

## Lakenheath Fen, home to cranes, orioles, bitterns ... and *Carorita paludosa*

by Alan Thornhill

In 1995, when **Lakenheath Fen** in Suffolk was acquired by the RSPB, the nature reserve began the latest of the changes it has undergone over the centuries. Immediately prior to that it was mostly arable land, with carrots a local speciality. Also, there were, and still are, some small poplar woods, remnants of a more extensive plantation of Bryant and May, the match manufacturers. Now that it is being returned to something resembling its original state, it is primarily a wetland reserve with extensive reed or sedge beds and open pools, although there is a dry sandy area at the eastern end of the reserve. At the western end is the swamp-like **Botany Bay** (the origin of the name is unknown), which was never farmed and is an SSSI.

Thousands of visitors flock (sorry!) to the reserve each year to see rare birds. It is the only place in the country where golden orioles breed regularly, albeit in very small numbers now, and one of two sites where common cranes are making their UK comeback. A few visitors go to see invertebrates such as dragonflies, butterflies and bumblebees. Perhaps one day some will go to see the reserve's spiders as it is known to be home to many species. About 120 species have now been recorded there, and probably many more remain to be discovered.

Ian Dawson of the RSPB (and BAS member) has carried out several spider surveys on Lakenheath Fen from 1997 onwards and found some rare species, most notable amongst them being *Clubiona rosserae*. The reserve is one of only two places in the country where this species is known to live. Amongst other interesting species recorded from there are the linyphiids *Maro sublestus* and *Entelecera omissa*.

This year I was asked by Buglife to carry out water trapping on Botany Bay in September and October, to search for *C. rosserae* in particular (the only one found there was caught in a water trap) and survey invertebrates generally. The traps, set about 1m high, caught adult spiders of only six species, but none was *C. rosserae*. Traps in the wetter areas caught several *Donacochara speciosa*, a slightly odd-looking linyphiid with its broad, flattish cephalothorax, that is scarce in the UK.

I also surveyed spiders by beating the reeds and sedges, and shaking dead vegetation, in the area around the traps. These methods yielded many more species, principally because they could sample throughout the height profile of the reedbeds. Spider diversity seemed much greater nearer to the ground, due presumably to the abundance of springtails and other small invertebrates.

Several of the spiders caught by beating / shaking were new records for the reserve, mostly typical wetland species such as *Ozyptila brevipes* and *Floronia bucculenta*. Perhaps the most noteworthy find was *Carorita paludosa*, a small linyphiid that has been found at several places within the Norfolk Broads, but at very few other sites in the British Isles (one in Somerset, and two in Ireland), so this is a new record for Suffolk. My thanks to Ian Dawson for confirming the identification.

It will be interesting to see how many wetland spider species eventually colonise the areas reclaimed from arable land. Some, such as *Clubiona phragmitis* and *D.*

*speciosa*, can already be found there but others have so far only been found on Botany Bay.

The list of spiders found on the sandy area at the eastern end of the reserve is, as one would expect, much different to that from the wetter areas, with several species typically associated with heaths or open grassland, such as *Pardosa monticola*, *Arctosa perita*, *Talavera aequipes* and *Hahnia nava*. However, almost all of this area has been planted with poplar trees, to encourage golden orioles to breed. As the trees grow, the spider fauna will surely be affected. So, further monitoring of the spiders on this area would be useful, to obtain a fuller list of those present now before the trees become tall.

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## *Clubiona rosserae* at Chippenham Fen

by Ian Dawson

During a field trip of the Huntingdonshire Fauna & Flora Society to Chippenham Fen NNR, Cambridgeshire, on 19th September 2010 with my wife Debra, we found a good selection of spiders, including such interesting species as *Hygrolycosa rubrofasciata*, *Trochosa spinipalpis*, *Marpissa radiata*, *M. muscosa*, *Araneus marmoreus* (including a single f. *marmoreus* among numerous f. *pyramidatus*), *Glyphesis servulus* and *Maso gallicus*. However, chief excitement was provided by a rather small *Clubiona* sieved from a fresh litter pile in SSSI Compartment 7 (formerly Compartment 8) at TL 650693, which proved under the microscope to be a female *C. rosserae*, for which Chippenham Fen is the type locality. The species was described by G. H. Locket in 1953 from two males and two females collected there on 23rd September 1951 (Locket & Millidge, 1953). It has subsequently been recorded from Chippenham on a number of occasions, but not since 6th October 1996 when Dave Carr collected a male (Carr, 1997).

