

Abstract

***Oithona davisae*, the most dominant copepod in Tokyo Bay, a highly eutrophicated embayment: Why are they so dominant?**

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Among various factors, anthropogenic loading and global warming are considered to be causing significant changes in the coastal marine environment. We need to holistically understand mechanisms in such changes to predict how the environment would be in the future.

Prerequisite is detailed knowledge on biological processes as well as physical and chemical ones in response to the environmental changes. Here we show our recent study on *Oithona davisae*, a planktonic cyclopoid copepod species, that is known to be extremely abundant and often dominates in coastal marine embayment.

To understand why this animal is so successful, we have been looking into its vertical distributions corresponding to water-column stratification, and also its swimming ability to escape from predators. Here we show how *O. davisae* escapes from the moon jelly *Aurelia aurita*, which devours zooplankton and occurs in a huge number in embayments including Tokyo Bay. Direct observations revealed that *O. davisae* is agile enough to escape from the moon jelly's ephyra larvae, that appear much more numerous than adult moon jelly. This agility reducing the predation mortality may be crucial for *O. davisae* to dominate in this bay and somewhere else that are full of predators. Movies showing such ability to escape from predators will be shown in our presentation, comparing with some other planktonic animals such as *Acartia* (larger copepod), barnacle cypris, decapod zoeas, etc., being less agile than *O. davisae*.