SOME ASPECTS OF ECOLOGY, BIOLOGY, AND FISHERY OF THE HORSE MUSSEL *Modiolus metcalfei* (HANLEY, 1843) IN DUMANGAS, ILOILO

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ABSTRACT

The exploitation of *Modiolus metcalfei* in Dumangas, Iloilo has been going on since the 1970s. It has undergone the cycle of resource depletion to recovery but its management remains hindered by the poor understanding of its ecology, biology, and fishery. The present study characterized the habitat, investigated the aspects of morphology, allometry, asymmetry, feeding biology, and analyzed the value chain of *M. metcalfei* fishery in the area. Monitoring of physicochemical parameters, sediment grain size and organic matter content, estimation of population density were conducted for six months. Morphology, allometry, and asymmetry were investigated using combined linear and geometric morphometric methods while pre-ingested food and plankton composition in the water were determined qualitatively. Moreover, interviews and observations were conducted to analyze the value chain of the horse mussel fishery. Although the physicochemical parameters were at optimal levels, results in the analysis of asymmetry indicated developmental instability and ecological stress. The primary factors influencing the variation in morphology were sex and environmental fluctuations. The horse mussel mainly relied on phytoplankton, primarily diatoms, for food. The lack of support from enablers, lack of adequate enforcement, and lack of post-harvest infrastructure hindered the full development of the fishery. Moreover, poverty dimensions were revealed in the analysis of the value chain. To craft better management policies, studies on the population dynamics and reproductive biology are recommended.

Keywords: horse mussel, habitat, morphology, plankton, value chain