Biological observation on *F. indicus*

The catch was composed mainly of fairly large sized shrimps and the head-on count varied from 30 to 40 per kg for females and 35-45 per kg for males. The size (total length) ranged from 115-180 mm with the dominant modes at 141-145 mm and 161-165 mm for females and 131-175 mm with dominant mode at 150-155 mm for males. Females dominated (60%) the catch. Most of the females were found with late maturing and matured gonads.

Remarks

There are several reports on unusual bumper catches of penaeid shrimps off Maharashtra coast (Ramamurthy and Mestry 1983,1985; Jadav 1996; Rao 1998; Rao 2005); off Goa coast (Kulkarni et al. 1987); Karnataka coast (Kakati and Dinesh, 1991; Mohamed et al., 1996; Arghekar, 2000); off Tamil Nadu coast (Kathirvel et al., 1985; Sankaralingam, 1989) and off Paradeep coast in Orissa (Brar, 1995). Most of these observations were related to heavy landings of penaeid shrimps for shorter periods (4 to 7 days), either by indigenous or mechanised gears during post-monsoon months. The present observation on the bumper catch of Indian white shrimp (*F. indicus*) off Chennai during the post northeeast monsoon period may be a part of moving shoals from north to south utilising the prevailing southerly water currents.

Unusual heavy landings of jellyfish *Crambionella stulhamani* (Chun) and processing methods at Pulicat landing centre, Chennai

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Introduction

Jellyfish exist in all oceans across the world. They exist from the surface of the water to the very depths of the ocean. Jellyfish are free-swimming planktonic carnivores. There are about 1000-1500 known species of jellyfish and new ones are being discovered everyday. This is surprising as jellyfish are amongst the oldest living creatures in the world and have been in existence before the dinosaurs.

Fishery

Unusual heavy landings of Jellyfish *Crambionella stulhamani* (Chun) at Pulicat landing centre near Chennai was recorded on 7th August 2009. Locally this type of jellyfish are called as "Muttai Chorri". An estimated catch of 540 t of jellyfish tentacles were landed without head portion. Each animal having eight number of tentacles, the size range of single tentacles was from 130 to 170 mm. For the first time, the tentacles of jelly fish were used for processing and for value added techniques. The jellyfish catch started from 10.8.09 to 27.8.09 and a heavy catch of 60 t was observed on 18.8.09. Fisherfolk of eleven fishing villages such as Arangamkuppam, Kottaikuppam, Vairavankuppam, Sathankuppam, Lighthousekuppam, Thirumalnagar-kuppam, Sempasapalalikuppam, Gunamkuppam, Andikuppam, Kavimanalkuppam and Nadukuppam were involved in this fishery.

The agent gave an advance of Rs.50,000 per boat for fishing the jellyfish. The Head of the village restricted the fishing of jellyfish to 15 gunny bags of jelly fish tentacles per boat, in order to benefit fishermen. Each boat engaged 5-6 fishermen, two persons to scoop the jelly fish and remaining persons to cut off the head portion and
dispose it. The jelly fish fishery occurred off Pulicat at a distance of 5-6 km within a depth of 6-7 fathoms. The tentacles of jelly fish were brought in 15 gunny bags (Fig. 1 and 2), each bag containing 50-60 kg which was priced at Rs. 500/ per bag. In this process each boat got an income of Rs.7500 per day after operating for 5 to 6 h.

Fig. 1. Tentacles of jellyfish

Fig. 2. Loading bags with tentacles

Processing methods

Processing of jellyfish tentacles for export is well developed and carried out under hygienic conditions. Permanent cement tank with asbestos sheet shed is now used instead of thatched shed in fishing villages along the entire Tamil Nadu coast. Formerly the jelly fish head portion was only used for processing and export. But for the first time at Pulicat, the tentacles of jelly fish were used for preparing value added products. It involves four stages. In the first stage the tentacles were washed and cleaned and the same were placed in the tank for 3-4 h. During the second stage, the tentacles were collected (Fig. 3) in perforated plastic tub and then pressed. The unwanted mucus and sand particles were removed from the tentacles by forcing filtered seawater (Fig. 4). During the third stage, the cleaned and fresh tentacles were transferred to cleaned, hygienic 1.5 t cement tank with the addition of 75 kg common salt and 50 kg Ammonium sulphate for 18-24 h (Fig. 5). Salinity was maintained within 28-32 ppt. Occasionally lime powder is also added to maintain the pH level. In the final fourth stage, the sample was ready for packing (Fig. 6) with 3-5 kg air tight plastic container. The agents handled 500-1000 tubs of tentacles per day. Nearly 60-80 labourers were engaged for the processing work and an amount of Rs.300-400 per day/labour was paid. Utilising this method, five companies were involved.
in the processing and export of tentacles from Pulicat. The processed jellyfish is packed in air tight plastic containers so that it does not get spoiled until

5-6 months. The foreign importer places the order only after ensuring the quality of processing methods in hygienic condition.

Spurt in the landings of crabs along northern Tamil Nadu and Puducherry coasts


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The marine crab fishery by mechanised trawlers along the north Tamil Nadu (Chennai and Cuddalore) and Puducherry coasts is mainly supported by those belonging to the genera *Portunus* and *Charybdis* of the family Portunidae. Species like *Portunus sanguinolentus*, *P. argentatus*, *P. gladiator*, *P. pelagicus*, *Charybdis natator*, *C. lucifera*, *C. variegata* and *Podopthalmus vigil* are commercially important. Of these, until the end of October 2008, there were remarkable changes in the landing pattern of trawl fishing along the north Tamil Nadu and Puducherry coasts. The same change of pattern was also seen in indigenous gears such as gillnet, operated near the shore, locally called as *Nandu valai* and *Kallu valai* in the depth range of 5 – 10 m. In multiday long voyage trawl fishing, crabs were caught in deeper waters up to 100 m. In single day fishing, the fishermen operated up to 50 - 60 m. In the crab exploitation there was heavy landings of *P. sanguinolentus* and other portunid crabs along the Tamil Nadu coast, while other fish categories were poorly caught during the period. A brief account of unusual heavy landings of the portunid crabs is reported here.

Landings

The total landings of crabs varied from 0.04 t to 48.75 t at Chennai (Kasimedu) with CPUE of 0.14 – 125.0 kg/h. In Puducherry, the catch ranged from 0.6 t to 29.4 t and CPUE 1.4 – 76.7 kg/h, while at Cuddalore, it varied from 1.9 t to 17 t with CPUE 6.1 – 35.4 kg/h. The daily average landing of crabs at Chennai was 23.9 t with a CPUE of 58.6 kg/h. In Puducherry, the daily average landing was at 15.7 t with a CPUE of 42.1 kg/h, while at Cuddalore, it was 12.4 t with a CPUE of 27.7 kg/h. Details of crab landing at Chennai, Puducherry and Cuddalore are given in Table 1.