Characterizing the genetic structure of the American horseshoe crab, *Limulus polyphemus,* population in the Bagaduce River, Maine using three DNA microsatellite markers

Limulus polyphemus is a species that is an important resource for fisheries and the biomedical industry and plays a crucial role in its natural environment. A population of at the northernmost extension of this species range remains genetically undescribed. The goal of this study was to characterize the population genetic structure of *L. polyphemus* and to determine whether the population was isolated or connected. Blood, tissue, and molt samples were collected from two locations along the Bagaduce River, ME in early July. DNA was extracted and amplified at three microsatellite loci. Based on the DNA profiles, the Bagaduce River population exhibited high genetic diversity with no significant levels of inbreeding. Future work needs to be completed to understand the genetic differentiation of the Bagaduce River population with regards to other Maine populations. Results from future studies may be a key explanation as to why the Bagaduce River population has high diversity.

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