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On the unusual landing of juvenile black pomfret at Veraval and Mangrol landing centres of Gujarat

Pomfrets form an important component in the fishery off Mangrol and Veraval. They are landed by trawl nets and monofilament gill nets. The silver pomfret *Pampus argenteus* is locally called "Vichhuda" and the black pomfret, *Formio niger* is called "Halva". The former dominates the pomfret fishery with peak landings in the monsoon and post monsoon period. The black pomfret does not show any regular pattern of landing.

Unusually heavy landings of juveniles of *F. niger* was observed at Mangrol and Veraval in September and October, 1996. At Mangrol, the landings were by motorised boats operating monofilament gill nets locally called as "Chokla Jaal" (50-55 mm mesh size). Each boat landed about 15-50 kg of juveniles. The total gill net landing at Mangrol in September 1996 was estimated to be 4,19,900 t, in which black pomfrets contributed 25.13 t. The entire black pomfret catch comprised of juveniles.

Heavy landings of juvenile black pomfret by trawl net were observed during the same period at Veraval also, operated mostly by "local" trawlers (boats going for single day fishing). Each "local" trawler landed about 10-50 kg of juvenile black pomfrets initially, later this catch increased to about 150 kg per boat. Gill nets operated off Veraval failed to land these juveniles, probably because of the larger mesh size (180 mm) of the nets. Interestingly, the landing of juvenile black pomfrets was noticed only at the Old Light House (OLH) Landing Centre of Veraval and not at the Bhidiya Landing Centre. The boats of OLH generally fish north-west of Veraval (as do the boats of Mangrol), while the boats of Bhidiya Fish south-west of Veraval. On discussion with the Fishermen of Veraval (OLH) L.C.) and Mangrol, it was found that a similar phenomenon of landing of juveniles of "Halva" had occurred 20 years ago.

The size range of the juvenile black pomfret landed at Mangrol and Veraval was 106-155 mm, with 126-130 and 131-135 mm being the modal classes and the mean size, 128.75 mm. The price of commercial size of black pomfret ranged from Rs. 50-60 per kg, while the juveniles fetched very low prices of only Rs.5-6 per kg).

It was also observed that high landings of *F. niger* juveniles was accompanied by high landings of ribbon fish, *Trichiurus lepturus* both at Mangrol and Veraval OLH. At Bhidiya, however the landing of black pomfrets in the same period was low, in spite of high landing of *T. lepturus*, indicating the difference in catch composition from different fishing grounds. Table 1 show catch of *F. niger* and *T. lepturus* during September '96 to February '97 at Mangrol (gill net and trawl net), Veraval (OLH) (gill net and trawl net) and Veraval (Bhidiya Trawl net).

Following this phenomenon in late 1996 and early 1997, it was observed that from gill nets at Veraval catches of *F. niger* showed a decline in the succeeding years (1998-99). In comparison with the landings of *F. niger* in 1988 and 1989, there was a marked reduction in both catch and CPUE and percentage contribution of *F. niger* to the total catch (Table 2). However this is not the case with the catches from trawl nets, wherein there is an increase in landings and CPUE of *F. niger* in 1998 and 1999, when compared to 1988 and 1989.

It may be presumed that there might have been a mass aggregation of juvenile black pomfrets in the coastal waters between Veraval and Mangrol, following breeding in the area during the monsoon or as a result of mass movement for feeding in richer grounds. Since this phenomenon is reported to have occurred two decades ago, there might be some hydrographic factor or cycle which influences this phenom-

Table 1. Details of catch data of black pomfret, ribbon fish at Mangrol and Veraval

Mangrol (Gill Net)

	9/96	10/96	11/96	12/96	1/97	2/97
Total catch	604912	304160	448793	421975	452942	275525
Black Pomfret	49350	13176	-	2286	2124	1550
% of Black pomfret in total catch	8.15	4.33	-	0.54	0.47	0.56
Ribbon fish	289450	38017	24395	22930	8036	21525
% of Ribbon fish in total catch	47.8	12.49	5.43	5.43	1.77	7.8

Mangrol (Trawl net)

Total catch	107028	1680814	1992122	1820994	1568854	873775
Black pomfret	936	11140	1049	-	420	1425
% of Black pomfret in total catch	0.87	0.66	0.05	-	0.026	0.16
Ribbon fish	70200	313189	182546	46672	105868	134900
% of Ribbon in total catch	65.5918.6	9.16	2.56	6.74	15.43	

Veraval (OLH) (Gill Net)

Total catch	918705	1672197	882303	746953	559316	717141
Black pomfret	2545	210001	7747	7037	6832	11752
% of Black pomfret in total catch	0.27	12.55	0.87	0.94	1.22	1.64
Ribbon fish	112641	55416	30511	15762	1912	3747
% of Ribbon fish in Total catch	12.26	3.31	3.45	2.11	0.34	0.52

Veraval (LOH) (Trawl net)

Total catch	439094	1613117	2126513	1801524	270781	504032
Black pomfret	4683	170421	1760	1465	11024	1932
% of Black pomfret in total catch	1.06	10.56	0.08	0.08	4.07	0.38
Ribbon fish	258648	375788	359362	540052	13662	129785
% of Ribbon fish in Total catch	58.90	23.29	16.89	30.02	5.04	25.76

Veraval (Bhidia) (Trawl net)

Total catch	365795	5414926	3737518	1336943	1204868	1058250
Black pomfret	2487	9171	1339	1541	1092	1750
% of Black pomfret in total catch	0.67	0.16	0.03	0.11	0.09	0.16
Ribbon fish	83324	3029531	1161911	162957	119364	78750
% of Ribbon fish in Total catch	22.77	55.94	31.08	12.18	9.90	7.44

Table 2. Details of Gill/Trawl net operations at Veraval

	Veraval (Gill Net)				Veraval (Trawl Net)			
	1988	1989	1998	1999	1988	1989	1998	1999
Unit	28407	29101	31835	25913	44374	52439	63474	49342
Hauls	29919	29808	34330	34175	249931	282015	561676	711060
Hour	197303	203388	245932	243640	614793	733961	1430488	1670972
<i>F. niger</i>	201170	104466	55124	35583	56045	101653	408249	487032
CPUE	7.08	3.59	1.73	1.373	1.26	1.94	6.43	9.87
% in total catch	5.88	1.96	1.51	0.88	0.126	0.15	0.388	0.40

enon. The effect of fishing of the juveniles from September '96 - February '97 is directly reflected in the landings of *F. niger* by gill nets at Veraval in 1998 and 1999 (Table-II). The observations made in this study demands strict measures to regulate mesh size to prevent capture of juve-

niles of commercially important fishes and conserve the resource and its fishery.

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