CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)

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Project Number

38660

Project Title

Danaus plexippus: Can People Help the Population and Keep Them off the Endangered Species List?

Abstract

Objectives/Goals

The Danaus plexippus (Monarch butterfly) is on the verge of gaining protection from the Endangered Species Act. In this investigation I wanted to learn if people could make a difference and help protect them. I also wanted to learn if the survival rate of Monarch butterflies raised in nurseries indoors would be higher than the rate of those in the wild.

Methods/Materials

In this investigation/experiment I began with 1 milkweed plant that had 3 eggs. I clipped the leaves with the eggs and set up a nursery in my kitchen. The nursery was a clear plastic container with a damp paper towel. I put the leaves in the container and waited for the eggs to hatch.

Once the larvae reached instar 2 I moved them to a second nursery where I fed them fresh leaves daily. When they reached instars 4 and 5 I moved them to a netted milkweed plant outdoors to pupate in a natural environment. Finally, I moved the chrysalis/pupa indoors until the butterfly eclosed, and after a few hours I released the butterflies outdoors.

Results

In my investigation my results demonstrated that Monarch eggs had a significantly better chance to reach maturity indoors vs. outdoors. Recent studies show that only approximately 4% of eggs laid become butterflies. The survival rate for eggs/larvae raised indoors was 93% (I collected 46 eggs and/or larvae and released a total of 43 butterflies). My results propose the idea that people CAN help the population, but it also raises questions, like #Can people help the population by just having more milkweed in their lawns?#

Conclusions/Discussion

In this study I was able to show that Monarchs raised indoors had a very high survival rate, 93% in my investigation, while the ones I left outside had a rate of 0%.

My investigation results matched recent studies that only 4% of eggs in the wild become butterflies (NONE of my Monarch eggs raised outdoors became butterflies).

My limited data proposes the idea that people DO have an impact on the Monarch population. I observed that the Monarchs outside didn#t have a rate of success nearly as high as the ones indoors. It appears that people DO have an impact on the population and we CAN help the population. If more people got involved, perhaps we could stop the Monarch from being listed on the endangered species list.

Summary Statement

I raised Monarch butterflies to determine if humans can help the population by caring for them indoors until they eclosed.

Help Received

Preliminary