Wider, 1834)	1 ♂, 3 ♀ ♀	1 ♂, 3 ♀ ♀
<i>Hypomma bituberculatum</i> (Wider, 1834)	1 ♂, 6 ♀ ♀	2 ♀ ♀
* <i>Kaestneria pullata</i> (O.P.-Cambridge, 1863)	7 ♂ ♂, 20 ♀ ♀	4 ♂ ♂, 13 ♀ ♀
<i>Lepthyphantes ericaeus</i> (Blackwall, 1853)	2 ♀ ♀	
* <i>Lophomma punctatum</i> (Blackwall, 1841)	2 ♀ ♀	6 ♀ ♀
* <i>Maso sundevalli</i> (Westring, 1851)	1 ♂	1 ♀
* <i>Micrargus herbigradus</i> (Blackwall, 1854)	1 ♂	
* <i>Microlinyphia impigra</i> (O.P.-Cambridge, 1871)	3 ♀ ♀, 1(♀)	1 ♂, 5 ♀ ♀
* <i>Neriere clathrata</i> (Sundevall, 1830)	3 ♀ ♀	1 ♂, 3 ♀ ♀
<i>Neriere montana</i> (Clerck, 1758)	1 ♀	
<i>Neriere peltata</i> (Wider, 1834)	1 ♀	
* <i>Oedothorax gibbosus</i> (Blackwall, 1841)	2 ♂ ♂, 7 ♀ ♀	4 ♂ ♂, 10 ♀ ♀
* <i>Oedothorax retusus</i> (Westring, 1851)	1 ♀	
<i>Pocadicnemis pumila</i> (Blackwall, 1841)		1 ♀
** <i>Porrhomma oblitum</i> (O.P.-Cambridge, 1871)	1 ♂	
* <i>Taranucus setosus</i> (O.P.-Cambridge, 1863)	1 ♂, 5 ♀ ♀, 2(♀ ♀)	2 ♂ ♂, 2 ♀ ♀, 2(♀ ♀)

Remarks on species

In the following text (♂) and (♀) symbols denote subadult male and female, respectively. An asterisk (*) means a new county record, a double asterisk (**) a new Irish record.

Thomisidae

Xysticus ulmi (Hahn): 3 ♀ ♀.

A fenland species, inhabiting the soil layer. So far it had been found in four Irish

counties only: Dublin, Kildare, Westmeath, and Wexford. From Westmeath it was recorded by Pack-Beresford (1909: 109).

Salticidae

**Sitticus caricis* (Westring): 2 ♀ ♀.

A widely distributed Palaearctic species, ranging from western Europe to Kamtchatka. In Ireland it was only recorded from Lough Bunny in Co Clare (Locket et al., 1974: 123, 173). This is the first record for Westmeath. It occurs in all kinds of moist habitats. The two specimens were collected on June 5, 1993 by hand in high, wet grassy vegetation with much accumulated litter in the northern tip of the reserve.

Lycosidae

**Pirata hygrophilus* Thorell: 4 ♂ ♂, 8 ♀ ♀.

Earlier records from ten other counties. It is a locally common species which inhabits marshes, fenlands, raised bogs, wet meadows, and also wet places in forests.

**Pirata piscatorius* (Clerck): 1 (♂), 1 juv.

This *Pirata* species is less common than the two mentioned above and usually occurs in lower densities. It is found in peat-bogs as well as in fenlands, but apparently has more strict habitat requirements. It has been recorded from five other counties (Armagh, Carlow, Kildare, Louth, Tipperary) and the present record is the first from Westmeath.

Pisauridae

Dolomedes fimbriatus (Clerck): 5 juv.

Juvenile specimens have been swept from the vegetation. Young individuals of this species usually sit at some distance from the soil in the vegetation, whereas young individuals of *D. plantarius* sit on the water surface or hide low in the vegetation close to the water. *Dolomedes plantarius* had not yet been found in Ireland, whereas *D. fimbriatus* is known from ten counties. Westmeath records date back to 1909 (Pack-Beresford, 1909: 117).

