

A note on the gastropod fishery along Chennai coast

E M Chhandaprajnadarsini^{1*}, N. Rudramurthy¹, I. Jagadis², J. Balaji¹ and P. Laxmilatha³

¹Madras Regional Station Research Centre of ICAR-Central Marine Fisheries Research Institute, Chennai-600 028, Tamil Nadu

²Tuticorin Regional Station of ICAR-Central Marine Fisheries Research Institute, Thoothukudi-628 001, Tamil Nadu

³ ICAR-Central Marine Fisheries Research Institute, Kochi-682 018, Kerala

*Email:elinamadhu1@gmail.com

Gastropods fishery has gained its importance due to the demand for edible molluscs and ornamental shells. Along Tamil Nadu coast gastropods are exploited from Gulf of Mannar, Poompuhar, Nagapattinam and Chennai and are sustaining many shell craft industries nearby. In Chennai Fisheries Harbour, ornamental gastropods except *Babylonia* spp. are mainly landed as by-catch along with other resources in the trawl landing. Gastropod shells are segregated from the trash landing and used for commercially for edible and ornamental purposes. *Babylonia* locally called as *Puramuttai* forms a targeted fishery along Chennai coast. They are being exploited in the Ennore to Thiruvanmyur area mainly by FRP boats (9-10 m length) with special type nets employed at 10m depth. The whelk trap consists of a net bag supported on an iron frame of circular shape (30cm diameter) locally called as *Kutchha*. The bag net is made up of 2 mm twine with mesh size

of 16 to 20 mm and secured to the circular frame. Baits (generally dried carangids such as *Selar* and *Alepes* spp.) fastened to the net are used to attract *Babylonia* during the fishing operation. About 35 to 40 traps with bait are released in a row at intervals of 5 m distances. After laying all the traps along a line, the boat returns to first trap and starts hauling one by one. The traps are allowed to remain in seabed for 20 minutes before hauling. The whelk caught in traps are transferred to the basket and another set of traps are set again in the sea bottom, repeating the same procedure for 3 to 4 times a day. Nearly 4 to 6 boats go for *Babylonia* fishing on regular basis when sea is calm and start fishing during early hours of the day by 6am and continue till 2 pm. During favourable condition catch rate was observed to be around 40 to 100 kg per boat.

During 2016 to 2019 the landing of ornamental gastropod

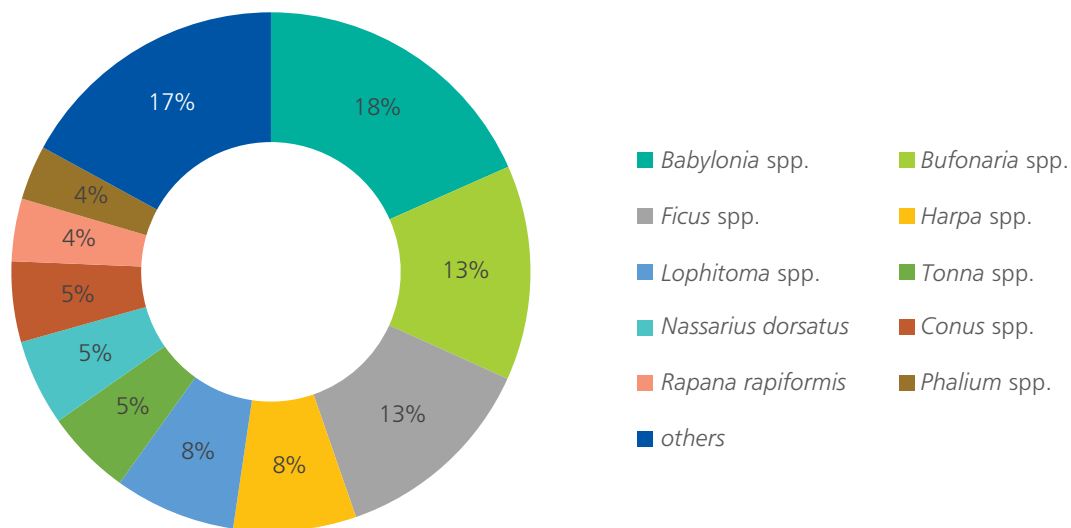


Fig.1. Species composition of gastropods in the trawl bycatch landed in Chennai

Table 1. Gasropod species landed as trawl by-catch at Chennai fisheries Harbour.

