

# The Purseweb Spider: life in a 'dirty sock'

by Geoff Oxford

The Purseweb Spider *Atypus affinis* is unique amongst Britain's spiders in that its jaws operate parallel to one another, and not in a pincer movement. Indeed, this species is more closely related to tarantulas and trapdoor spiders than it is to the other 660 or so spiders found in Britain.



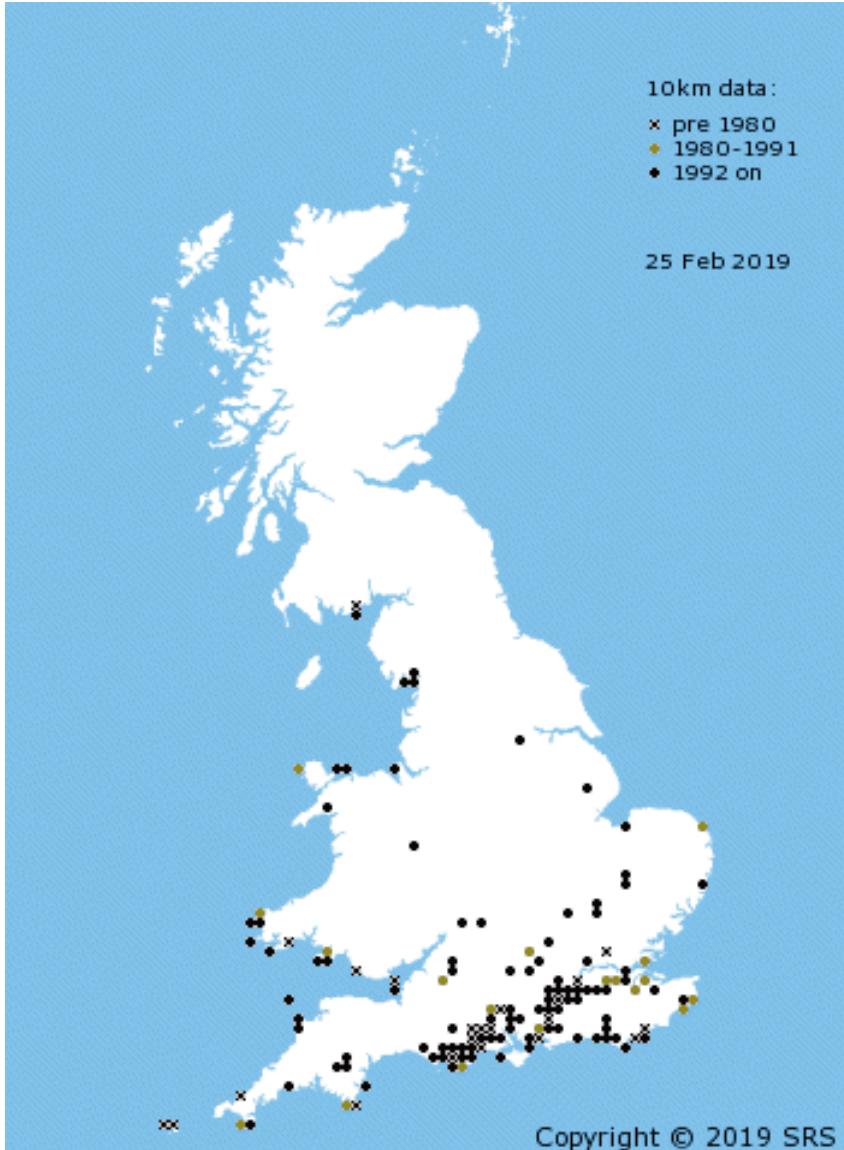
As our spiders go, it is quite a large species with females measuring 10-15 mm in body length, and males 7-9 mm. It appears rather 'chunky', with short legs, and is mostly brown and black in colour. Its most striking features are the massive jaws, which protrude forwards and are as long as the cephalothorax (the front section of a spider's body, a fused head and thorax) when viewed from above. The head section of the cephalothorax is raised in a ridge, which carries the eyes. On the underside of the abdomen, at the front end, are two pairs of paler patches called book lungs. All other British spiders have just one pair. Lastly, the posterior spinnerets are long and three-segmented.

Although the spider's stronghold is in the southeast it is widely scattered further north and west and just reaches southwestern Scotland (see map). In the east its most northerly known site is at Brockadale in South Yorkshire. It seems highly likely that the spider is under-recorded because of its difficult-to-find web and the fact





that individuals don't move about very much (see below). The Purseweb Spider is found mainly on warm, south-facing slopes in loose chalky or sandy soils and amongst short vegetation.





**The Purseweb spider, *Atypus affinis***

*Photo: Joyce Simmons*







So, where does the 'dirty sock' come in? This graphic description refers to the spider's web, which is a closed, silken tube some 25 cm long and up to 1 cm across. Most of the tube is underground (which is why the spider likes loose soils) but about 5 cm or so protrudes above ground and lies along the surface. The spider covers the exposed silk with soil particles, making it very difficult to see. The purseweb name comes from the resemblance of the tube to an old-fashioned purse, but its description as a 'dirty sock' is much more apt.

For most of its life, which can be up to eight years, the spider is sealed in its tube. It used to be thought that it emerged at night and hunted for food, but this is incorrect – the 'sock' is the danger zone for unwary invertebrates. If a beetle, for example, walks over the exposed tube the spider within strikes at it through the silk wall using its enormous fangs. Once caught, the prey is dragged into the tube through slits cut in the wall by saw-like teeth on the jaws. The slit is then repaired. Major food items include beetles, flies, earwigs and woodlice.



**Purseweb spider tube covered in soil particles. The tube dives into the ground on the right.**

*Photo: Geoff Oxford*



**Old webs may lose their soil coating**



**An old web opened to show the internal structure**

Although females stay in their tubes for life, extending the diameter and depth as they grow larger, mature males have to leave their webs in order to find a





mate. They can sometimes be seen in spring or autumn wandering on the ground surface. Once they have found a likely partner, males tap with vibrating palps and legs on the surface of the tube and, if accepted, tear a hole in the silk and enter the tube. After mating, the female produces an egg-sac within her burrow. The young hatch and eventually emerge from the mother's tube and disperse to establish their own, tiny pursewebs.

If you are visiting an area with loose soil on a south-facing slope, do get down on your hands and knees and look for 'dirty socks'. If you are lucky, you might add another blob to the distribution map of this rather special spider.

**Geoff**

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### What's in a name?

The scientific names of organisms usually tell us something about their appearance, the country in which they were first described, the habitat they are found in, or their behaviour. With *Atypus affinis* it is not so straightforward. **Atypus** is a Greek word which means either 'fearful' or 'not the typical sort', the latter perhaps referring to the fact that it differs from other European species. **Affinis** (Latin) means 'neighbouring' or 'similar'. Neighbouring might refer to the fact that several webs are often found in one localised spot.





**The Purseweb Spider with  
jaws ready to strike**

*Photo: Evan Jones*



*What a great spider!*

*For a photo of its underside showing its double pair of book lungs (BL) and the elongated pair of spinnerets, see inside back cover.*