

“The Quantification of Antimicrobial Peptides Throughout the Molt Cycle of the American Lobster,”

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The American Lobster, *Homarus Americanus*, is an important species economically and culturally in the northeastern United States. According to the National Oceanic and Atmospheric Administration, 132 million pounds of lobster were caught in Maine in 2016 (roughly worth 540 million dollars). Because of the value of the American Lobster, their wellbeing and health are of interest in research. In recent years, there have been many mass die offs of lobsters due to disease. These mass deaths are linked to increased stress on the lobsters due to warming water temperatures (Pearce & Balcom, 2005). Therefore, understanding lobster immune systems could provide insight into this phenomenon.

Unlike people, lobsters do not have adaptive immune systems. Instead, they rely on an innate immune system to combat any pathogens that they encounter. This innate immune system is largely composed of antimicrobial peptides (AMPs) from hemocytes (blood cells) within their hemolymph (blood). In order to observe how these AMPs work within the lobster, I have studied changes in AMPs over the molt cycle of the American Lobster. The molt cycle is the process in which lobsters shed their old shells and continue to grow throughout

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References:

NOAA. (n.d.). Office of Science and Technology. Retrieved from <https://www.fisheries.noaa.gov/about/office-science->