



Insect Camouflage in Wild and Man-made Habitats

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Abstract

I am studying insect camouflage, and whether or not insects are found more on plants similar to them in color, or on just any plant. In addition to this, I am also using these results to determine if this concept differs in areas of the wild compared to those that are man made. After observing the two areas, I came to the conclusion that the majority of the insects seen did use the plants to their advantage, and the results applied to both areas. These results are important because it shows that insects use the plants when it comes to camouflage. Both the man made, and the wild areas both yielded the same results. This goes to show that insects have adopted certain characteristics that allow them to blend in with their surroundings.

Purpose

The purpose of this research is to determine whether or not insects are found on plants that camouflage them, or on plants that don't, and apply this concept to man made areas vs. wild areas to see if location has any effect.

Questions, Hypotheses, and Predictions

Question: Are insects found more on plants that camouflage them, or on plants that they're more exposed? Do these results vary in man made areas vs. areas in the wild?

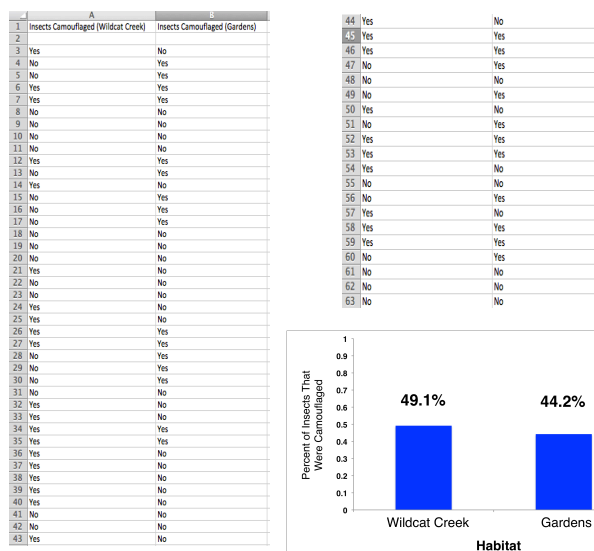
Hypothesis: More insects will be found on plants that camouflage them than those that do not. This will apply more in the wild than in man made areas.

Prediction: I predict that there will be more insects that camouflage than those that do not, and the majority of these camouflaged insects will be found in the wild areas.

Methods and Experimental Design

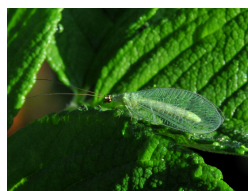
I observed the habitats of Wildcat Creek and the gardens outside of the McCain Auditorium. I went to 60 different plants per habitat and scanned each plant for insects. I observed the plant from top to bottom, and I then wrote in my journal whether the insect was camouflaged or not on the plant. I did this for both habitats, and to analyze my findings, I simply just counted how many insects were camouflaged vs. how many were not. After counting the numbers of insects, it was very close between the two habitats.

Results



An Example

The Lacewing (Neuroptera) was in high abundance during this research project. They seem to prefer the leaves in the middle of small trees and shrubs. It was very interesting to see how green lacewings were found on the green leaves, while there were also yellowish lacewings on the dead leaves.



Conclusions

In conclusion, insects prefer to live on plants that keep them from a predators eye over plants that leave them exposed. Man made areas vs. the areas in the wild yield no different results, and this shows that the concept of camouflage is universal. This may seem obvious, but not all insects rely on camouflage for protection, but the ones that have the ability to do so use it. This is very significant to science because it's a great example of how animals have adapted to certain environments, and developed characteristics to evade predators. This concept applies to a lot of different animals as well, and not just insects.

Future Directions

If this research was to be furthered, the next step should be to go more in depth. Instead of observing random trees, there should be certain areas of interest to get more accurate numbers. With this being said, one could also focus on specific insects due to the fact that this research was based on primarily one species. This research should be conducted at certain times of the year to get data on specific insects that may be more active at that time. To get this data, mark off certain areas with a similar number of plants in each, and take the numbers of camouflaged insects in these areas. Then do this at different times of the year to get different insects, and also observe the insect response to change in time of the year. Do insects adapt to change in plant coloration with different seasons? Are certain insects found on different parts of the plant at different times of the year? These are questions that one could take into consideration when conducting a follow up experiment.

Acknowledgements

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