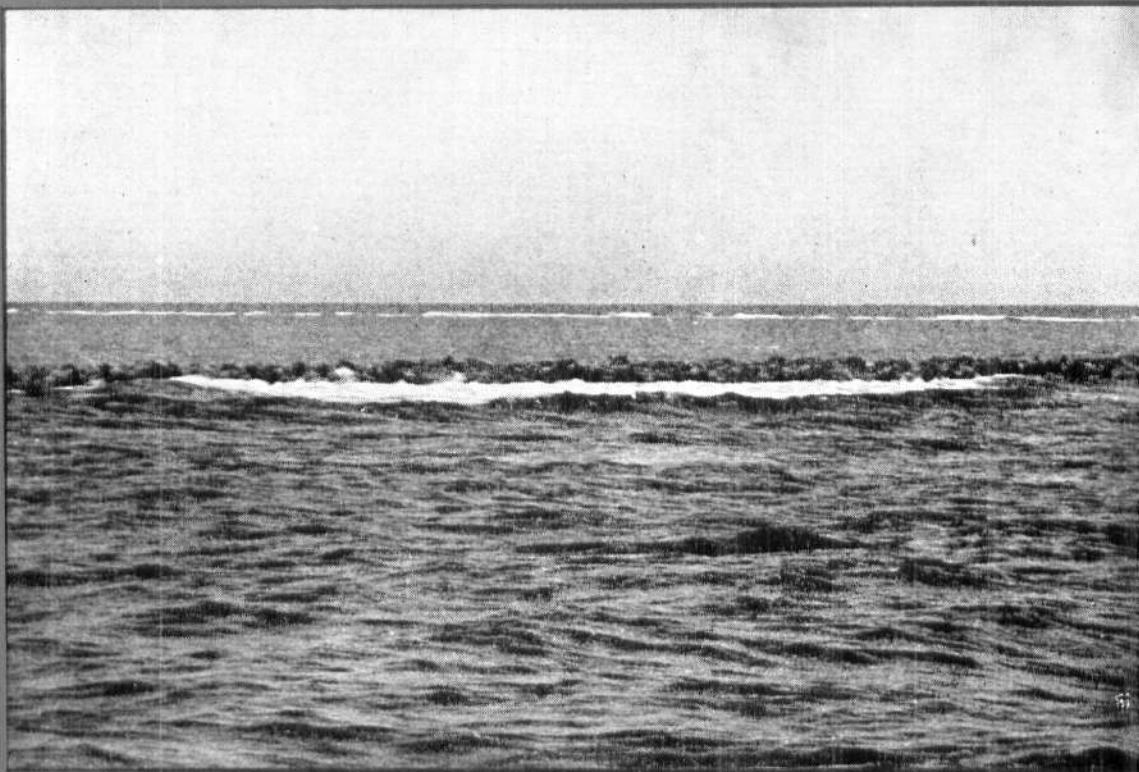




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AN UNUSUAL CATCH OF THREAD-FIN BREAMS BY TRAWL NET AT VERAVAL*

Introduction

The thread-fin breams, locally known as 'Lal machala' constitute 0.6 to 12.39% of the total catch during the different months of their landing at Veraval. After the monsoon season, the trawl net fishing starts by the end of September or beginning of October. But in this year (1986), the operations commenced earlier and fishing was carried out from the middle of September onwards. During the mid September to October beginning, the trawlers brought heavy catch (estimated to be about 2,400 tonnes) of *Nemipterus* spp. and the observations recorded during that period is being reported here.

Fishing operations and fishery

The trawlers set out for fishing in the early morning and return in the afternoon. Each trawl unit normally undertake 2 to 3 hauls per trip, each haul lasting for 2 to 3 hours at depths varying between 30 and 40 metres.

From 16-9-1986 onwards the trawlers brought huge catches of *Nemipterus* spp. (Fig. 1). The catches which were abundant in the initial period started declining subsequently. The date-wise catch and other particulars are given in Table 1.

Table 1. Date-wise estimated number of units, catch, C.P.U.E. percentage and species composition of *Nemipterus* sp.

