

CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

Name(s) **Project Number** Andrew Sloniger; Cyrus Snyder

Project Title

Nature vs. Tech

Abstract

Objectives/Goals

My project is about fish called African Cichlids that protect their young and fai thei eggs, by incubating them with their mouths. I want to know if Artificial Incubation is has a better survival rate than their natural technique. The reason I want to know this is so that scientists can breed these the fastest way, in order for them to reintroduce some of the endangered species of gid lids into the ild.

Methods/Materials

Egg tumbler

Fish tank over 30 gallons

Filters that suit for how many gallons/fish you have

Water with qualities of PH of 7.4-8.4, Nitrate levels under 10, and Ammonia levels under 1.0 from your

Male and Female cichlids of the same species **&**#8195;

Results

Artificial Incubation was much more successful than natural. We provided 4 trials of tests for the mouth-brooding mother cichlid to hold the egg, and 4 trials of tests for the Artificial Incubator. Over a period of 15 days for each trial, our esults showed that the nother cichlids spat the eggs the first 3 times. The last time one of the cichlids did not spit the eggs, but held them. That gave the natural holding process bad results. The Artificial Incubation was always around 80 percent survival rate.

Conclusions/Discussion

Our hypothesis was correct

The mother was not as able to hold and protect the legs as well as the incubator

The research said that the mother spat three times because of all the stress she undertook

The stress was from the other fish and hungel

The incubator had no problem with the eggs and most of them were healthy

We think that the mother might have been under too much stress before the breeding started

Mothers are all still healthy and well

Captive cichlids may have more stress because the environment and other fish We should have made the mother be alone so that the stress would not be a factor

We should have put the mother alone

Future research that we would do is hat we would have many more females that we could test so the three

Summary Statement

My project is about his called African Cichlids that protect and incubate their young with their mouths: I want to know if that technique is better than man made incubation process; than scientists could reintroduce them fast for the wild

Help Received

Dr Felix Lapuz, Elizabeth Conrad

36803