

# **An integrative approach to investigating male contest behaviour in the New Zealand sheetweb spider *Cambridgea plagiata***

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Eligible for student prize

Males often fight to gain access for reproductive opportunities with females. This struggle for access to females has driven the development of exaggerated morphology in the form of male weapons via the process of sexual selection. While spiders are widely utilised to study male contests, this has often been limited to a few charismatic and well-studied groups, such as jumping spiders. However, the contests of web building spiders which do not rely on vision are less well studied. Additionally, spider contests are often studied in isolated laboratory settings in which local population dynamics are overlooked. My research used the endemic sheetweb spider *Cambridgea plagiata* to explore male contest dynamics. Firstly, I explored the natural history and population dynamics of sheetweb spiders in order to understand relevant contextual information about the broader environment in which male contests take place. Secondly, contests were staged in the field to investigate what determined the winner of a given contest in a natural environment. Finally, I investigated the scaling relationship between weaponry and body size to explore the morphological consequences of contest behaviour between males. This robust scope of methodology provides a solid foundation on which to develop further research on this species.

