

Aspects of optimal foraging based on prey-size preference in *Asterias rubens*—*Mytilus edulis* predator-prey interaction

Predator—prey interactions are seen all throughout the animal kingdom and they all play a significant role in the survival of both predator and prey. When a predator picks its prey, it is going to choose to prey upon the organism that will give them higher nutritional value. This experiment looked at not only prey-size preference of the sea star, *Asterias rubens*, on its preferred prey, the blue mussel, *Mytilus edulis*, but also the approximate amount of protein ingested by the sea star. Sea stars of three different size classes were presented with three mussels at a time. Each mussel was a different size. During observation, if a mussel was consumed, a mussel of similar size replaced it. Data was recorded on which mussel was consumed by which sea star over a four-week period. A BCA protein analysis was performed on the mussel tissue to determine percent protein in the tissue. There was a significant interaction between the medium size class of the sea stars and the blue mussel.