

# Spider love: Little guys get lots more

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Big males outperform smaller ones in head-to-head mating contests but diminutive males make ten times better lovers because they're quicker to mature and faster on their feet, a new study of redback spiders reveals.

Published in the current online issue of *Journal of Evolutionary Biology*, the study shows the importance of maturation in defining mating and paternity success. In field enclosures, researchers simulated two competitive contexts favouring the development of differently sized male redbacks (*Latrodectus hasselti*).

The larger males were more successful at mating with and impregnating females when they competed directly with smaller males. However, when faster maturing smaller males were given a one-day head start, reflecting their earlier maturation in nature, they had a ten-times higher paternity rate than larger males.

Courtship between redbacks lasts an average of 50 minutes when males are competing and 4.5 hours for single, non-competing males. Copulation lasts from 6 to 31 minutes, and males are usually injured or killed during the process.

"The results reveal that big males don't get it all their own way," says lead author, UNSW postdoctoral fellow, Dr Michael Kasumovic, who co-authored the paper with Maydianne Andrade of the University of Toronto. "Nature favours larger and smaller males under different circumstances. Larger males experienced a longer maturation process so they are unable to search for and mate with females and produce

offspring at the same rate as smaller redback spiders.

"Large size and weaponry are strong predictors of a male's competitive strengths because those traits help them dominate smaller males when they compete for food and mating rights. However, evidence from studies of midges, dung flies and seed beetles reveals that smaller males develop sooner than larger males and often mate before larger competing males arrive on the scene. Size isn't the only ruler by which we can measure a male's quality. Many other factors, including maturation time, are critical in that definition."

Source: University of New South Wales

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