

Aggressive floral mimicry in the orchid mantis (*Hymenopus coronatus*)

Greg Holwell *¹, James O'Hanlon ²

¹ University of Auckland

² Macquarie University

Mimicry, a phenomenon where one organism benefits from a resemblance to another distantly related organism, is widespread with many varied manifestations. These similarities can occur between distantly related organisms, such as insects that appear to resemble plant parts, yet the function of these resemblances is rarely experimentally demonstrated. Here we provide the first evidence that floral mimicry may function as a predatory strategy in the praying mantis *Hymenopus coronatus*. The colour of *H. coronatus* is indistinguishable from sympatric flower colours when incorporated into hymenopteran visual models. We observed *H. coronatus* attracting wild pollinators at a rate greater than that of a local flower species, and observed direct predation of pollinating insects as they inspected the mantis. We also used artificial models of *H. coronatus* to explore additional aspects of its interactions with pollinators, experimentally assessing the interaction between prey visitation, colour and shape variation, and location with respect to native flowers. This is a unique predatory strategy in the animal kingdom that has not been shown to occur in any other species, and the orchid mantis appears ideal for further investigation of the sometimes blurry distinction between crypsis and mimicry.