Family	species	Common name
Buccinidae	<i>Babylonia spirata</i> (Linnaeus, 1758)	Spiral babylon
	<i>Babylonia zeylanica</i> (Bruguère, 1789)	Indian babylon
Bursidae	<i>Bufo naria echinata</i> (Link, 1807)	Spiny frog shell
	<i>Bufo naria rana</i> (Linnaeus, 1758)	Common frog shell
	<i>Bufo naria crumena</i> (Lamarck, 1816)	Purse frog shell
Turritellidae	<i>Turritella</i> sp.	Screw shell
Ficidae	<i>Ficus</i> sp.	Fig shell
Conidae	<i>Conus</i> sp.	Cone shell
Muricidae	<i>Rapana rapiformis</i> (Born, 1778)	Rock snail
Nassariidae	<i>Nassarius dorsatus</i> (Röding, 1798)	dog whelks
Tonnidae	<i>Tonna dolium</i> (Linnaeus, 1758)	Spotted tun
Cassidae	<i>Phalium canaliculatum</i>	Gray bonnet
	<i>Phalium glacum</i>	helmet snails
	<i>Phalium bisulcatum</i>	Japanese bonnet
Melongenidae	<i>Volegalea</i> sp.	Spiral Melongena
Ranellidae	<i>Distorsio reticularis</i>	Reticulate distorsio
Harpidae	<i>Harpa</i> sp.	Harp snail
Turridae	<i>Unedogemmula indica</i> (Röding, 1798)	Indian Turrid
Turbinellidae	<i>Tudicla spirillus</i>	Spiral tubica
Aplustridae	<i>Hydatina zonata</i> (Lightfoot, 1786)	Paper bubble
Pisaniidae	<i>Canthras tranquibaricus</i>	Tranquebar goblet
Marginellidae	<i>Volvarina angustata</i>	Narrow marginella
Olividae	<i>Oliva</i> sp.	olive snails
Turbinellidae	<i>Turbinella pyrum</i>	Chanks
Muricidae	<i>Thais</i> sp	Rock shell
Cymatiidae	<i>Gyrineum natator</i>	Tuberculara Gyre Triton
Muricidae	<i>Murex</i> sp.	rock snails
Volutidae	<i>Melo melo</i>	Indian volute

has shown increasing trend with an estimated average landings of 32 t. The maximum landing was observed during 2019 (69 t) while the lowest was in 2017 (11 t). The fishery is comprised of about 30 species of gastropods and *Babylonia* spp. forms the major component (37%) of the total gastropod landing (Table1). The other species which are regularly landed in by catch in the trawl landings were *Ficus* spp., *Turittella* spp., *Tonna dolium*, *Nassarius dorsatu*, *Conus* spp., *Phalium* spp., *Rapana rapiformes*.

Gastropods along with trawl by catch landed in Kasimedu Fisheries Harbour are segregated from the trash landing and sold to the local agent for further processing before marketing. Whelk landing from the FRP boats are similarly sold to local agents who are involved in whelk exports supply chain. Whelks collected from other districts of Tamil Nadu and other maritime states are also being transported to the Kasimedu as there is a huge demand

for *Babylonia* in counties like China, Hongkong and Thailand. They are traded under the name "Baigai". The whelks are washed and placed in perforated trays and depurated by immersing for 3 hours in tanks containing clean seawater. After this, they are transferred to cleaning drums with chilled water with aeration for 20 minutes and then placed in thermocol boxes and sealed. These are exported from India as chilled whelk. The trend of whelk exported from Chennai port during 2008 to 2018 indicated maximum volumes during 2009-10 (Q: 2,299 t, V: 2,127.36 Lakh ₹) and minimum (Q:593 t, V:1108.78 Lakh ₹) during 2015-16 (Source: MPEDA). The quantity of whelk exported has declined over the years. About 40% of country's export of *Babylonia* were from Chennai port while 93% of whelk exported from Tamil Nadu