Occurrence of deep sea prawns in the stomach of Yellowfin tuna

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The earlier studies on yellowfin tunas (*Thunnus albacares*) from Indian waters have shown that the fish is an opportunistic feeder, consuming fishes, cephalopods and crustaceans. The main crustacean component is the deep sea pelagic crab, *Charybdis smithii*. The food and feeding studies of yellowfin tuna from Thoothukudi during the period 2011-2014 were also in conformity with the results of earlier studies (Table-1). The main fishes encountered as prey were *Auxis* spp., *Katsuwonus pelamis*,

Trichiurus sp., *Arothron stellatus* etc. The crab component was entirely comprised by *C. smithii*.

Table 1. Percentage composition of food in yellowfin tuna

Year	2011	2012	2013	2014
Fish	73.7	83.3	85.7	62.5
Crab	26.3	0	14.3	12.5
Prawn		5.6		12.5
Squid		11.1		12.5

But on 15.3.2012, out of the 8 numbers of yellowfin tuna analysed for diet studies, two stomachs contained the deep sea prawn, *Heterocarpus gibbosus*. In one stomach, there were 16 numbers (66 g) of *H. gibbosus* along with *Trichiurus* sp. In the other, 8 numbers (3.12 g) of *H. gibbosus* along with *Trichiurus* sp. and squid were observed. The sampled fishes ranged in length from 123 to 125 cm FL of which one was male and the other female. Both were in partially spent conditions. On 25.3.2014, out of the four numbers of yellowfin tuna analysed, three had empty stomachs while the fourth contained 15 numbers (60 g) of the deep sea prawn, *Solenocera hextii*. The particular fish measured 117 cm in Fork Length (FL) and was a female in partially spent condition. The sampled fishes were caught in drift gill net (120-140 mm mesh size) operated during night at 20-25 nautical miles (nmi) off Mandapam where the depth was above 300 m. Both *H. gibbosus* and *S. hextii* form part of the deep sea trawl (operated at a depth range of 250-500 m) fishery of Thoothukudi during November to March-April. Earlier, Rohit *et al.* (2010) have also reported the occurrence of *S. hextii* from the stomach of yellowfin tuna exploited at Visakhapatnam. *H. gibbosus* and *S. hextii* are benthic in the deep sea (>200m) and not yet been reported from pelagic zone. Mohamed and Suseelan (1973) have reported the occurrence of *S. hextii* from depth ranging from 250-400 m and that of *H. gibbosus* from 300-375 m. Yellowfin tuna is an epipelagic fish that inhabits the mixed surface layer of the ocean above the thermocline. They penetrates the thermocline relatively infrequently although they are capable of diving to considerable depths. The occurrence of these two species of prawns (*H. gibbosus* and *S. hextii*) in the stomach of yellowfin tuna points to the possibility of the fish feeding from deeper areas also.