

Speciation and species delimitation in ground weta (*Hemiandrus*)

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Eligible for student prize

Why does diversity vary among taxon groups and places? Some features of organisms make them more prone to speciation e.g. strong sexual selection; while other properties may open up new adaptive zones and prevent extinction. The genus *Hemiandrus* (ground weta) consists of approximately 40 species (most of which are undescribed) and is the most speciose of all New Zealand Anostomatid genera. My research explores the question: why are there so many species of ground weta? Ground weta have various traits that indicate that they are or were subject to strong sexual selection such as nuptial gifts and female morphological adaptations for receiving nuptial gifts. Ground weta also have distributions of traits that suggest adaptive radiations, such as variation in ovipositor size and maternal care. My research uses molecular and morphometric tools to study the evolutionary relationships among *Hemiandrus* species and help delineate species boundaries. This data will be used to address questions about the role of selection in the speciation of *Hemiandrus*.