Mimetidae

**Ero cambridgei* Kulcz.: 1 ♀.

Of the four West-European and British *Ero* species only two have been found in Ireland, viz. *E. cambridgei* and *E. furcata*. *Ero* specimens frequently turn up in samples taken in peat-bogs and fenlands, but it is difficult to identify the immature stages usually found. Both species have been recorded from a number of Irish counties, but neither has been mentioned before from Westmeath. The single specimen of *Ero cambridgei* was collected on June 5, 1993 at the northern limits of the reserve.

Theridiidae

Enoplognatha ovata (Clerck): 1 ♂, 6(♂♂), 2 juvs.

Enoplognatha ovata is very common in all kinds of habitats. Older records from Ireland, from nearly all counties, are probably correct but should be checked, because Hippa & Oksala (1982) described a second, closely resembling species *E. latimana*. The latter seems to prefer more drier habitats. I have seen no literature records yet of that species from Ireland.

**Theridion instabile* O.P.-Cambridge: 2 ♂♂, 4 ♀♀.

Recorded from seven counties and now mentioned for the first time from Westmeath. It is not uncommon in fenlands and wet meadows, where it can be found in large numbers in dense vegetation close to the ground or the water surface.

Linyphiidae

**Aphileta misera* (O.P.-Cambridge): 1 ♀.

A species of peat-bogs and fenlands, where it can be found deep in the vegetation. It never truns up in large numbers. Earlier Irish records are available from Clare (Locket et al., 1974: 129, 259) and Donegal (Merrett, 1995: 18).

**Araeoncus crassiceps* (Westring): 1 ♀.

So far recorded from eleven counties. Here mentioned from Westmeath for the first time. A species of open, wet areas where it inhabits the soil layer. The single specimen was captured on June 19, 1994, at the northern limits of the reserve.

**Bathyphantes parvulus* (Westring): 4 ♂♂, 1 ♀.

Occurring in the same types of habitat as *B. gracilis* (Blackwall), but it has slightly less preference for wet habitats and is much rarer than the previous species. No earlier record from Westmeath, but found in eight other counties.

***Carorita limnaea* (Crosby & Bishop): 5 ♂♂, 9 ♀♀.

Since there are no published records available this is the first record from Ireland. However, I have collected specimens at other sites in Ireland as well. *Carorita limnaea* is a species of the litter and moss (*Sphagnum*) stratum in bogs and marshes. Its specific name (λιμναίος = living or growing in marshes) is very well chosen indeed. It was collected in both years by sifting detritus at the northern and northeastern margins of the reserve.

The species was described originally from North America, where it was collected in moss near a pond in the State of New York and in Colorado (Crosby & Bishop, 1927: 149, as *Oedothorax limnaeus*). For Canada there are records from Manitoba (Aitchison-Benell & Dondale, 1990) and Québec (Belanger & Hutchinson, 1992). It turned up also in Great Britain, in Wybunbury Moss (Co Cheshire), where it was again taken in moss (*Sphagnum*) in a kettle-bog with quaking-bog structure (Duffey & Merrett, 1963: 573). This nicely agrees with the situation in Scragh Bog, which is also a kettle-bog with a developing quaking-bog in the centre. *Carorita limnaea* was recorded since from Swe-

den (Holm, 1968: 188) where it was collected at four different and widely spaced localities. From Finnland there are several records (see Palmgren, 1976: 44). In Germany it has been found in a dry 'Steppenheide' near Zimmern (Baden-Württemberg) and in Brocken (Sachsen-Anhalt) (collected by F. Dahl as early as 1904!) in *Sphagnum* (both Moritz, 1973: 186), and also in Serrhan (Kr. Neustrelitz, Neubrandenburg) (Jeschke et al., 1980: 271). The species is also listed for the Slovak Republic (P. Gajdos, published?) and the Czech Republic (Buchar et al., 1995: 38). Its range extends into Siberia (West, Middle, East, and South) (Eskov, 1994: 21) and Manchuria (China) (Song et al., 1992: 110). A summary of distribution records can be found in Eskov (1994: 21).

**Drepanotylus uncatius* (O.P.-Cambridge): 1 ♀.

This species has been recorded from ten counties and is more or less evenly distributed over the Island. The species generally occurs in oligotrophic and mesotrophic wet vegetations and was found on the northeastern border of the reserve.

