CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)

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Project Number

22264

Project Title

Murderous Mice: A Study of Peromyscus maniculatis on the San Mateo Coastside

Abstract

Objectives/Goals

The objective of this project was to identify differences in the population of peromyscus maniculatx (deer mice) inhabiting a humanly populated area of San Mateo County compared to an area of San Mateox County without human population. This project will help to determine if there is any threat from dex mice to humans from diseases they carry, such as plague and hantavirus.

Methods/Materials

Two areas in San Mateo County were selected and permission was obtained in order for my experiment tx be conducted. On Day 1, 75 traps were placed, and mapped in two areas: populated and unpopulated. Inx each area, three traplines were set with 25 traps in each trapline. On Day 2, the traps were checked in numerical order and flagged if mice were caught. We geared up in safety clothing and laid out our identifying materials. Mice were transferred from their traps and identified relative to their species, sex, and developmental stage. After the mice were identified, they were released back into the areas they were caught.

Results

A total of 41 mice were caught: 25 (61%) in the non-populated area and 16 (39%) in the populated area. The ?capture rate? was higher in the non-populated area where 33% of the traps had mice, compared tox the populated area where 21.3% of traps had mice. In the populated area, 14 of 16 mice (87.5%) were deer mice, compared to the non-populated area, where 9 of 24 mice (37.5%) were deer mice.

Conclusions/Discussion

The prevalence of deer mice was more than double in the populated area (85.5%) compared to tp non-populated area (37.5%). However, more numbers of mice were found at the non-populated area. Thex high prevalence of deer mice in the populated area suggests that humans may be at increased risk of becoming infected with deadly diseases carried by the deer mouse, such as hantavirus. The lack of species diversity in the populated area is likely due to environmental factors, such as habitat.

Summary Statement

Differences in the prevalence of deer mice in humanly populated compared to unpopulated areas of San Mateo County.

Help Received

Mother helped type small amount of report and assisted with graphics. Materials and technical background for mouse trapping were provided by the San Mateo County Mosquito Abatement District (SMCMAD). Trapping was conducted under the supervision of Dr. Chindi Peavy, vector ecologist at

Preliminary