



Fig. 1. Gonadal variations in female *M. violacea* during 2005

M. violacea is a large marine clam. Clams below 38 mm size were not found in the surf zone and it is therefore possible that juveniles form a habitat in deeper areas where surf action is less severe. The larger clams possess a large foot and bury deep into the sandy substrate of the surf zone and are able to withstand the frequent disturbances in the sand due to tidal effects (Gaspar *et al.*, 2002). The meat content in *M. violacea* is very high ranging from 23 to 27% compared to those reported in *Meretrix meretrix* (7.6 – 16.1%), *Paphia malabarica* (8.86 to 20.8%), *Villorita cyprinoides* (6.2 – 18.76%) and *M. casta* (7.6 to 16.1%). The seasonal variation in the meat content is not marked as compared to other clam species.

Landing of the dog whelk, *Nassaria nivea* and the beak shell, *Tibia fusus* by trawlers at Tuticorin Fisheries Harbour during January-March, 2009

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At Tuticorin Fishing harbour, during peak fishing season (June-October 2009), more than 200 trawlers operate daily. During January-March 2009, the trawl catch was generally poor and the number of trawlers under operation fell by 25-30%. In January 2009, around 20 trawlers started operating for deepsea prawns and the total catch per day ranged between 800 and 2,500 kg. In addition to the prawn catch, 25 to 40 kg of gastropods were also landed regularly by each boat upto March 2009 (Table 1). Enquiries revealed that the area of operation for deepsea prawn was 40 miles from the shore, north of Tuticorin at a depth of 200-400 m. Each boat landed 60-130 kg of *Parapenaeopsis stylifera* which was sold at the landing centre for Rs. 20 per kg. The dominant species among the deepsea prawns was *Solenocera hextii* (Wood-Mason and Alcock).

Two species of gastropods were identified in the landings - *Nassaria nivea* and *Tibia fusus* (Fig. 1 and 2). The maximum shell diameter (MSD) of *N. nivea* ranged from 0.81 to 1.40 cm and weighed 1.1 g to 5.2 g. A 15 kg basket of *N. nivea* was sold at the landing centre for Rs. 200/- and *T. fusus* for Rs.150/-.



Fig. 1. Catch of *Nassaria nivea* and *Tibia fusus*



Fig. 2. *Nassaria nivea*

The gastropod shells were sent to Kanyakumari for making ornamental items and decorating materials. The total landing of gastropods was estimated as 16.2 t in January, 14.7 t in February and 18.2 t in March 2009. The catch of these gastropods and deepsea prawns help to sustain the trawl fishery at the time of poor catches. Also, there exists scope for developing a seasonal shell craft industry at Tuticorin

which will give additional income to the local fisherwomen. Although this is a regular phenomenon every year at the Tuticorin Fisheries Harbour, this has not been reported earlier.

The length-weight relationship of *N. nivea* was worked out as: $\text{Log } W = -0.40095 + 1.934758 \log L$ and $\text{Log } W = 0.2433 + 1.444192 \log \text{MSD}$.

Table 1. Details of catch landed at Tuticorin Fisheries Harbour during January - March, 2009

Month	Trawl units	Total catch (t)	Quantity landed (t)			Total gastropods (t)
			Deepsea prawns	<i>Nassaraia nivea</i>	<i>Tibia fibia</i>	
January '09	480	1529	28.800	8.064	8.160	16.224
February '09	462	979	60.270	7.791	6.905	14.696
March '09	550	1020	47.250	9.625	8.575	18.200
Total	1492	3528	136.320	25.480	23.640	49.120

Fishing methods in coral reef areas of the Gulf of Mannar

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Fishing methods being practised in the reef areas of the Gulf of Mannar for finfishes are trawling, gillnetting, fishing by hooks and lines and traps. Out of these, the most important device is trawling by which the most diverse and the highest quantity of finfishes are being landed from coral reef areas in this region.

Trawling

Trawling in this area is being carried out by a special type of trawl net called roller net, locally known as 'Roller madi' (Fig.1 and 2).



Fig. 1. Roller net



Fig. 2. Roller net showing rollers

It is a modified type of net developed by the Central Institute of Fisheries Technology for operating in uneven grounds. The gear is attached with rollers or wheel-like structures on the foot rope. The rollers or wheel-like structures are made up of wood or rubber. Unlike ordinary trawlnets, this net can easily roll over the coral reef or rock without much damage to the net. The mesh size of the cod end is around 20 mm. Usually, for fishing, the fishermen leave the shore by 1300 – 1500 hrs and come back by 1030 -1630 hrs the next day. The depth of operation