

*Effects of acidic pH conditions on the survivability of varying Tigriopus Californicus populations
to mimic ocean acidification*

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Abstract

Ocean acidification due to anthropogenic effects continues to threaten marine ecosystems and the success of many aquatic organisms. Because of this, it is important to study the effects of decreasing ocean pH on key organisms pivotal to the success of ecosystems, such as copepods. This study investigates the repercussions of acidic pH conditions on the survivability of different *Tigriopus Californicus* populations, a widely studied copepod species crucial in marine ecosystems. It was predicted that decreasing pH levels would lead to a greater knockdown of copepod populations, with southernmost populations exhibiting better survivability. Two different populations of *T. Californicus* were exposed to decreasing pH levels simulating ocean acidification scenarios. Survival rates of each population were then assessed under the acidic conditions. The findings of this experiment reveal decreased survivability with lower pH levels in both populations, with no distinct trend based on sex or geographic location. Understanding the survival rates of marine organisms to ocean acidification is essential for predicting ecosystem dynamics and implementing effective conservation strategies in a changing aquatic environment.