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Short term effects of polystyrene plastic on *Aiptasia pallida*

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This study focuses on the effects of polystyrene plastic (PS) on the anemone *Aiptasia pallida*. PS plastic is commonly used worldwide and is found in a wide variety of products. Some of these include plastic used in food services, packaging for shipping, as well as for many medical uses such as tissue culture trays. Due to the increasing amount of plastic produced, much of it is ending up in our oceans. It is estimated that there are at least 12.7 million metric tons of plastics being released into our oceans each year. This study looks at the short term effects plastic consumption has on *Aiptasia pallida*, specifically overall short term

health effects. Examples of effects are weight and tentacle area, the retention time of plastic throughout a twelve day study, and the anemones' ability to extract heavy metals out of the plastic. A total of ten anemones were exposed to plastic for twelve-days, then kept at 20°C and then kept at 25°C. It was found that there was no statistical difference between retention time of plastics or the different temperature treatments (P-value 0.2048). It was found that during the experiment, the overall anemone weight decreased, resulting in a statistical difference between day one and day twelve of both treatments (P-value 0.001 and 0.005 respectively). It was also found that throughout the experiment the average tentacle area decreased for both treatment types, however, 20°C was not statistically significant with a

P-value of 0.09 while 25°C was statistically significant with a P-value of 0.0001. Overall it was found that anemones kept at different temperatures did not show any preference for consuming plastics, while overall health decreased in both cases due to plastic exposure.

Biography

Natasha Sawickij is a recent graduate of Florida Southern College, attaining a BS in Marine biology. She has previous research experience at the Duke Marine Lab in Beaufort NC, under the supervision of Dr. Daniel Rittschof. During her senior year at Florida Southern College, Lakeland FL, she was able to complete a study on the Short-term effects plastics have on the anemones *Aiptasia Pallida*. She hopes to attend graduate school this coming fall.

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