

MURC 2019

Presentation ID: 126

Presentation Format: Poster Presentation

Presentation Title: The Effect of Temperature on the Motility of Euglena gracilis

This study investigated the effect of temperature on the motility of *Euglena gracilis*. A culture of *E. gracilis* was divided into four groups and incubated at different temperatures (11°C, 17°C, 27°C, 34°C) for 60 minutes. After incubation, the swimming speed of *E. gracilis* was measured under a compound microscope using a Dino-lite eyepiece camera. The results obtained, displayed a trend wherein the rate of forward swimming of *E. gracilis* increased as temperature increased up until 27°C. As temperature surpassed 27°C, the rate of forward swimming began to decline. A one-way analysis of variance (ANOVA) resulted in a p-value of 1.64×10^{-8} indicating statistically significant differences in the results. The increase in speed at higher temperatures up until 27°C may be attributed to an increase in the metabolic activity of the organism, since 27°C falls within the optimal temperature for *E. gracilis* growth (Buetow, 1962). The decrease in speed above optimal temperature may have been due to denaturation of metabolic enzymes, hindering motility structures like the flagella (Humphries, 2013). We predicted that the rate of swimming of *E. gracilis* will increase up until the upper limit of its temperature range. Subsequently, as temperature conditions surpass this maximum value, the rate of swimming of *E. gracilis* would decline. Our prediction was met. We reject the null hypothesis that there would be no change in movement speed at varied temperatures and support the alternative hypothesis that the average rate of swimming of *E. gracilis* changes as the temperature changes.

Commented [C1]: Could you define what this is in the first or second sentence?

Commented [C2]: What is the significance of this research?

Themes:

Check (highlight) the most applicable theme according to the abstract.

<input type="checkbox"/> Innovation and Technology	<input type="checkbox"/> Health and Wellness	<input type="checkbox"/> Culture and Society	<input checked="" type="checkbox"/> Sustainability and Conservation
--	--	--	---

Comments: This is a great abstract. Easy to understand. Perhaps you could introduce your hypothesis before discussing the results. Can you explain the significance or implication of this research?