

Fishery of stomatopods - an undervalued and unappreciated fishery resource off Chennai

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Stomatopods are a neglected fishery resource among the crustaceans, though it is a common bycatch in trawl fishing. They are commercially exploited in certain countries, but in India, they find market only as a raw material for preparation of fish meal and poultry feed. In Japan, *Orataria orataria* (de Haan, 1844) and in mediterranean countries, *Squilla mantis* (Linnaeus, 1758) form a good fishery and are relished as human food. They also find export market in some Asian countries such as Japan, Taiwan, Hong Kong and China. They are generally known as the 'mantis shrimp' because of their large raptorial appendages. This report is based on the data from the low value by-catch in trawl collected once a week from the Chennai Fisheries Harbour, during 2005 - 2008. Stomatopods were sorted species-wise from a sample of 2-3 kg and their total weight in the sample and individual length in 'mm' was recorded.

During 2005-08, the low value by-catch formed 14% of the total marine trawl landings. Stomatopods constituted 112 t during 2005, 129 t in 2006 (11%) and 129 t in 2007 (13.96%). In 2008, the catch of stomatopods increased to 423 t (21.16%) (Fig. 1).

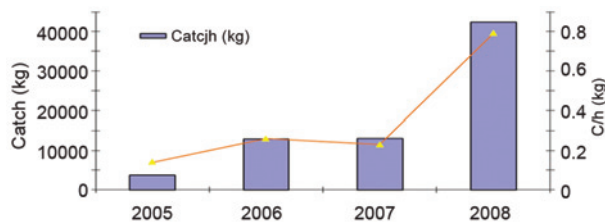


Fig. 1. Stomatopod landing during 2005- 2008 at Chennai Fisheries Harbour

Nine species belonging to three genera namely *Oratosquilla*, *Harpiosquilla* and *Lysiosquilla* were observed in the trawl fishery during the period. *Oratosquilla nepa* dominated by contributing 42% followed by *Oratosquilla woodmasoni* (16%),

Harpiosquilla harpax (16%), *Oratosquilla gonyptes* (9%), *Oratosquilla holochista* (7%), *Harpiosquilla annandeli* (5%), *Harpiosquilla raphidae* (3%) and *Oratosquilla quinquentata* (2%) (Fig. 2). Table 1 gives the year-wise species composition of stomatopods landed at Chennai Fisheries Harbour during 2005-08. *Lysiosquilla tredecimdentata* was rare and highly seasonal in their occurrence. Juveniles of *O. nepa* occurred in large number during 2005-08 forming 80%, followed by *O. holochista* 15%, *O. gonyptes* 8%, *H. harpax* 4%, *H. annandeli* 2%, and *H. woodmasoni* 1%. *O. nepa* ranged in total length from 40-120 mm, *O. woodmasoni* 46-130 mm, *O. gonyptes* 55-125 mm, *O. holochista* 48-202 mm, *H. harpax* 45-135 mm, and *H. raphidae* 73-129 mm.

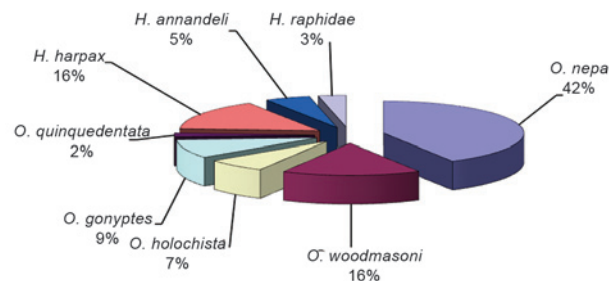


Fig. 2. Species composition of stomatopods landed at Chennai Fisheries Harbour

Table 1. Species composition of stomatopods landed at Chennai Fisheries Harbour

Species/Year	2005	2006	2007	2008
<i>O. nepa</i>	55.5	39.6	38	31.5
<i>O. gonyptes</i>	4.5	12.7	5.3	11.2
<i>O. quinquentata</i>	9.5	3.8	1.6	2.5
<i>O. woodmasoni</i>	9.1	13.5	20.7	19
<i>O. holochista</i>	4.8	6.8	6.8	8.6
<i>H. harpax</i>	11.6	15.8	17	17.5
<i>H. annandeli</i>	4	3	7.1	6.2
<i>H. raphidae</i>	1	4.8	3.5	3.5

O. nepa, is available throughout the year, peak months being October-December. Similarly, *O. holoschista* and *O. woodmasoni* are found all the year round, maximum occurrence being in the month of February and August. *O. quinquedentata* is present in the landings from November-February, peak months being from November to December. *O. gonyptes* occurs in the fishery during January to March, June, July, September, November and December. They are abundant during January to March. *H. harpax* and *H. annandeli* are available throughout the year, peak season being September and October respectively. *H. raphidea* was observed only during July-December, maximum being in October.

The stomatopods are sorted by fisherwomen and sold for fish meal and poultry feed preparation at the rate of Rs. 4-5/kg. The growth and biology of these organisms need detailed studies and the resource should be provided a better market by value enhancement. The suitability of these organisms as a cheap source of protein food needs to be investigated as *Oratosquilla oratoria* is used for human consumption in Japan (Ahyong, 2001). Their exoskeleton is an important source for the extraction of chitin and chitosan as that of prawns and crabs. Stomatopods have been found to be useful bio-indicators of marine pollution stress on coral reefs. The colour pattern and sturdy nature also make them suitable candidates for aquarium keeping.