



# Who built this?

## Spider egg sacs – Part 1

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Fig. 1. A Sputnik Spider female beneath an oak leaf with her spiky egg sac (Geoff Oxford)

As readers will know, not all spiders use silk to build snares for catching prey. Groups such as the Wolf spiders and Jumping spiders hunt actively on the ground, vegetation or buildings, using sight to home in on their next meal. However, all female spiders use silk, in some way or other, to keep their eggs together – **an egg sac**. As well as preventing the spherical eggs rolling about, egg sacs can also provide protection from enemies and insulation from extreme weather. They are wonderful, architectural structures in their own right.

In this and the second part of this article, I'll look at some of the egg sacs produced by a selection of British spiders. In some cases, the egg sacs are so distinctive that they shout the maker's identity as loudly as seeing the spider itself. These are considered here. Part 2 will deal with distinctive egg sacs that are made by more than one species, but which enable the identification of the builder to be narrowed down considerably. It will also include a few species where the females carry their egg sacs around with them, so the spider itself is there for identification – but the egg sac also helps. For those not aware of what the spiders look like, I have included images where needed.

### **Sputnik Spider** *Paidiscura pallens*

If you check the undersides of almost any broadleaf tree (but especially oaks and Sycamore) in May through to August, you may find the most extraordinary pure white egg sac (Fig. 1).

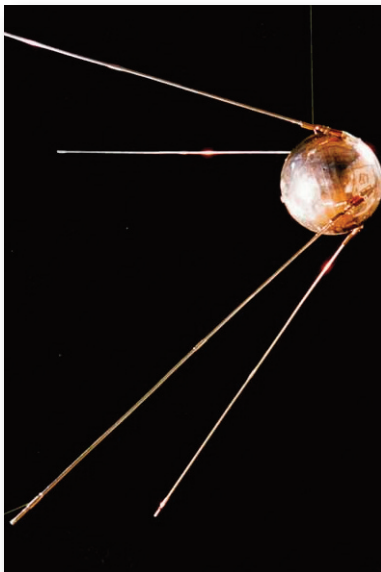


Fig 2. The Soviet Union satellite, Sputnik (<https://commons.wikimedia.org/wiki/File:Sputnik-1.jpg>)

It is about 4-5 mm in size and has a number of blunt spikes, all pointing in roughly one direction. Even more amazing is that the tiny 1.5 to 2 mm female spider, often skulking nearby, is the architect and builder. The species is extremely widespread, occurring throughout Britain except for the higher ground of Wales and Scotland. The adult can be variable in colour and looks similar to some other members of the same family (Comb-footed spiders, Theridiidae), but the egg sac is like no other. Each sac contains around 20 eggs but no one knows



the purpose of the spikes! By the way, the common name, Sputnik Spider, comes from the egg sac's resemblance to the first artificial earth satellite launched into space by the Soviet Union (now called Russia) in 1957. That too was round and with spikes (antennae) pointing in one direction (Fig. 2).

### **Wasp Spider** *Argiope bruennichi*

One of our largest orb-web weavers and instantly recognizable by its yellow, white and black-striped abdomen. It does look somewhat like a wasp, but its stripy coloration is probably not a warning to predators; more likely it is to break up a spidery outline and merge with background vegetation. Although once confined to the south coast of England, the Wasp Spider is now spreading northwards and is common across southern and eastern counties. Its egg sac, spun amongst the vegetation of open grasslands and roadside verges, is equally recognizable, being large (20 x 25 mm), mottled brown and resembling a poppy seed head (Fig. 3). It can contain up to



Fig 3. Egg sac of the Wasp Spider, spun amongst grass stems (Geoff Oxford)

600 eggs. The female lays her eggs in autumn and then dies. Like other spider species, the eggs hatch within the sac and the spiderlings undergo their first moult. Second instar spiderlings overwinter within the egg sac, protected from the cold and wet by its copious layers of insulating silk and papery, waterproof walls. They emerge from the egg sac in April/May through one or two tiny round holes made near the top.

### **Garden Centre Spider** *Uloborus plumipes*

This introduced spider has been spreading across British garden centres for the past 30 years. It is common in England but, so far, almost absent from Wales and much of Scotland. Looking up at a garden centre roof, you may well see it festooned with almost horizontal orb-webs, with the spider sitting at the hub and looking like a tiny, 4 to 5 mm long, stick. Around it, attached to the roof supports, you may notice off-white or pale brown, flattened egg sacs, which resemble small (10 x 8 mm) holly leaves (Fig. 4). Each sac contains about 40 eggs (Fig. 5).



