Abstract

This study looked at two samples of deep sea *Narella* coral from different oceanic sites in the Pacific Ocean off the coast of Costa Rica. The samples were collected between two thousand and three thousand meters below the surface of the ocean, with roughly an 800 meter distinction in depth between them, already giving them a distinct environmental factor difference that this study draws interest from. The question is whether or not these two samples have a statistically significant relationship in growth patterns. In other words: Does a difference in depth, O2 concentration, O2 saturation, salinity, and temperature change the size of *Narella* polyps, and if so, do the polyps get smaller or bigger as these factors change? This study used the ImageJ software to calculate the surface areas of coral samples, and the findings suggest that the size of *Narella* coral polyps do change under unalike environmental conditions as one sample's polyps were significantly bigger than the other. This study took interest in *Narella* polyps specifically because of the unexplored world of the deep sea. Oceanography is a relatively new study, only starting around 1872 (Webb, 2021); this means that there are still so many things that are left undiscovered or very recently discovered in the ocean. How *Narella* corals manage to live so deep in the ocean without light started the many questions that a few of are addressed in this study. The findings of this study suggest that the size of *Narella* coral polyps do change under unalike environmental conditions.