

Unusual fishery of black clam near Aluva sand banks after the floods

R. Vidya*, K. S. Mohamed, Geetha Sasikumar, V. Venkatesan, K. K. Sajikumar, B. Jenni, P. S. Alloycious, K. M. Jestin Joy and P. P. Sheela

ICAR-Central Marine Fisheries Research Institute, Kochi - 682 018, Kerala

*E-mail: vidya.panicker@gmail.com

In August 2018, severe flood affected in the state of Kerala due to unusual high rainfall. The black clam, *Villorita cyprinoides*, is found in the backwaters of Kerala, mainly in Vembanad backwaters which support annual average fishery of about 40,000 tonnes. Immediately after the floods, unusual fishery of *V. cyprinoides* was noticed in the Aluva river as the water level receded after the flood, and it was very easily

handpicked by the diving fishermen. This fishery lasted for almost 1 month after the flood and was supported by large sized clams which fetched an average market price ₹100 to 150 per kg of meat. About 22 persons were involved in the fishery with a catch of 15 kg shell-on / day / person for a period of 3 weeks. Another 10 persons were involved in the fishery of black clam with a catch of 5 kg shell-on per

day for each fisherman during the last week. Approximately 7280 kg of shell-on clams were obtained during the month.

A survey was conducted in an area of 400 m² in the Aluva river to estimate the clam biomass in the area using a quadrat square frame of 0.25 x 0.25 m size. About 5 clams were obtained per m² for the first 3 weeks which reduced to 2 clams/ m² for the last 1 week. The total length (Anterio-posterior margin) ranged from 24.4 to 44.2 mm and the total weight (TW) ranged from 9.54 g to 47.45 g. The length weight analysis indicated an allometric relationship $TW=0.016 TL^{2.061}$. The sex ratio (male : female) was 4 : 1. Gonads examined indicated about 95% of clams in maturing condition.

Hydrographic characters of the study area indicated fresh water conditions (salinity 0 ppt) with pH and turbidity of the

water samples at 7.2 and 4.1 mg/l respectively. Dissolved oxygen (2.99mg/l) and Chlorophyll (3.19mg/m³) were low in the area. Other parameters like NH₄-N (0.029 mg/l), PO₄-P (0.011 mg/l), Dissolved Inorganic Nitrogen (DIN) (0.011 mg/l) and Net Productivity values (33.26 mgC/l/day) were recorded. Sediment profile showed sand content was more (79.6%) than silt or clay which is an ideal habitat for black clam. Organic carbon percentage in the sediment was 0.411.

Local fishermen opined that such a profuse catch of black clam was observed for the first time in the last 50 years. The upper reaches of the Periyar River near Aluva are normally not a clam fishing zone. The clams may have been present earlier, and the floods and currents may have exposed them because of the shifting sand. Further studies are needed to find the real reason for this unusual abundance in riverine areas