

## **A comparative analysis of sexually selected male traits in New Zealand sheet-web spiders (*Cambridgea* spp.)**

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Eligible for student prize

New Zealand sheet-web spiders (*Cambridgea*; Family: Desidae) are medium to large arboreal spiders distributed throughout the New Zealand mainland and on some offshore islands. This endemic genus possesses several interesting morphological traits which makes it an ideal system for making phylogenetically conserved comparisons of morphology across closely related species. Some features of interest in this system are stridulatory organs, complex web structures and exaggerated male chelicerae, all of which vary widely across the genus. Male chelicerae in particular are likely to be sexually selected and we have demonstrated previously that they play a role in mate defense by males in the North island species, *Cambridgea foliata*. However, leg length and body size are also likely to be sexually selected as these are also used in fights between males. It is reasonable to expect that these three traits, chelicera length, leg length and male body size may covary in some way and comparing these traits across the genus may give us insight into their relative importance and into the conditions allowing their development. We use a preliminary molecular phylogeny to begin examining how these morphological traits vary across a range of *Cambridgea* species while taking species relatedness into account.

