

Size doesn't matter if you're a sex sneak

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Research into the mating behaviour of one of New Zealand's most unusual insects shows it doesn't always pay to be brave – sneaking sex can be just as effective.

A new study offers insights into one of our strangest-looking endemic species, the New Zealand giraffe weevil, so-named for the distinctive "rostrum" extending from its head. Previously thought to be rare, behavioural ecologists Dr Christina Painting and Dr Greg Holwell at the University of Auckland discovered they are in fact quite common.

"They are one of the longest weevils in the world at up to nine centimetres but we really know very little about them," Dr Painting says. "But at the main study site in the Waitakere Ranges I found a large population which allowed for really detailed observations in the field."

Giraffe weevils aggregate on dead or dying trees in summer to breed, with larger [males](#) standing guard over [females](#) to ward off sexual rivals. While males and females mate multiple times during their short lives, males outnumber females, leading to a highly competitive environment where males do battle over females.

Males measure the size of an opponent relative to their own fighting ability, and their rostra can be used as a jousting pole to flick their opponent off the tree.

But a distinctive feature of this species is the extreme disparity in size between individuals. The largest males can be up to six times the size of

the smallest.

This means small males should have no hope of accessing females against much larger rivals. Except that, what small giraffe weevils lack in size, they more than make up for in tactics.

Using game theory – the study of strategic decision-making in animals – Dr Painting's research found smaller weevils adopt sneaking behaviour to mate with females without being detected by large males. They use speed and audacity, often seizing a mating opportunity in clear sight of a guarding male.

"This behaviour is so effective that small males gain just as many mating opportunities as large males," Dr Painting says.

"However there are many aspects of reproduction in this species, including female choice, which may play a part in fertilisation but are yet to be studied.

"We still have a lot to learn about one of New Zealand's most fascinating, if somewhat bizarre, insects," Dr Painting says.

Provided by University of Auckland

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