

Cephalopod fishery off Chennai coast, Tamil Nadu

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Cephalopods are one of the commercially important marine fishery resources along Indian coast and though their contribution in volumes to the total marine landing is low, their high export value is an important factor. Due to the commencement of export of frozen cephalopod products to several countries, the fishery has transitioned from a low-value by-catch to targeted resources fetching high foreign exchange. Cephalopods (comprising squid, cuttle fish and octopus) are landed by multiday trawl net and single day trawlers operating from Madras Fisheries Harbour, Kasimedu, Chennai. In other landing centres in Chennai, only negligible quantity of squids are landed by motorised and traditional boats. While more than 600 trawlers are operated on a regular basis,

trawlers exclusively targeting cephalopods are very few and bulk of the cephalopod landings occur as by-catch in the trawl nets.

The average annual landing of cephalopods off Chennai coast during 2010-2019 was 3134 tonnes, with maximum landing in 2019 (10073t) and minimum in 2012 (1560 t). About 99.2% of cephalopod landings in Chennai was by multiday and single day mechanised trawler and rest by mechanised gillnet and other gears operated from outboard crafts. Over the years, catch per unit hour showed a fluctuating trend with maximum CPH (kg/hr) in 2019 for both multiday trawl net and single day trawlers, although effort (Actual fishing hour) did not vary

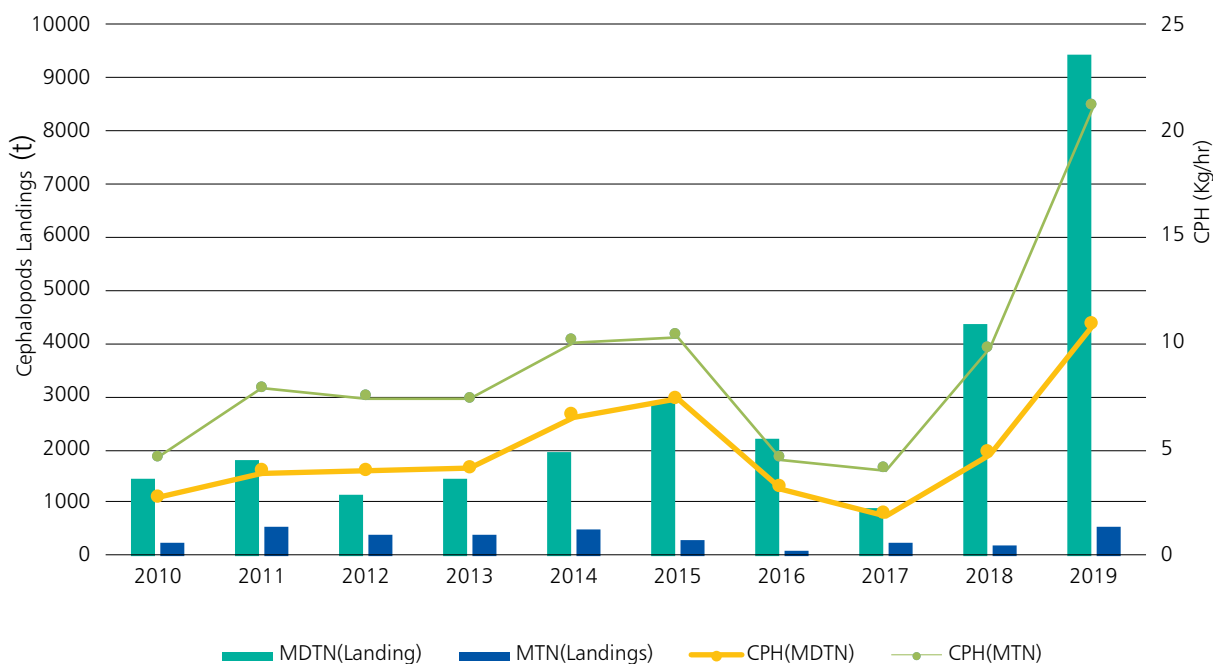


Fig. 1. Trawl landings of cephalopod resources off Chennai coast(2010-19)

much from the previous years. Cuttlefishes contributed 48% to the average landing of cephalopods followed by squids (44%) and octopuses (8%). The cuttlefish landings fluctuated widely with maximum landing in 2019 year and minimum in 2017. Similarly, squid landings fluctuated within the range of 400.73 t in 2017 to 438.16 t (in 2019). Octopus landings fluctuated widely with highest landing in 2019 and lowest in 2010. Maximum cephalopod landing was observed during August to October indicating the seasonal abundance of cephalopods in the coastal waters off north Tamil Nadu.