Fig. 4. A Garden Centre Spider female with her 'holly-leaf' egg sac (Geoff Oxford)



Fig. 5. Garden Centre Spider egg sac with emerging young (Geoff Oxford)



Fig. 6. Multiple egg sacs of *Parasteatoda tepidariorum* under a garden centre shelf (Geoff Oxford)

***Parasteatoda tepidariorum*** (no common name in Britain)

Another egg sac to look out for in garden centre greenhouses is 5-7 mm in diameter, and is covered with dull, brown, papery silk (Fig. 6). These are made by another introduced species, *Parasteatoda tepidariorum*. Although it has no common name in Britain, elsewhere in the world it is called the Common House Spider (our Common House Spider is *Tegenaria domestica*, illustrating nicely the confusion that can be caused by relying on common names alone!). The egg sacs, each containing 150 to 200 eggs, are attached to surfaces, often under shelves of plants/plant pots, but sometimes on roof beams. If well fed, a female can produce multiple sacs, which are often positioned in a group (Fig. 6). Found in houses in other parts of the world, in Britain this spider seems to be restricted to heated greenhouses. Be aware – there are other, related species laying similar-looking, brown, papery egg sacs,

but these are found outside on walls, fences and trees, not in the cosseted environment of a greenhouse.

### **Labyrinth Spider** *Agelena labyrinthica*

This handsome species, a relative of the large house spiders (*Eratigena* species), builds a similar funnel web – a flat sheet of silk with a tubular retreat in one corner. Typically, it can be found low down in shrubs, such as bramble, heather and gorse, with the retreat heading way back into the dark, damp safety of dense vegetation. The species is common in southern and central England, and coastal Wales, less so elsewhere, and is absent from Scotland. The egg sac is built in a chamber within the female's retreat, and is suspended from its walls by numerous supports, creating a labyrinth of tunnels – hence the common name. These almost spherical chambers often persist into late summer after the spider has died and the rest of her web has disappeared (Fig. 7). To appreciate the



Fig. 7. Egg-sac chamber of the Labyrinth Spider, which often remain after the rest of the web has disappeared (Geoff Oxford)



Fig. 8. Opened Labyrinth Spider chamber showing the star-like egg sac (Geoff Oxford)

star-shaped egg sac, you may have to get down on your hands and knees and peer into the chamber's entrance (Fig. 8). Each 10 to 15 mm wide sac can contain between 50 and 150 eggs. Like the Wasp Spider, the young hatch and overwinter in the chamber as second instar spiderlings before dispersing in spring.

### **Ray Spider** *Theridiosoma gemmosum*

This once rather uncommon and locally distributed spider seems to be spreading northwards and is found across much of England and Wales. An inhabitant of wetlands, it produces a tiny, brown, papery, pear-shaped egg sac (2 to 3 mm in diameter) suspended from vegetation by a very long, thin stalk (10 to 30 mm long; Fig. 9). The outer surface of the egg sac is smooth and not covered by wiry silk (compare with Pirate spiders, below). Although the spider makes its web low down near the ground, the egg sac stalk is often attached to



Fig. 9. Suspended egg sac of a Ray Spider (Evan Jones; inset Phil - Flickr: *Theridiosoma gemmosum* X2, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=23247746>)

vegetation some distance above the web. Each egg sac contains from 5 to 20 eggs.

### **Pirate spiders** *Ero* spp.

Four species of Pirate spiders occur in Britain, all of which build egg sacs rather like that of the Ray Spider described



Fig. 10. Egg sac of a Pirate spider (either *E. furcata* or *E. cambridgei*) under a rock (Geoff Oxford; inset *E. furcata* (Wikimedia Commons))



Fig. 11. Egg sacs of Pirate spiders: from left, *E. furcata*/*E. cambridgei*, *E. aphana*, *E. tuberculata* (Tone Killick)

above. They too are all pear-shaped and of a similar size, but the stalk is shorter (6 to 9 mm long) and the sac is covered by a thin layer of tangled, wiry silk (lattice threads) (Fig. 10 & 11). The egg sacs of *Ero furcata* and *E. cambridgei* are identical, with a thin, copper-coloured hanging thread and a copper coloration. In *Ero aphana*, the hanging thread is also thin, but the egg sac is distinctively gold-coloured, including the lattice threads. Finally, the egg sac of *Ero tuberculata* has a thick hanging thread with a substantial attachment at the apex of the egg sac involving several thick strands of silk. It is white in colour with yellow/gold lattice threads.

*Ero furcata* and *E. cambridgei* are the two most widespread species, with *E. aphana* mostly in the southeast but as far north as Yorkshire. *Ero tuberculata* is the rarest of the four and found in south and eastern England. Pirate spider egg sacs, containing 5 to 15 eggs, can be attached to a variety of surfaces, including vegetation and rocks. I find them most reliably in garden centre greenhouses on roof supports, pipework etc., but they can occur almost anywhere. They persist long after the spiderlings have left and colours apparently do not fade with time, making the differences just described reliable guides to species – once you've got your eye in!

### Acknowledgements

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