Phylogenetics, life history, and conservation of the Lined Seahorse, *Hippocampus erectus* in the Western Atlantic

Joel Boehm
Queens College, 65-30 Kissena Blvd, 11367 Flushing, United States of America
jt@riverproject.org

The Lined Seahorse, *Hippocampus erectus*, is widespread throughout the coastal western Atlantic. In 2004, *Hippocampus erectus* was assigned a vulnerable status by the IUCN (World Conservation Union) Red List, a comprehensive inventory of the global conservation status of species. Despite this status, little life history information exists on the metapopulation of *H. erectus*. Knowledge of the life history of a species is vital for its management and conservation. For *Hippocampus erectus*, behavioral traits such as reproduction, feeding, and habitat preference have received more attention than population health, size and structuring, which are often more difficult to quantify. *H. erectus* has been known to tolerate a wide range of temperatures and salinities, and has been collected from southern Nova Scotia to Brazil, giving it one of the broadest ranges of any seahorse species. Seahorses are fully developed when newly born and begin feeding immediately, suggesting that they are unlikely to disperse widely as part of the plankton, yet some direct developers (i.e. taxa that lack larval stages), like *Hippocampus erectus*, appear to be widely dispersed. One explanation for this wide dispersal range may be that Gulf Stream currents replenish *Hippocampus erectus* populations by means of long-distance rafting on floating mats of Sargassum weed. To gain insight into this aspect of their life history we will obtain information about basic population structure and estimates of gene flow by addressing the "Gulf Stream rafting hypothesis" (i.e. that genetic composition of northern populations may be genetically mixed with southern populations). Genetic mtDNA analysis will be used to test this dispersal hypothesis. Here we present the preliminary findings from several populations of *Hippocampus erectus* ranging from the Gulf of Mexico to New York State.

Number of words in abstract: 279
Keywords: Biogeography - genetics - dispersal
Technical area: Ecosystems, Biodiversity and Sustainable Development
Special session: Not specified
Presentation: Poster presentation preferred
Special equipment: No special equipment