Resources that regularly contribute to the landing included *Sepia pharaonis*, *Uroteuthis (Photololigo) duvaucelii*, *S. aculeata*, *S. brevimana*, *Sepiella inermis*. *Octopus dollfusi* and *O. membranaceus*. Among cuttle fish, *Sepia pharaonis* (40%), *S. brevimana* (23%), *S. aculeata* (16%), *S. prashadi* (12%) and *Sepiella inermis* (9%) and among octopuses, *Octopus dollfusi* (39%) followed

by *Octopus membranaceus* and *Cistopus indicus* were recorded in trawl net landings in 2019. Among squids, *Uroteuthis (Photololigo) duvaucelii* (51%) formed the major component of the trawl landings in 2019, followed by *U (P). singhalensis* (44%), *Sepioteuthis lessoniana* (3%) and *L. uyii* (2%).

The size range, sex ratio and price range of cephalopod resources landed in Chennai has been indicated in the Table 1. The sex ratio for all the species indicates a male-dominated cephalopod fishery along this coast. Matured specimens of both male and female were present in most of the months indicating protracted spawning of cephalopods. Majority of the resources are exported to the foreign countries while some squids are sold for local consumption. The price of the cephalopod resources vary based on size and quality. Price is considerably high for larger resources.

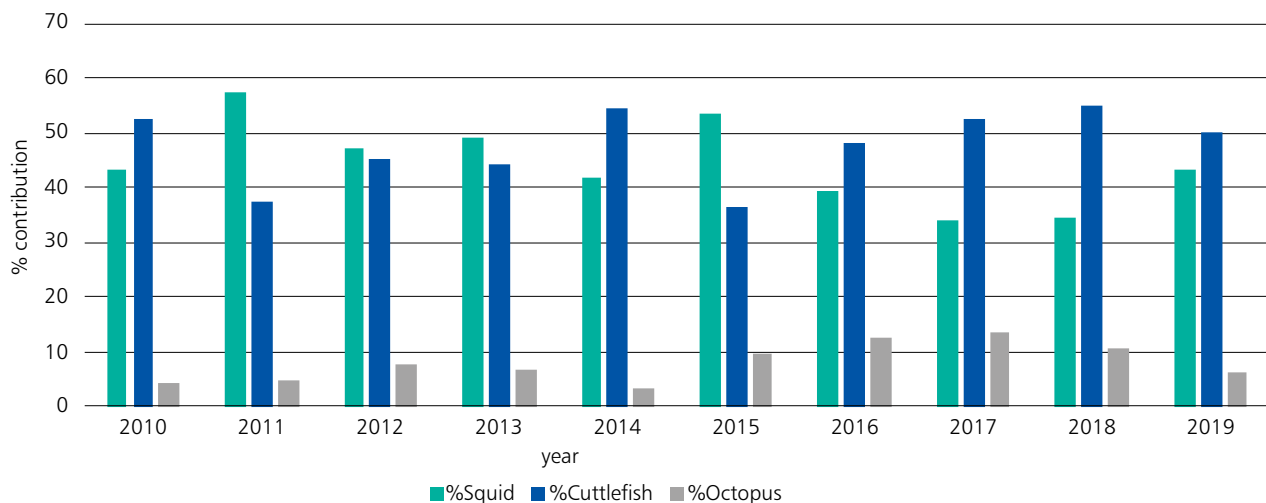


Fig.2. Groupwise landings of cephalopods along Chennai coast (2010-19)

Table 1: Size range (Dorsal mantle length), Mode (Dorsal mantle length), sex ratio of important cephalopod resources in Chennai during 2019

Species	Dorsal Mantle length (mm)			Sex ratio	Price range (₹) per kg
	Min	Max	mode	(M:F)	
<i>Uroteuthis (Photololigo) duvaucelii</i>	27	156	70	1:0.22	250-400
<i>U (P).singhalensis</i>	70	225	100	1:0.62	200-350
<i>Sepia pharaonis</i>	40	165	130	1:0.6	250-450
<i>S. aculeata</i>	60	115	90	1:0.59	100-350
<i>S. brevimana</i>	30	95	60	1:0.88	100-300
<i>S. prashadi</i>	47	115	90	1:0.85	200-350
<i>Sepiella inermis</i>	40	96	70	1:0.80	100-200
<i>Octopus dollfusi</i>	45	180	85	1:0.12	100-300
<i>Amphioctopus membranaceus</i>	25	89	52	1:0.13	100-250