

**DISTRIBUTION, POPULATION DYNAMICS AND  
FISHERY OF THE EDIBLE BIVALVE SPECIES  
*MERETRIX CASTA* (CHEMNITZ)  
IN THE DUTCH CANAL OF THE  
NORTH WESTERN PROVINCE OF SRI LANKA.**

**BY**

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**ABSTRACT**

The present study was undertaken to examine the distribution, population dynamics, maturation and the fishery of the clam *Meretrix casta* in the Dutch canal of Sri Lanka.

Relative abundance of the bivalve varied along the 55km canal ranging from 48 individuals/m<sup>2</sup> to 980 individuals/m<sup>2</sup>. Length frequency data were analysed using the FiSAT version 1.0 software package. The populations of *M. casta* in the canal represented by 2Year classes and the 1Year class dominates the population.

Growth performance ( $\phi'$ ) averages 3.25. It's very favourable with slight variability along the canal. The length of the clam ranged from 3mm to 42mm,  $L_{\infty}$  ranged from 33.5mm to 42.5mm and K value were 0.8-1.44 year<sup>-1</sup>

The bivalve breeds throughout the year with two unequal recruitment pulses. The spawning appears to be triggered with the onset of the inter-monsoon rains.

*M. casta* could tolerate a wide salinity range from 0 to 42ppt and survive in prolong low salinities. The abundance of the species is positively correlated with the sand, silt and the organic matter content of the substrate, and negatively correlated with salinity, pH, Chlorophyll a and the clay content.

Due to their sedentary habit and easy accessibility for exploitation the clam population in the canal is vulnerable for overexploitation. It is suggested to increase the minimum size of first capture to a value of >25mm.

With shrimp farm effluents degrading the water quality and silting of the canal is a to the survival of the clam *M. casta* and other benthic organisms of the canal is threatened.