

Unprecedented heavy landings of juvenile Kiddy shrimp, *Parapenaeopsis stylifera* along Karnataka coast

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Parapenaeopsis stylifera is one of the most abundant and highly valued shrimp species in India. It forms about 20% of the penaeid shrimp catch of Karnataka with the period from January to June contributing the majority of the catch. In general, the post-monsoon months of August to December is considered as a lean period for *P. stylifera*. During this period single day fishing trawlers land catch of a mixture of fish, prawns, stomatopods and other crustaceans. The contribution of prawns in the catch is around 10 to 20%. Traditionally, the single day operating trawlers of Bhatkal and Gangoli fisheries harbours go for bottom trawling immediately after the lifting of mechanised fishing ban in early August, whereas the trawlers based at Mangalore and Malpe



Fig. 1. Catch of juveniles of kiddy shrimp at Gangolli Fisheries Harbour

start bottom trawling by late August or by September only. In August 2015, it was found that the trawlers that operated from Gangoli and Bhatkal Fishery Harbours landed unprecedented high catches of *P. styliifera*, which were entirely juveniles. This trend extended till November. Once bottom trawling commenced from Malpe and Mangalore Fisheries Harbours, similar trend of heavy landings of *P. styliifera* juveniles were recorded at these harbours also. The *P. styliifera* landed ranged from 48 to 78 mm in length, with an average weight of 1.5 g. Due to small size they were sold at prices as low as ₹ 10 to 12 per kilogram, and most of them were used for drying.

It is estimated that at Gangoli Fisheries Harbour, 24 t of *P. styliifera* juveniles were landed in August, 2015 with a catch rate of 60 kg/unit (Fig.1). The size range was 50 to 75 mm with a mean size of 63 mm. In Mangalore and Malpe, the estimated catch of this species during September to November period were 228 t and 415 t respectively with a catch rate of 124 kg and 155 kg per boat. The size range of the juveniles caught from these landing centres was also 45 to 78 mm with a mean size of 62 mm. Compared to the same period in 2014, the catch of *P. styliifera* at Malpe and Mangalore were only 31 and 20 t

respectively. This indicated a seven fold increase in catch at Malpe and 20 times increase at Mangalore in 2015. By end of November, the catch of juvenile *P. styliifera* reduced considerably and fishery showed a trend as observed in earlier years with an average catch rate of 25 to 30 kg/boat, with lesser percentage of juveniles.

The juvenile fishery of *P. styliifera* by trawlers in such high magnitude is a rare phenomenon in Karnataka. Due to its very small size almost entire catch of *P. styliifera* was sold for drying. An estimated 700 million juveniles were landed at Gangoli, Malpe and Mangalore Fisheries Harbours during August to November, 2015 period. The reason for such heavy landing of juveniles is not well understood. However the change in wind and current pattern might have influenced the juvenile distribution. Seasonal migration of this species with the alteration of oceanographic characteristics has been reported by many workers during their studies on prawn fisheries off south west coast of India. More studies on the distribution of this species in relation to oceanographic parameters especially the current pattern are needed to explain this phenomenon and evaluate its impact on the sustainability of the prawn fishery.