

'Ballooning' spiders grounded by infection

June 19 2009



This is a money spider "ballooning." Credit: Goodacre et al., BMC Biology

Money spiders infected with *Rickettsia* bacteria are less likely to 'balloon' - that is, to use their silk as sails to catch gusts of wind and travel long distances. Researchers writing in the open access journal *BMC Biology* suggest that it may be in the bacteria's interests to ground the spiders and that this reduction in dispersal could reduce gene flow and impact on reproductive isolation within the meta-population.

While working at the University of East Anglia, Sara Goodacre led an international team of researchers who investigated the microbes' effect on the spiders' ballooning behavior. She said, "Because we found no reduction in fitness associated with *Rickettsia* infection, the reduced

long-distance dispersal seems unlikely to be simply due to decreased body condition caused by illness. Rather, we believe that reducing long-distance dispersal could be an evolved adaptive modification by bacterial infections to promote their own transmission".

The researchers treated the [spiders](#) with [antibiotics](#) to reduce the bacterial infection and showed that this increased their ballooning frequency. They also observed that Rickettsia-infected spiders reared in the laboratory had reduced long-distance (but not short-distance) dispersal. This parasite-induced change in a non-reproductive trait has never been shown before and, according to Goodacre, "Clearly shows that the dynamics of ecosystem services such as a spider's pest-controlling function may be altered as a consequence of [bacterial infection](#)".

Source: BioMed Central ([news](#) : [web](#))

Citation: 'Ballooning' spiders grounded by infection (2009, June 19) retrieved 23 April 2024 from <https://phys.org/news/2009-06-ballooning-spiders-grounded-infection.html>

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