There is only a single record for the UK away from this site: a female found in a water trap at Botany Bay, Lakenheath Fen RSPB reserve, Suffolk, in April 2000 (Dawson, 2003). In Europe it is known from only a few countries, including the Netherlands, Poland, Hungary and Romania, and appears to be rare everywhere.

Dedicated survey work between 2002 and 2005 to investigate the distribution and ecology of this species failed to re-find it at Chippenham Fen or at Lakenheath Fen, nor were any other localities found, despite targeted fieldwork at potential sites by BAS members and work by an ecologist under contract to Natural England (then English Nature).

The site of the September record is close to where three *C. rosserae* were found during JNCC invertebrate surveys in the early 1990s (two from pitfalls in 1991 and one from a water trap in 1995 at TL 65056936). It was pure chance that we chose that spot to sample on our September visit. Compartment 7 comprises mixed open fen vegetation, mainly sedge, of which a large swathe had been cut a little earlier in the autumn (see Fig. 1). Litter piles were stacked along the edge.

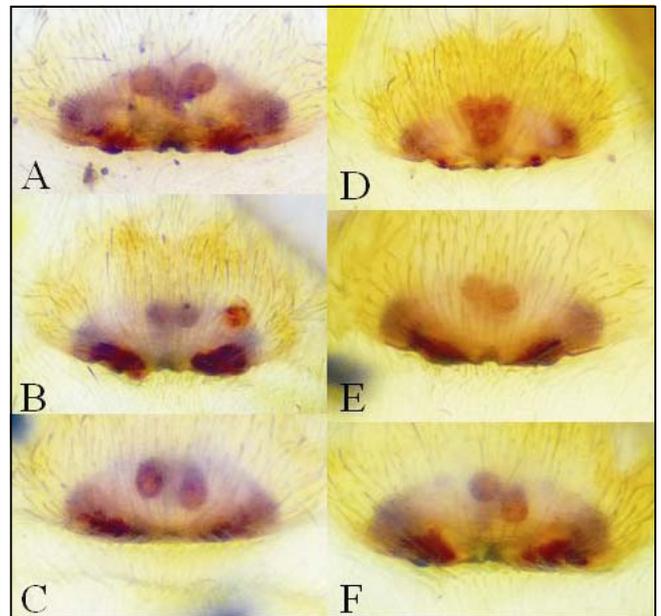


**Figure 1.** *Clubiona rosserae* habitat at Chippenham Fen © Ian Dawson

Most of the recent unsuccessful fieldwork has been undertaken in the summer months, and although adults have been found in ones and twos in most months between February and October, I wondered whether *C. rosserae* might be primarily an autumn-maturing spider, given the date on which it was first discovered (four individuals) and the date of the last Chippenham record in 1996.

Accordingly, I arranged a return visit on October 17th, along with Debra, Peter Harvey and Dave Carr. This proved highly successful and between us we found eight mature females and two males. A number of immatures of similar size and colour may also have been this species. These all came from the same compartment as the September find and either from relatively fresh litter piles (less than a month old), or from loose vegetation litter left lying at the edge of the cut area, and all from within a 100 m radius. Searches elsewhere on the fen drew a blank. All individuals collected by IKD were rather pale reddish-brown or yellowish and between 5 and 5.5 mm in length (females) or 4.0 mm (male). Several of the females showed a contrasting darker central abdominal cardiac stripe. While positive identification under a handlens may be doubtful, we were reasonably confident in the field that we had found both sexes. Once examined under the microscope and compared with known *C. stagnatilis*, there is no real possibility of confusion. In fact we found only a single *C. stagnatilis*, a female from loose litter at the edge of the cut area, collected along with two female *C. rosserae*, proving that the two species live together.

