



Are all colourful spiders show-offs?

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If anyone mentions to me that they really don't like spiders (the proper name for a fear of spiders is 'arachnophobia') I suggest they look at the wonderful film clips of Australian Peacock spiders on YouTube – just put 'Peacock spider' into Google. Here beautifully-coloured, male jumping spiders (there are several species) dance in front of females using their 'boxing glove' palps, legs and





flattened 'tails'. Who could not be absolutely fascinated by their antics? The 'tails' are flaps of the abdomen covered with colourful scales and are designed to impress the female and persuade her that he is the best one to choose. They do, indeed, look like miniature peacocks in full display. The colours here are to dazzle females and, perhaps, to make sure that she is mating with a male of her own species. Unlike the males, female Peacock spiders are a rather boring brown.



Crab s

Image: Ma

Male British jumping spiders are dull in comparison to the Peacock spider, but they too wave coloured legs and palps to signal to the female. Watch out for the common Zebra jumping spider (*Salticus scenicus*) on hot walls and fences during the summer. If you're lucky, you could follow their complicated courtship behaviour in your own back garden.

So, attracting a mate is just one reason why spiders are colourful, but not many spider families have good enough eyesight for this show-off's trick to work. Another use of colour is to make a spider less obvious on the background on which it rests. Spiders don't want to be spotted by their insect prey, nor do they want to be seen by their own

enemies, such as birds. Colour-matching your background does both at once. For example, many spiders that live on tree trunks are brown and mottled and closely resemble their bark and lichen backgrounds. Some are more adaptable.

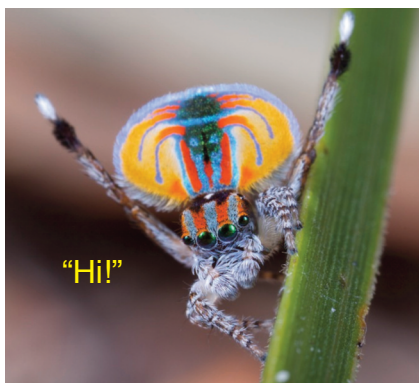


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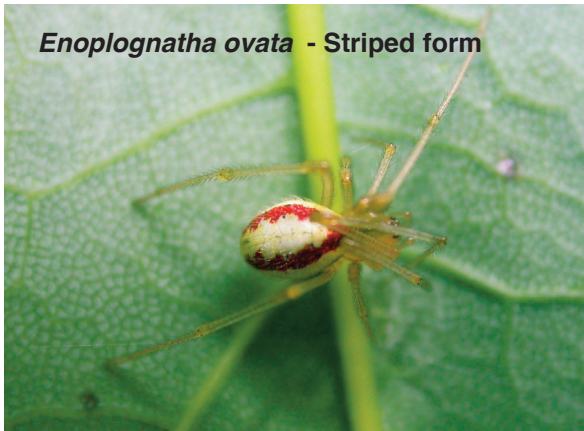
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The crab spider *Misumena vatia* waits for its prey on flowers, usually white or yellow ones. It can change its colour from white to yellow and back again so as to match the flower on which it is sitting. It has to be patient though, changing colour can take several days. Only the female hunts on flowers and can change colour, mature males are much smaller with brownish markings, and tend to lurk down at ground level. Some of our bigger orb-weaving spiders can also change colour but we don't know much about their ability to do this. For example, the Four-spot Garden spider (*Araneus quadratus*) can range in colour from straw-yellow through reds and greens to dark brown and, to some extent, seems to match the colour of its leaf retreat. The even more common Garden spider (*Araneus diadematus*) can also change colour. Try looking for these spiders in late summer and keep one or two of them as pets for a few days. Put them in a plastic container surrounded by coloured paper. Do they change colour to match the paper?

In some spiders there are a number of different colour forms within a species that are not caused by individuals changing colour to match their background. For example, the Candy-striped spider (*Enoplognatha ovata*) has three abdominal colour patterns, plain yellow, yellow with two red stripes and yellow with a solid oval of red.



***Enoplognatha ovata* -
Yellow form**



Enoplognatha ovata - Striped form



Enoplognatha ovata - Red form

These patterns are genetic and are inherited from their parents, just like eye colour is in humans. In late July and through August females of this species can easily be found inside rolled-up leaves guarding a bright blue egg sac. Check out your local bramble clump. If you gently unroll a number of leaves you are sure to find at least the yellow and striped varieties; the red form is less common. By-the-way, don't worry about disturbing the spider, she'll soon silk up the leaf again. Why species like this have different colour forms is a mystery. It may be that bird predators like to eat familiar prey and so if, say, yellow spiders are very common birds get the idea that yellow = food and go looking for them, missing the striped forms. If, as a result, striped spiders become very common the birds might switch and now striped = food, and they miss the yellows. In this way, both forms will be kept in the population. However, we really don't know if this is the correct answer or not.

If you do try putting orb-weaving spiders on different coloured backgrounds, do write in and let us know the results.

Images: Geoff Oxford unless otherwise specified

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