The Effects of Chitin synthesis inhibition on T. Californicus stress conditions
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Copepods are small crustaceans that are found in almost every water source around the world. Their exoskeleton is made up of chitin, and a chitin synthesis inhibitor has been found to control certain copepod populations (Aaen & Horseberg, 2016). This paper will explore the effects of a chitin synthesis inhibitor, diflubenzuron, on the Bodega Bay (38.3332° N, 123.0481° W) copepod population, Tigriopus califoricus. Copepods, both mature and immature, are exposed to differing levels of diflubenzuron and then subjected to hypoxia and temperature stress trials. The immature copepods, nauplii, showed a higher rate of knock down in both the hypoxia and temperature stress trials in higher concentrations of diflubenzuron. The adult male copepod data does not show any specific trend. This shows that a chitin synthase inhibitor is successful in controlling populations by targeting nauplii. Further experiments could include looking at longer term stress conditions on larger sample sizes to determine if a more exact relationship between the pesticide and the copepod community exists.