

MURC 2019

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Presentation Format: Poster Presentation

Presentation Title: OCEAN ACIDIFICATION AND WARMING AFFECTS BOTH THE FUNCTIONAL AND ABSOLUTE LIFESPAN OF A MARINE TREMATODE PARASITE

Human activities are causing an increase in atmospheric CO₂, leading to unprecedented environmental change including increases in seawater temperature and decreases in seawater pH (ocean acidification). It is vital that the effects of these changes on marine organisms be explored so that we may predict how marine communities may be altered. In particular, the effect of CO₂-mediated environmental change on trematode parasites is a pressing area of research, due to the lack of knowledge in this area relating to these ecologically important parasites. We conducted an experiment examining the effect of warming and ocean acidification on an echinostomatid trematode from Vancouver Island, British Columbia. Specifically, we quantified the longevity of the free-living cercarial life stage, which is related to the probability of transmission to the secondary host. We found increased temperature to negatively affect this echinostomatid species, as cercarial longevity was highest at 5 °C and decreased with increasing temperature up to 40 °C. The effect of CO₂ was most pronounced at lower temperatures, with increased pCO₂ causing decreased longevity in some cases. These results indicate that changing oceanic temperature and pH may affect the longevity of cercariae and consequently impact infection success. Because trematode parasites are important members of intertidal communities whose presence or absence can regulate the abundance of host species in the system, a change in infection success of trematode cercariae due to climate change could significantly affect many marine intertidal communities.

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
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Comments: Great abstract. It is easy to follow and touches upon all important factors of an abstract.