

Female spiders prefer the sperm of gift-bearing males

October 24 2013



A nursery web spider guards its nest. Credit: Marco Hebing

Research published today in *Proceedings of the Royal Society B* has provided evidence that females prefer males who bring them gifts- at least in the case of the nursery web spider.

An international team led by Dr Maria Albo found that male nursery web spiders who brought their intended mate a nutritious gift in the form

of an insect wrapped in silk had more [reproductive success](#) than their counterparts who brought the female no gift. Female spiders preferred the sperm of gift-giving [males](#). These males were allowed by a female to mate for almost ten times longer than empty-handed males and a larger proportion of their sired eggs successfully hatched into spider-hatchlings.

The team's research into the reproductive success of gift-giving male spiders sheds some light on the elusively named 'cryptic female choice'. Females who mate with more than one partner can favour one male's sperm over another's either during or after copulation. Many species exhibit cryptic female choice, from ducks to insects. Some eject unwanted sperm shortly after copulation, or release enzymes that break-down undesirable sperm.

When female nursery web spiders mate they store delivered sperm in organs called spermatheca to fertilize eggs later. Albo and her team found that after gift-giving and non gift-giving spiders mated with females for the same amount of time-transferring approximately the same amount of sperm- females stored more sperm from arachnid Romeos who brought a gift than those who didn't. The scientists suggest that these sperm counts indicate the role of cryptic [female choice](#) in selecting sperm from [male spiders](#) who offer their intended tasty trinkets.

The female's preference could be because [spiders](#) who bring gifts display advantageous heritable traits. Spiders who are able to catch prey to gift to a mate demonstrate excellent survival skills that could be passed on to their offspring. By selecting the [sperm](#) of a male who brings her gifts a female might also be ensuring her sons will inherit his charitable traits and so increase their odds of successful reproduction: known as the 'sexy son hypothesis'.

More information: Sperm storage mediated by cryptic female choice for nuptial gifts, [dx.doi.org/10.1098/rspb.2013.1735](https://doi.org/10.1098/rspb.2013.1735)%20

Provided by The Royal Society

Citation: Female spiders prefer the sperm of gift-bearing males (2013, October 24) retrieved 26 April 2024 from <https://phys.org/news/2013-10-female-spiders-sperm-gift-bearing-males.html>

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