CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)

Elizabeth J. Bouchard

Project Number

J1903

Project Title

A Rainbow of Ultraviolet Color

Abstract

Objectives/Goals

I love animals and am fascinated that scientists knew birds had more cones in their eyes than humans which means they see more colors than humans, but they still believed that birds saw like humans. My goal was to design an experiment to observe bird behaviors affected by ultraviolet colors with materials I have available at home. I hypothesized that birds are attracted to the brighter ultraviolet colors.

Methods/Materials

I painted three paper plates in different ultraviolet colors, leaving the last one plain. Each day I filled the plates with new birdseed. I placed the paltes outside and recorded the amount of birdseed left on the plates at the end of each day.

Results

My hypothesis that birds would prefer the brightly colored plates was correct. The birds greatly preferred the ultraviolet pink plate and the ultraviolet yellow plate. The species of birds I tested were crows, sparrows, robins, pigeons, doves and blue jays.

Conclusions/Discussion

Many scientists incorrectly modeled bird behavior by ignoring the fact that birds have more cones in their eyes than humans, which means they see more colors than humans. My work was inspired by the work of researchers like Dr. Andy Bennett. Dr. Bennett uses advanced electronic equipment to visualize ultraviolet colors when observing bird behavior. He showed that zebra finches use ultraviolet vision in choosing a mate.

My experiment showed that the birds in my backyard prefer bright ultraviolet colored plates. If I were to do this experiment again, I would use different ultraviolet colors and if possible, different birds.

Summary Statement

To determine how ultraviolet colors affect bird behavior using commonly available materials and equipment.

Help Received

Teacher reviewed my report, mom helped type it