Title: The Effect of Flower Color on Ladybug (*Hippodamia convergens*) Behavioral Response
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Hippodamia convergens is the most common ladybug in North America. This ladybug is significant to farmers because aphids, a common agricultural pest, is the main part of its diet. Therefore, ladybugs can be used as a natural pesticide (Flint and Dreistadt, 2005). Since ladybugs prevent damages caused by aphids and other destructive pests, it is important to further examine possible factors that might attract ladybugs. Here, we test whether different flower colors attract ladybugs differently. We hypothesized that ladybugs are attracted to lighter colors, since insects are able to see ultraviolet radiation and light surfaces emit large amounts of UV radiation (Shimoda and Honda, 2013). Three different colors of garden mums (*Chrysanthemum morifolium*) - white, yellow, and dark purple - were obtained and kept at a temperature between 78 °F to 83 °F. For each of five trials, 30 ladybugs were placed into three boxes. Each box contained two different types of flowers (yellow and white, white and purple, purple and yellow). In previous studies, disagreements arose as past research found that *H.convergens* avoid the color yellow (Wise and Bechinski, 1999), while another study suggested that yellow was the most favorable color to *H.convergens* (Atakan *et al*., 2016). We found no significant difference between mean yellow and mean white flower visitations ($p=0.145$, one-tailed t-test). However, mean yellow flower visitations was significantly greater than mean purple flower visitations ($p<0.010$, one-tailed t-test), and mean white flower visitations was significantly greater than the mean purple flower visitations ($p<0.001$, one-tailed t-test).

References

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