

Life's a Beach: A proposal for investigating New Zealand's wrack communities.

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Eligible for student prize

The distinctive band of seaweed that can be found washed up on most coastlines at the high tide mark, known as wrack, is home to an entire community of invertebrates. Many of these species are unique to this habitat and live very specialised lives due to its transient nature. These invertebrates provide a crucial link in the coastal food chain, as food source for birds, fish, and other invertebrates, and by contributing extensively to the decomposition of seaweed washed ashore. Despite this there has been little work investigating these communities. This is an oversight not only due to their ecological importance, but also because one gets to spend all their days at the beach investigating them. As part of my project I am proposing to investigate the diversity and composition of New Zealand's wrack communities in two different ways. First, I hope to survey wrack communities throughout the country to build up an image of their diversity and how they might vary across New Zealand. Second, I plan to carry out a more intensive and localised study focused on temporal variation within a wrack community. My main group of interest are New Zealand's Coelopids, known commonly as seaweed flies, of which New Zealand has a number of native species. The Coelopid mating system involves extreme sexual conflict and scramble competition, a dynamic system that is dictated by the population dynamics present at any given time. Therefore, within this temporal study, along with surveying the invertebrates present and their variation over time, I plan to focus specifically on the population dynamics of the Coelopids, including gathering information on their sex-ratios, abundance, and size variation.

