



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Alexa N. Duran	Project Number J2104
----------------------------------	---------------------------------------

Project Title

Jellies Under Pressure: The Effects of Low Dissolved Oxygen Levels on the Pulse Rates of Aurelia aurita Ephyrae

Abstract

Objectives/Goals

The objective of the project is to discover whether or not there is a difference in the pulse rates of Aurelia Aurita (Moon Jellyfish) Ephyrae between normal and low dissolved oxygen concentrate levels. I believe that lower dissolved oxygen levels will cause more stress to the jellyfish which will result to a decrease in the pulse rates.

Methods/Materials

Materials used include, but not limited to: a stopwatch, Moon Jellyfish, tally counter, airlines, flasks, saltwater, and a Dissolved Oxygen measuring chemical kit. Trials were conducted by setting a timer for one minute, isolating one of the jellyfish and visually counting each time they fulfilled a pulse motion and recording the amount with the tally counter.

Results

Around a dozen of moon jellyfish ephyrae lived in the different Dissolved Oxygen levels for two weeks and tested at the end of each week. Each of the trials were run to determine their pulse rates and if they were effected by the different levels of Dissolved Oxygen. Overall, based on the results, there is a small decrease in pulse rates as the Dissolved Oxygen levels drop.

Conclusions/Discussion

In conclusion, there is only a small decrease in the pulse rates as the Dissolved Oxygen levels lower however, a lot more data is required to guarantee a decrease in pulse rates, meaning that my hypothesis is only partially supported.

Summary Statement

When measuring the pulse rates of the jellyfish within a minute in different levels of Dissolved Oxygen, I found that there isn't a significant decrease in the pulse rates as the Dissolved Oxygen levels dropped.

Help Received

My designated area and materials were provided by the staff of the Cabrillo Marine Aquarium, The staff also helped me with any problems that ocured during the experiment and cared for the jellyfish when I wasn't able to. Although, I set up and performed the trials myself.