

**Tension production and sarcomere length in lobster (*Homarus americanus*) cardiac muscles: the mechanisms underlying mechanical anisotropy**

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My honors project in the Department of Biology focused on the biomechanical properties of cardiac muscles in the American lobster ( ). Specifically, I was able to characterize length-tension curves of lobster cardiac muscles, which are defined by the ability of lobster cardiac muscle to generate force when stretched to different lengths by the filling of the heart. With the help of the Grua-O'Connell funding, the Department of Biology was able to purchase a highly sensitive translation stage (Fig. 1), which without, this honor's project would not have been possible.

Thanks to the Grua-O'Connell fellowship, this study presented the first known set of crustacean cardiac length-tension curves.