The accompanying photographs show six female *C. rosserae*, both alive and under the microscope, one male *C. rosserae*, and the female *C. stagnatilis*. In Fig. 2 the September *C. rosserae* is labelled A, the five October females B to F respectively. The male palps are distinct enough, but the most immediately obvious feature separating all the females examined of both species is the relative width to height of the pigmented area of the epigyne, which in the five females held by IKD is significantly greater than 2:1, whereas in several *C. stagnatilis* females examined it is at best equal to and usually less than 2:1. This is a function of the



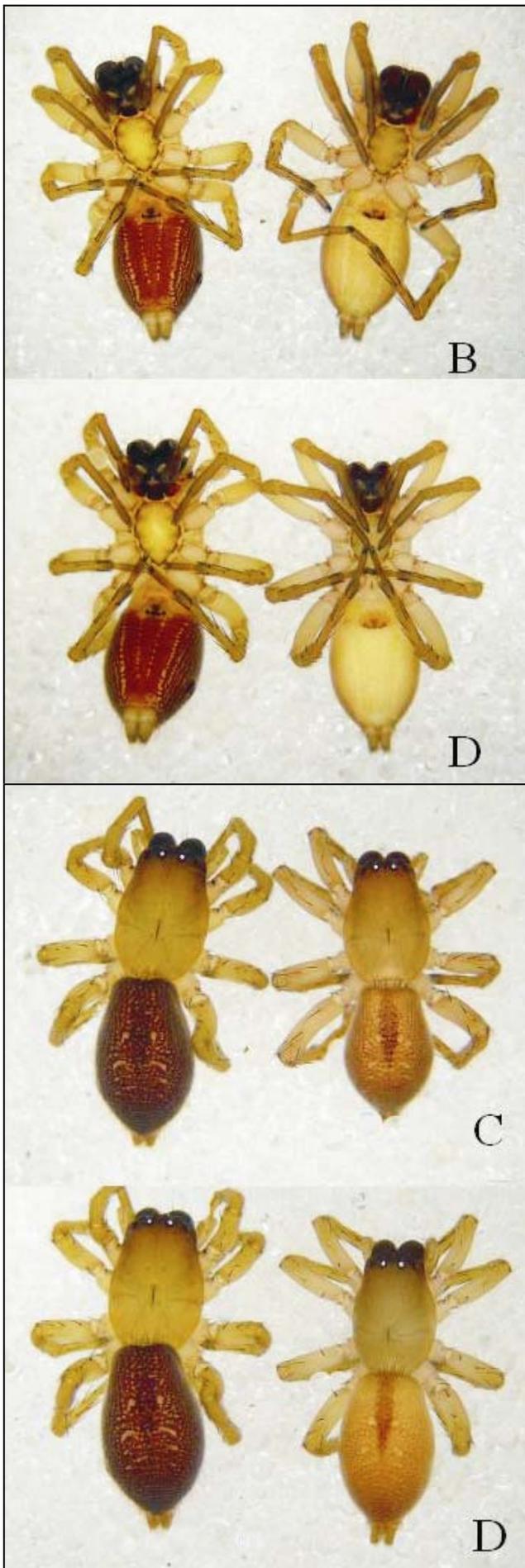
**Figure 2.** *Clubiona rosserae* epigynes  
A: 19th Sept 2010, B-F: 17th Oct 2010  
© Ian Dawson



