The Effect of Ocean Acidification on Planarian Regeneration

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The purpose of this experiment was to determine if ocean acidification could be causing damage to stem cell processes in aquatic organisms based on what effect varying levels of aquatic pH could have on planarian regeneration. The procedures involved creating a system of regulating pH of water by connecting a CO2 tank, solenoid valve, and pH controller and attaching it with CO2-proof airline tubing to a ceramic diffuser in the water. The planaria were removed from the original tank using a disposable pipette and placed onto a microscope slide, where they were measured and sliced approximately in half using a glass cover slip. The planaria were then remeasured and placed into the pH-controlled water. Every 24 hours following the planaria were re-measured and observed for signs of life. The data showed that the planarian's regeneration rate appeared to be negatively affected by an increase in aquatic acidity. However, the results cannot be assumed to have any actual significance as the amount of data taken was not nearly enough to support a rejection of the null hypothesis as well as there being ample opportunity for error.

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