Meek male and fighting female scorpions

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This image depicts a male striped bark scorpion (*Centruroides vittatus*). Credit: Matthew Rowe, co-author of this *PLOS ONE* article.

Threatened female bark scorpions sting quicker than males, likely to compensate for reduced ability to flee the threat, according to results published May 28, 2014, in the open access journal *PLOS ONE* by Bradley Carlson from Pennsylvania State University and colleagues.

Differences between male and female scorpion bodies and behavior may result from sexual or environmental pressures. For example, female bark

scorpions are pregnant 80% of the year, and as a result, may deal with threats differently than males. To investigate this further, scientists tested the effects of sex and body shape on stinging and sprinting ability, and then evaluated the differences in aggression between the sexes in response to simulated threats.

Scientists found that female scorpions exhibit poor sprinting ability-likely due to their higher body mass while pregnant-and appear to compensate by rapidly stinging in both the sting speed and aggression trials. In fact, every female stung at least once during the sting speed trials, while only 64% of males did. On the other hand, male bark scorpions had longer legs and superior sprinting ability, which they probably use to evade predators and find a mate.

Bradley Carlson added, "Heavy scorpions are apparently more aggressive because they have a hard time escaping danger. The weight difference between males and the usually pregnant females seems to explain why they choose different options in a fight-or-flight situation."

More information: Carlson BE, McGinley S, Rowe MP (2014) Meek Males and Fighting Females: Sexually-Dimorphic Antipredator Behavior and Locomotor Performance Is Explained by Morphology in Bark Scorpions (Centruroides vittatus). *PLoS ONE* 9(5): e97648. DOI: 10.1371/journal.pone.0097648

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