

Title: The effect of energy on mortality in early benthic phase intertidal invertebrates

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Abstract:

Many intertidal invertebrates, such as barnacles, snails, seastars, and crabs experience dramatic (up to 90%!) mortality in the very early stages of juvenile life. This high level of mortality has a large influence on the overall abundance of their populations. Many potential causes of this mortality have been studied, but the most significant factors are those linked to environmental stressors, such as increases in temperature and risk of desiccation (ie. drying out). However, juvenile mortality is highly variable, not only between species, but among individuals of the same species. There is evidence that animal's energy reserves at the beginning of juvenile life may play an important role in determining which individuals survive, and which die. The aim of my project is to determine to what extent energy reserves play a role both directly in mortality and in tolerance to environmental stressors during the early benthic phase. Surprisingly, my research indicates that for some species, size of energy reserve does not have a significant effect on survivorship. These findings may force us to rethink current hypotheses about the role of energy on early benthic phase mortality in intertidal invertebrates.