A NOTE ON THE FOOD AND FEEDING HABIT OF THE RIBBON FISH, *TRICHIURUS LEPTURUS*

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ABSTRACT

The food and feeding habits of the ribbon-fish, *Trichiurus lepturus* obtained from the trawler catches off Tuticorin (Gulf of Mannar) during the years 1967, 1968 and 1970 have been presented. The intensity of feeding during the different months of the year and the percentage occurrence of various items of food in different size groups of *T. lepturus* have been described.

During the period 1960-1968, the ribbon fish formed 3.36% of the total marine fish landings in India and 7.91% of that of the Madras coast (C.M.F.R.I. 1969). Among the ribbon fish, *Trichiurus lepturus* Linnaeus has a wide distribution in the Indo-Pacific and Atlantic and is the dominant species in Indian

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waters (James 1967). The present study relates to the food and feeding habits of this species. The fish were landed by the mechanised boats at Tuticorin. Earlier observations on this fish from the Indian coastal waters include those of Venkataraman (1944), Devanesan and Chidambaram (1948), Vijayaraghavan (1950), Prabhu (1955) and James (1967).

The samples of *T. lepturus* were collected from the landings of the Government of India Offshore Fishing Station trawlers based at Tuticorin during the years 1967, 1968 and 1970. In all, 1425 fish ranging from 250-560 mm in total length were examined. Intensity of feeding was judged from the distension of stomachs which were classified as full, ¾ full, ½ full, ¼ full, little and empty (Job 1940) and the presence of different items of food in different size groups was estimated by the occurrence method (Hynes 1950).

From the condition of feeding observed in different months, it can be deduced that intensive feeding occurs during the months of October and November; in August and December the feeding is moderate. During the remaining period feeding appears to be poor (Table 1).

TABLE 1. *Percentage frequency of the intensity of feeding of* Trichiurus lepturus *during different months as deduced by the fullness of stomach.*

Months	full	¾full	½full	¼full	little	empty
January			No data			
February	8.11	21.62	10.81	—	10.81	48.65
March	7.89	2.65	18.42	—	7.89	63.15
April	—	2.97	18.42	6.34	11.88	60.39
May	5.02	8.24	14.15	12.98	14.15	45.46
June	2.05	4.98	21.13	10.26	11.14	50.44
July	2.09	6.28	14.15	16.75	13.09	47.64
August	8.67	10.67	17.33	12.00	10.00	41.33
September	5.44	7.61	27.17	9.78	7.61	42.39
October	20.73	8.54	30.49	4.88	8.54	26.82
November	9.92	13.72	27.45	11.66	5.88	31.37
December	13.14	4.35	26.08	4.35	8.70	43.38

In Table 2, the percentage occurrences of the various food items in different size groups of *T. lepturus* examined are shown. The food items examined were grouped into the following categories: clupeoid remains — constituting the unidentifiable clupeoid fishes — *Sardinella, Anchoviella, Thrissocles, leiognathids*, prawns and 'other fish remains' which included carangids, sciaenids,

Pomadasys etc. Others could not be identified due to their being in an advanced stage of digestion.

Clupeoid remains were noticed in all size groups of *T. lepturus*, the maximum being in the size range 550-599 mm (51.85%). Among the Engraulids, the predominant item was *Anchoviella*. Though this was taken by all size

TABLE 2. *Percentage occurrences of various food items of* Trichiurus lepturus *in different size groups.*

Size group	Clupeoid remains	*Sardinella*	*Anchoviella*	*Thrissocles*	Ieiognathids	Prawns	Semidigested matter	Other fish remains
250-299	22.22	—	50.00	—	—	11.11	11.01	5.66
300-349	15.15	3.03	22.73	1.52	—	12.12	25.75	19.70
350-399	29.56	1.26	7.55	—	1.89	3.77	27.67	28.30
400-449	26.54	2.37	3.79	0.96	2.37	8.53	29.38	26.06
450-499	25.53	1.80	3.55	3.55	2.84	2.44	29.79	30.50
500-549	29.27	8.54	3.16	6.59	4.88	7.32	15.85	24.39
550-599	51.85	—	14.82	3.70	—	—	11.11	18.52

groups of *T. lepturus*, the smaller size groups of 250-299 mm and 300-349 mm appeared to be feeding mainly on them, thus probably exhibiting a selective feeding. The occurrence of *Sardinella* and *Thrissocles* in the stomach contents were not high as evidenced by their percentage frequencies. Leiognathids were the least abundant and were entirely absent in the food of smaller size groups viz., 200-249 mm to 300-349 mm and again in a higher size group of 550-599 mm. Prawns formed one of the main food items of most of the size groups of *T. lepturus*, their percentage occurrence varying from 2.44 in 450-499 mm to 12.12 in 300-349 mm.

Cannibalistic habit of feeding as observed by Than Ah Kow (1950), Prabhu (1955), Gupta (1967, 1968) and James (1967) in ribbon fishes was not noticed in the specimens examined by the present author.

The increased feeding noticed in October and November agrees with the finding of Vijayaraghavan (1950) who found that this species in Madras waters showed a definite increase in feeding intensity from September to December.

Venkataraman (1944) studied the presence of prawn remains in all the size groups of *T. lepturus* and concluded that prawns form an important food element. But Vijayaraghavan (1950) pointed out that prawns may form an important component of the diet in the Malabar waters and may probably be

due to the availability of prawns along the west coast. Prabhu (1955) has also observed prawns as one of the main food elements of *T. lepturus*. The present study showed that although prawn - remains were present in most of the size groups of the fish, their percentage occurrence was not comparable to that of fishes in the diet. The samples obtained for the present investigation were collected from an area where there is a good prawn fishery. The catch analysis of the offshore trawlers in this area revealed that usually the percentage of prawns was high during the period August to November. It was during these months that *T. lepturus* were also caught in good numbers and in this season they were in advanced stages of maturity and the feeding was also high. Nevertheless, it was found that *T. lepturus* were feeding mainly on other important fishes which abound in that area.

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