The Study of Hemigrapsus sanguineus Population Density and Genetic Variation

Slein, Margaret

I expect to find that the number of Asian Shore Crabs are vast in both Scituate and Nut Island and to discover that the populations are not evolving due of their geographic proximity and lack of geographic isolation. Two standard traps will be deployed at each location. The traps will be removed from the water and each crab caught will be marked with a waterproof, nontoxic paint and returned to the water, at various times depending on sunrise and tides. Each time the trap is retrieved, a ratio will be recorded of marked crabs and unmarked crabs to determine the population density. For population density, the ratio between the number of total crabs caught and crabs previously caught will be compiled and averaged to create an average ratio. A number of crab DNA will be taken from the legs of the crabs from each location and studied by me, for genetic mutations and variations at Northeastern University. The samples will be analyzed at specific DNA locations to search for genetic markers that could indicate genetic variation. This data will be compared from location to location and to the DNA sequence of the Asian Shore Crab that Northeastern University possesses.

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