

The best both of worlds -- how to have sex and survive

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Researchers have discovered that even the gruesome and brutal lifestyle of the *Evarcha culicivora*, a blood gorging jumping spider indigenous to East Africa, can't help but be tempted by that 'big is beautiful' mantra no matter what the costs. A study recently published in *Ethology* found that despite the inherent risk of sexual cannibalism, virgin females were attracted to bigger males when losing their virginity before opting for the safer smaller male as a longer term mate choice.

It is quite common for male spiders to fall victim to female sexual partners once they have mated as the female is more often than not bigger than her mate. In the case of *E. culicivora*, the gender roles and the size ranges of both sexes are different from the norm and this is important in understanding the evolution of their mate choice behaviour. Large males are more cannibalistic towards smaller females than vice versa.

Consequently, virgin females prefer larger males as mates, in spite of the increased risk of cannibalism, but once the females have mated they change tact and prefer smaller males. In contrast, males make the same choice regardless of whether they are virgins or not and prefer larger females as mates overall.

The research team based in New Zealand and Kenya used interesting techniques to ensure that their findings were based purely on size selection and not courtship behaviour. Dr Pollard explained 'like all salticids, *E. culicivora* has exceptional eyesight that is unrivalled by other

animals of a similar size. Because *E. culicivora* can see so well, we could test what size mates virgin and non virgin males and females preferred by showing them different sized, dead conspecifics arranged in life-like postures. These motionless mounts were coated with a plastic adhesive and allowed us to test for decisions based only on the size of the potential mate and not its behaviour. To check whether the decisions made with static models related to actual mating, we also repeated the experiment with the choice being live mates.’

Despite being the smaller and in this case weaker sex, the female *E. culicivora* has employed some interesting tactics in mate selection. Whilst this study suggests she may only mate once with a larger male, unlike male *E. culicivora* which discriminates less stringently, the research would suggest that her motives for doing so still remain largely unknown. Moreover this study provides ‘the first experimental evidence of pronounced mutual mate choice in a salticid and also the first experimental evidence of a salticid making size-choice discriminations in the context of mating.’

Source: Blackwell Publishing Ltd.

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