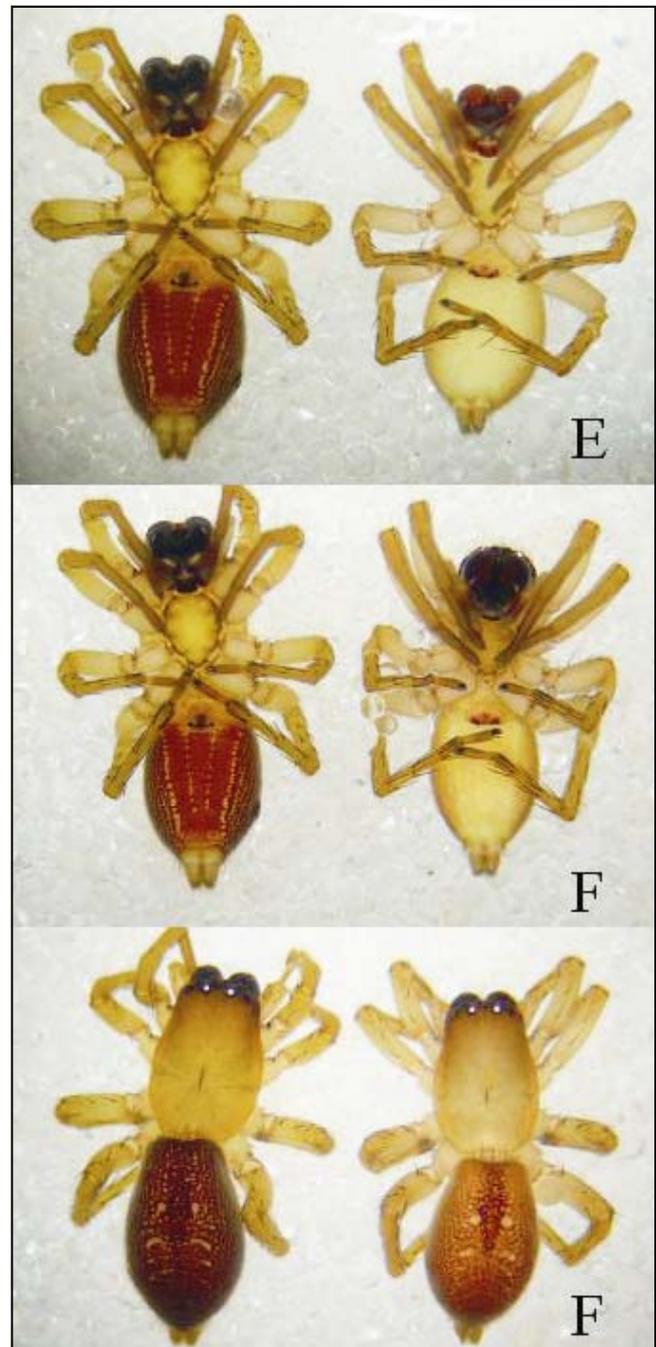
**Figure 3.** *Clubiona stagnatilis* epigynes  
sA: Chippenham Fen 17th Oct 2010  
sB: Wheatfen 25th May 2002  
sC: Ynys Hir 4th May 2006  
© Ian Dawson

spermathecae lying closer to the hind margin of the epigyne in *C. rosserae*. The shape of the hind margin also appears to be a useful additional guide with a small deep notch in the centre in *C. rosserae* (straighter in *C. stagnatilis*), and the spermathecae visible through the abdominal wall appear roughly circular (elongated in *C. stagnatilis*). The drawings by Roberts (1985, 1998) match all these characters.

All the *C. rosserae* were rather pale below so the darker contrasting epigyne was obvious, whereas the single *C. stagnatilis* from Chippenham was much darker red-brown both above and below and the epigyne was thus obscured in the live animal. However, the colour of *C. stagnatilis* is clearly variable and can be much paler as



**Figure 4.** Left: *Clubiona stagnatilis*. Right: *C. rosserae* (*C. rosserae* specimens B, C & D).  
Chippenham Fen 17th Oct 2010 © Ian Dawson



**Figure 5.** Left: *Clubiona stagnatilis*. Right: *C. rosserae* (*C. rosserae* specimens E & F).  
Chippenham Fen 17th Oct 2010 © Ian Dawson

shown by the photos of specimens (Fig. 3) from Ynys Hir, Cardiganshire and Wheatfen, Norfolk. *C. stagnatilis* would also appear normally to be a little larger, with the female collected together with the *rosserae* being 5.7 mm long.

However, as a cautionary footnote, I re-examined the Lakenheath *C. rosserae* female. This is both a darker and at 7.2 mm a much bigger spider than the Chippenham females. However, the proportions of the pigmented area of the epigyne match the above specimens, and when viewed ventrally show further confirmatory characters, notably the spermathecae which are less elongated and do not diverge as in *C. stagnatilis* (see Dawson, 2003). None of the Chippenham females was dissected.

The rediscovery prompted a press release from BugLife which generated a slot on BBC Look East and considerable wider media coverage on both radio and in



rosserae male, 17 Oct 2010

**Figure 6:** *Clubiona rosserae* male, Chippenham Fen 17th Oct 2010 © Ian Dawson

the national press. It was the lead story on the BBC website on 22nd November, and generated news coverage from as far away as Romania and Canada!

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