Parasite Driven Behavior Modifications of an Invasive Marine Snail, *Batillaria attrementaria*

Cameron Averden, Jeremy Davis PhD

Batillaria attramentaria, a species of marine snail, is highly invasive in intertidal habitats along the Pacific coast of North America. *B. attramentaria* is commonly infected with a parasitic trematode, *Cercaria batillariae.* Parasitic infection is known to alter both physical characteristics and behavior of snail hosts, often benefitting the parasite's survival and reproductive fitness. I investigated the effects of parasitic infection on antipredator responses of *B. attramentaria*. Snails were sampled from the intertidal area at Penrose Point State Park in Lakebay, Washington, and acclimated to tanks under controlled laboratory conditions. Afterchemical cues derived from a predatory crab were introduced, then antipredator responses, distance moved and frequency of burrowing, were measured for one hour. I hypothesized that snails with parasites would display a reduced antipredator response by burrowing less frequently and crawling longer distances compared to non-parasitized snails. If there is an influence of parasites on the host, these behavior modifications might be advantageous to the parasite cercaria by bringing them into closer proximity to secondary hosts and increasing the likelihood of completing their life cycle. Enhanced understanding of the parasite-host interaction can give further context to future and ongoing studies on the success of *B. attramentaria*, and provide additional information for more robust and accurate modeling of the influence of this invasive species on native intertidal ecosystems.