

## **The role of epibionts and shell species in shell selection in the hermit crab, *Pagurus longicarpus***

The obtainability of gastropod shells can limit the population size of adult hermit crabs. This study determined whether *Pagurus longicarpus* had a preference for shells that were covered in different percent coverage (0%, 50% and 100%) of epibionts and also to determine whether *P. longicarpus* had a preference in shell species when covered with the same percent of epibionts. Twenty-four hermit crabs were collected from the Castine Beach in Castine, Maine and were given the choice of three shells (0%, 50% and 100%) of the same shell type. After 24 hours, the shell chosen was recorded and the hermit crab was given another choice of shells; two shells with the same epibiont coverage as previous selected, one a *Nucella lapillus* shell and one a *Littorina littorea* shell. A Chi Square Test was used to determine that hermit crabs have no significant preference when given a choice of shells covered in 0%, 50% and 100% of epibionts, regardless of their initial shell species. A Chi Square Test also resulted in no significant preference for shell species chosen when covered by the same percentage of epibionts except for one exception.

Advisor: Ann Cleveland