Date	No. of units	Estimated catch (kg)	C.P. U.E. (kg)	% <i>Nemipterus</i> in total landing	Species composition (kg)	
					<i>N. mesoprion</i>	<i>N. japonicus</i>
19-9-'86	105	1,80,900	1,723	88.11	1,75,016	5,884
22-9-'86	73	75,926	1,040	61.54	72,521	3,405
24-9-'86	145	56,926	389	29.72	54,513	1,823
26-9-'86	103	29,631	288	29.21	28,015	1,616

It could be seen from Table 1 that the percentage of *Nemipterus* spp. in the total landing was very high (88.11%) which decreased later (29.21%). In the catches two species viz. *N. mesoprion* and *N. japonicus* were recorded. The *N. mesoprion* dominated in the catch (94.55%) The *Nemipterus* in general are known to have their own specific (defined) depth ranges (Eggleston, *J. mar. biol. Ass. India*, 11: 357-364, 1973).

The total estimated landing of *Nemipterus* spp. during the observation period of September was 2,399.621 tonnes. During this period, each boat was estimated to bring 804.70 kg of *Nemipterus* spp. which constituted 55.14% of the landings at Veraval.

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Fig. 1. Trawl catch of *Nemipterus* sp. at Veraval.

Biological observations

Sex ratio and maturity

The sex ratio of *N. mesoprion* was 1:1 whereas that of *N. japonicus* was 1:3. The percentage of male and female, their size range and maturity are given in Table 2.

Table 2. The size range (in parenthesis), sex ratio and relative abundance (%) among resting, developing and gravid *Nemipterus* spp. landed at Veraval

Name of species	Male	Female	Resting	Developing	Gravid
<i>N. mesoprion</i>	51.43 (113-170 mm)	48.57 (113-160 mm)	11.76	17.65	70.59
<i>N. japonicus</i>	24.14 (149-172 mm)	75.86 (142-164 mm)	—	18.18	81.82

It could be noted from Table 2 that less number of males was encountered among *N. japonicus*, which could be attributed to their migratory behaviour. Eggleston (1973) reported that only sexually mature large males migrate to the deeper zones. It has been also stated by Eggleston (1973) that in the shallower part, smaller and sexually mature fish aggregate during the spawning season.

Feeding condition and food

The stomach content analysis of both *N. mesoprion* and *N. japonicus* indicated that stomachs of more than 60.0% and 80.0% in both the species respectively were empty (Table 3).

Table 3. Feeding conditions of *N. mesoprion* and *N. japonicus*

Species	Gor- ged	Percentage				
		Full	1/2	1/4	Trace	Empty
<i>N. mesoprion</i>	2.86	2.86	17.14	8.57	5.71	62.86
<i>N. japonicus</i>	—	3.45	—	6.90	6.90	82.75

The occurrence of more specimens with empty stomachs might be due to their feeding behaviour. Eggleston (1973) pointed out that *Nemipterus* sp. are day light feeders. As the trawling commenced in the early morning it was likely that majority of them was caught before feeding.

The only food item observed in the stomachs of both species of *Nemipterus* was *Acetes indicus* which was observed as freshly injected or partially digested conditions.

Size range

Size range of *N. mesoprion* was 90 to 200 mm (TL) with modal size of 130 mm. In *N. japonicus* the size ranged between 140 and 200 mm with modal size of 160 mm. It is presumed that the shoal belong to the first year group.



Fig. 2. *Nemipterus* sp. being transported through auto carriers in bulk quantities at Veraval.

Economics

Due to the heavy landing and lack of demand in the market and as the fish landed were of smaller sizes they were sold at the landing centre itself at Rs 0.70 per kg (Fig. 2). The total value realised during the second half of September at Veraval has been estimated to be Rs. 17.00 lakhs and the value per boat per day to be Rs. 563.29. The fishermen could recover the operational expenditure including the expenditure on food for crew members from the sale proceeds of *Nemipterus* spp. itself.

Remarks

The thread-fin breams form an important demersal fishery resource at Veraval. Their fishery is supported

by two species viz., *N. japonicus* and *N. mesoprion*. Although *N. japonicus* was recorded throughout the year, the *N. mesoprion* formed a seasonal fishery only.

Considering the bumper catch of *Nemipterus* spp. it becomes imperative to suggest steps to utilize the catch in diversified ways. It has been indicated that bacteriological peptone prepared from *Nemipterus* was of high quality. Also it is essential to observe some regulatory measures as more gravid specimens were observed in the catches.

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