Fishery and exploitation status of black clam, *Villorita cyprinoides* from Vembanad Lake, Kerala

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The black clam, *Villorita cyprinoides* (Family Corbiculidae) is the most important clam species contributing about 90.9% of the total clam landings from three estuaries in Kerala i.e. Ashtamudi, Vembanad and Chettuva with Vembanad Lake contributing 90.2% to the total clam fishery. In 2018, about 99.27% of black clam production was contributed by Vembanad Lake, the largest estuary, 96 Km long on the west coast of India. More than 5,000 fishermen are involved in the fishery which includes 2,000-2,500 of active fishers. Fishery, population characteristics and stock estimates of *Villorita cyprinoides* were carried out from 2014-2018. Minimum legal size (MLS) of black clam, *V. cyprinoides* was fixed at 20mm using size at first maturity as a biological reference point. Based on the recent catches of *V. cyprinoides* from Vembanad Lake, about 5% of the catches consist of juveniles. The production of black clams declined from a peak of 75,592 t in 2006 to 52238.91 t in 2018. The asymptotic length (L_∞) and growth coefficient (K) were estimated at 51.45 mm and 0.74 y^{-1} respectively from fishery samples. However, these estimates may vary if clam beds are also sampled. The mortality parameters, the instantaneous total mortality rate (Z), fishing mortality (F) and natural mortality rates (M) were estimated at 3.13, 1.89 and 1.24 respectively. The length structured Virtual population analysis (VPA) revealed a heavy fishing pressure on length group between 31 and 33 mm. Exploitation ratio (E), Exploitation rate (U) and E_{max} was estimated at 0.6, 0.4 and 0.69 respectively. The results of this study will serve as baseline information for formulating future management measures.