juveniles and damaged adults of *Metapenaeopsis stridulans* and *Parapeneus longipes*. Stomatopods, another important constituent in the LVB, were represented by several species like *Oratosquillamena*, *O. woodmasoni*, *O. gonyptes*, *Harpiosquilla harpax*, *H. annandeli*, *H. raphidae* etc. Lobsters in the LVB were comprised of the scyllarids *Petractus rugosus* and *Thenus unimaculatus*. Gastropods contributed to 70-73% of the molluscan component in the LVB while bivalves formed 14-16% and cephalopods formed 11-12%.

While almost 70% of the total LVB was comprised of juveniles, the proportion of juveniles was higher in the months of December, July, August and October. Spawning and recruitment of many species, particularly demersal fishes like threadfin breams and croakers follow a seasonal preference for the monsoon months (particularly NE monsoon) and the period immediately after (November-December); this is probably reflected in the occurrence of juveniles in the LVB below the length of recruitment to the commercial fishery.

Data collected at the landing centre during 2007-2011 has revealed that the value of the LVB has been steadily rising. Based on the sorting that is done locally at Chennai Fisheries Harbour, the LVB could be categorised as -

A. **Low value by-catch comprising fishes which are in an advanced state of spoilage, not fit for human consumption; utilized for fish meal preparation**

B. **Low value by-catch comprising fishes which are sorted, cleaned for drying and sold in local markets for human consumption**

C. **By-catch comprising fishes which seldom form part of the regular trawl landings like sand perches and sand lance**

D. **By-catch comprising fishes which occur regularly in trawl landings, but are non-targeted groups (many species of crabs)**

E. **Juveniles of major fish groups**

The upper price limit of some categories of fishes in the LVB has risen to > ‘200/ kg, making the term “Low-value by-catch” sound mismatched (Fig. 6)

**Fig. 6. Group-wise proportion of LVB in total (group) landing (tonnes) at Chennai during 2006-2011**

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**A Note on deformity in Narrow barred Spanish mackerel, *Scomberomorus commerson* (Lacepède, 1800)**

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A deformed specimen of Narrow barred Spanish mackerel, *Scomberomorus commerson* (Lacepède, 1800) was observed at Aligadda beach, Karwar on 15th September 2013. It was caught off Karwar by gillnet (*beedu bale*) operated at around 30 m depth. The specimen had a deformed body with a large ventral and a dorsal curvature on the abdominal region. Although the mouth of the specimen Fig 1. Deformed specimen of *S. commerson*
was normal and well-formed, malformations in the vertebral column could be the reason for the abnormal shape of the specimen. The specimen had a total length of 64 cm and weighed about 2.1 Kg. This is the first report of morphological abnormalities in Narrow barred Spanish mackerel along the Indian coast. This specimen was landed along with normal specimens of S. commerson, Rachycentron canadum, Sphyrna sp, Makaira indica, Arius sp and Coryphaena hippurus.

Preliminary observations on broodstock development and spawning of Indian Halibut Psettaodes erumei (Bloch & Schneider, 1801) in captivity


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The Indian halibut Psettaodes erumei (Bloch & Schneider, 1801) is a typical tropical bottom dwelling, piscivorous marine flat fish distributed all along the coastal waters of India (5-50 fathoms). It is a highly valued table-fish with high white meat yield for fillet. The meat yield (%) is known to vary between 42-49%, which is comparable to some of the best white meat fish species cultivated globally. The fish is locally called as Hario (Gujarati), Bhakus/zipli (Marathi), Boxlep (Konkani), Ayirampalli (Malayalam), Erumeinakku (Tamil) and Norunalaka (Telugu). It is also called the ‘Australian Halibut’ and ‘Pazifischer steinbutt’ in international markets. There is a huge demand for flat fish in U.S/ Europe/ Japan. A lot of development has taken place in temperate and Mediterranean countries like Norway, Spain, France and Israel in domestic rearing and large scale aquaculture of temperate halibut and sub-temperate turbot. Attempts to domesticate this species in India are now being made in CMFRI’s Kovalam Field Laboratory to establish a viable rearing technology and supplement the falling production of this commodity in the wild.

While domestic consumption in India was initially restricted to the peninsular states of Kerala and Karnataka, increase in trawling/mechanized fishing brought in larger quantities and slowly the fish qualified as a good table fish in the coastal states of northwest and southeast India also. Published literature documents these fishes to be seasonal spawners, spawning once annually, with low fecundity, relatively bigger oocytes at spawning. They are dioecious with external fertilization.

Fishery

Bottom trawling and bottom set gill net operations in coastal waters are the main source of halibut landing along the coast. Halibut production in the country was about 620 t in 1981, which increased to 3516 t in 1996; thereafter it has exhibited a steady declining and the production in 2011 was 1154 t (Source: National Marine Fishery Resources Data Centre of CMFRI, Kochi). While it formed 0.05% of the total marine fish landings in 1981, the contribution in 1996 was 0.15% while in 2011 it is only a mere 0.03%. Rapid stock assessment

![Graph showing annual landing of Psettaodes erumei in India (1981-2011)]