Length-weight relationships of *Meretrix casta* in estuaries of north Kerala

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The yellow clam *Meretrix casta* (Chemnitz, 1782) forms significant sustenance level fisheries as it is used for local consumption as well as for the lime industry. Length–weight relationships of *M. casta* from Chaliyar, Moorad estuaries (Kozhikode district), Kavvai estuary (Kasaragod district) and Mahe estuary, Mahe are reported as they are important inputs in fisheries management decisions.

The total length of the clams were measured using digital vernier calipers to the nearest 0.1 mm along the antero-posterior axis and width along the dorso-ventral axis. The maximum distance between the valves when they are closed was considered as height. The total weight, wet meat weight and shell weight were recorded to the nearest 0.1 g.The length-weight relationship (LWR) was determined by the equation $W = aL^b$. The parameters, *a* and *b* were estimated by linear regression analysis (least squares method) and 95% confidence limits of b and the significance level of R^2 were also estimated. Length-weight relationships for *M. casta* from four different estuaries indicated there is no significant difference between males and females therefore a combined equation was derived (Table 1).

M. casta from all the four estuaries exhibit isometric growth. *M. casta* from Moorad estuary is heavily exploited, with mean length at 22.7 mm, clams less than 10 mm are being fished. Clams from Chaliyar estuary were also heavily exploited, with mean length at 21.5 mm with clams of 15 -33 mm being fished. *M. casta* from Kavvai estuary is moderately exploited, with mean length at 21 mm with baby clams also exploited and sizes of 11 -38 mm being fished. *M. casta* from Mahe estuary is not exploited, with mean length at 27 mm. *M. casta* is fished

Table 1. Length-weight relationships for *M.casta* in various estuaries

Estuary/ Period of Study	Minimum Size mm	Maximum Size mm	Length –Weight Relationship	N	r^2
Moorad, Kozhikode / 2008	9.2	39.1	Log Y = -0.981 + 2.919Log X	623	0.8973
Chaliyar, Kozhikode / 2008	15.8	33.4	Log Y = -1.259+ 3.09Log X	1560	0.9030
Kavvai, Kasargod / 2008	10.8	37.8	Log Y = -0.987 + 3.054Log X	1559	0.6137
Mahe, Pondicherry / 2006-2007	20	38	Log Y = -3.419 + 3.069Log X	550	0.5743

regularly in most estuaries mostly for local consumption. However, in Moorad estuary the exploitation is intense and clams less than 10 mm are also exploited. It is necessary to implement regulatory measures to regulate the exploitation of baby clams by implementing the Minimum Legal Size (MLS) of exploitation. Re-laying of baby clams in suitable areas can ensure the utilization of the juvenile clams exploited during peak seasons, so as to harvest later at bigger sizes to enhance production and sustain the stock. This method has been very successful in the case of the black clam in the Vembanad Lake recently. The possibility of exporting the meat and production of value added products also needs to be explored.