**Erigonella ignobilis* (O.P.-Cambridge): 1 ♂, 15 ♀.

So far recorded from two counties only, viz. Galway and Offaly. It is a relatively rare but widely distributed Palaearctic species, which inhabits the soil and litter stratum of wet grasslands, marshes, several types of (moist) forest, and even saline inland areas (Hänggi et al., 1995: 424).

**Kaestneria pullata* (O.P.-Cambridge): 11 ♂♂, 33 ♀♀.

A common and frequently found Holarctic species already known from eleven counties in Ireland. Despite this the species is here commented upon because of the large number of specimens met with at all sub-sites in the reserve in both years, 1993 and 1994. The specimens mentioned here are only those preserved, while many others have been released again after having been identified with the help of a pocket-lens. *Kaestneria pullata* is extremely common in this reserve. It is a species which is generally mentioned to prefer wet or moist habitats, but not exclusively. It can also be found in much drier situations, such as dry grassland and dune areas.

**Micrargus herbigradus* (Blackwall): 1 ♂.

Known from four counties, viz. Antrim, Clare and Tyrone (see Van Helsdingen, 1996a) and Offaly (Van Helsdingen, 1996b: 291; 1997: 117). New for Westmeath. The species is widespread and found in the soil-layer in a wide variety of habitats.

**Microlinyphia impigra* (O.P.-Cambridge): 4 ♀♀, 1 (♀).

There exist records from seven counties in the North and East of Ireland (London-derry, Tyrone, Fermanagh, Monaghan, Dublin, Kildare, and Wateford), but this may not have any zoogeographical significance. *Microlinyphia impigra* is a species of borderline vegetation of freshwater, such as sedges and reed stands, and alder carr with an undergrowth of sedges. According to my notes the species was quite common in Scragh Bog, especially in the North.

***Porrhomma oblitum* (O.P.-Cambridge): 1 ♂.

A single male specimen was collected on June 5, 1993 at the northern limits of the

reserve, where it was swept from the vegetation.

Porrhomma specimens are often difficult to identify. Male and female genitalia show considerable overall similarity and distinct and useful somatic and genital characters are hard to define. The combination of good optical equipment, specialized literature and experience with this difficult group is not sufficient, because the animals themselves not always comply.

The length of the present specimen measures 1.7mm. It has but a single 1'-spine on femur I, while no trace of d-spines or scars of such spines could be found. Because of this single character the specimen directly keys out to the *P. oblitum-montanum* group of species. The shape of the superior apophysis excludes *montanum*. However, being aware that the male palps of *oblitum* and *pygmaeum* seem to be indistinguishable (Roberts, 1993: 114), I may admit my doubts about the correctness of the above identification at first. *Porrhomma pygmaeum* is common in Ireland (recorded from 23 counties, including Westmeath), while *P. oblitum* is a much rarer species, which has not been found in Ireland before. Therefore it would be more plausible, more logical, if this specimen belonged to *P. pygmaeum*. Other characters give no clue. Since the chaetotaxy of the legs is used so strongly as key character within the genus *Porrhomma*, I have decided to let the absence of a d-spine on femur I weigh heavily and therefore settle on an identification with *P. oblitum*.

**Taranucnus setosus* (O.P.-Cambridge): 3 ♂♂, 7 ♀♀, 4 (♀♀).

Surprisingly enough *T. setosus* so far was only recorded from Co Kerry (Mackie, 1972: 236). This species is characteristic of wet heathlands and wet grasslands with well-developed structure of sufficient height and cover to build its large webs deep below in the darkness. Old heathlands with large *Calluna vulgaris* shrubs with a thick layer of mosses around their roots are nearly always inhabited by this species, and so are wet grasslands with large tussocks of grasses or sedges. Such types of habitat are certainly not rare in Ireland and indeed *setosus* is fairly commonly in many counties. The specimens recorded here were taken at the northern end of the reserve as well as the northeastern side.

The above remarks on the ecological preferences of this remarkably long-legged spider are contrasted by Mackie's (1972: 236) remark that he took his specimens at a saltmarsh location near Cahirciveen (Co Kerry). I have never seen any comparable records. However, there are quite a few records from coastal dunes (Hänggi et al., 1995), which is at least geographically close to saltmarshes. The structure of the vegetation in moist conditions might be the determining factor in this case.

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