CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
22414

Project Title
Utilization of Microlife in an Artifical Environment

Abstract

Objectives/Goals
My hypothesis was to determine if common pond microorganisms would be a beneficial factor in an artificial environment such as an aquarium.

Methods/Materials
Item/number needed/additional information. 1.Glass/plastic fish tanks (2) Any size; 2.Water pumps (3) Find one that is made for the tank you have; 3.Under gravel filters (2) Both must be made for the tank you have; 4.Gravel (about 4 lbs) any color; 5.Plastic plants (4) two per each tank; 6.Distilled water (about 4 gal); 7.Microorganism identification book (1) to identify certain species; 8.Glass jars (2) any size; 9.Fish (4) two per tank *Note- fish in this experiment are called Zebra Danios; 10.Funnels (1) shaped to be fit inside jar; 11.Microscope (1) to view and observe certain species; 12.Eyedroppers (10) Used to separate the wanted species from the unwanted; 13.Notebook (1) to record findings; 14.Pond Microorganismst (depends) Make sure you get the species mentioned in my experiment for best results; 15.Tape, string (one roll) For the construction of the light trap; 16.Glow sticks (depends) Number depends on number of trials; 17.Tropical fish flakes (depends) Food for your fish in the control aquarium.
Basic Experimental Method: Set up your aquariums by following the instructions that it comes with. Fill both aquariums with distilled water and place two fish per aquarium. Feed fish once a day and feed one aquarium with microorganisms and the other with flake food. Observe everything that happens in at notebook. Follow this procedure until the trial is over. Clean out everything and replace with new fish. Set up the aquariums again and follow the same directions.

Results
I discovered that the common pond organisms played a major role in the artificial environment. Not only did they give the fish something nutritional to eat, they microfiltered out the water and kept the tank surprisingly clean. This just shows how much of a benefit these little creatures can have on a totaly freshwater environment.

Conclusions/Discussion
My results, in fact, did support my hypothesis, meaning that the organisms were a beneficial factor to the artificial environment. This project shows the importance of using common pond organisms in freshwater fish aquariums. Without these little crustaceans the aquarium would be polluted with algae, waste, and debris just like in their natural environment.

Summary Statement
Finding a use out of common pond crustaceans.

Help Received
Parents were my financial support