

OVERALL FISHING INTENSITY, CATCH AND CATCH BY SIZE OF YELLOWFIN TUNA
IN THE ATLANTIC LONGLINE FISHERY, 1956-1979

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SUMMARY

Updating the catch and effort statistics of the Atlantic longline fishery up to 1979, effective fishing effort and hook rate are estimated. Length composition of yellowfin tuna caught by the Japanese longline fishery is summarized.

RESUME

Une mise à jour des statistiques de prise et effort de la pêcherie palangrière de l'Atlantique a été réalisée jusqu'en 1979, et l'effort de pêche effectif ainsi que le taux par hameçon ont été estimés. La composition par taille de l'albacore capturé par la pêcherie palangrière japonaise est récapitulée.

RESUMEN

Al proceder a actualizar las estadísticas de captura y esfuerzo de las pesquerías de palangre en el Atlántico hasta 1979, se efectuaron estimaciones sobre el esfuerzo efectivo de pesca y tasa de anzuelos. Se presenta un resumen sobre la composición por tallas del rabil capturado por la pesquería japonesa de palangre.

This note is the tenth report in the series previously documented.

Data processing is the same as described in the previous report (Honma 1981).

1. Catches

Catches of Atlantic yellowfin by the longline fishery in 1979 was 15800 tons, smallest except for those in the very early period of the exploitation (Table 1). Largest catch of 7000 tons was made by the Korean fleet, then Cuban catches follow this. The same level of the Japanese catches about 2000 tons with the previous year was reported in 1979 accounting for 13 % of the total fishery (Fig. 1).

2. Fishing effort and hook rates

Fishing intensity of the whole Atlantic fleet on yellowfin was 0.8 millions in 1979, 0.1 millions decrease from the previous year. Hook rates of yellowfin tuna by the Japanese longline was 5.0 % in 1979, slight decrease from the previous year but remained within low stable ranges of hook rates in the 1970's (Table 1, Fig. 2).

3. Catches by size

The Japanese longline boats captured 3511 yellowfin in the Gulf of Guinea in 1979. Measurements of the length in this area cover only 22 fish from the fourth quarter (October-December). Fish with modal length about 114-120 cm, similar to the previous year appeared in the length composition from the Carib Area in 1979 (Fig. 3, Appendix table 1).

References

Honma, M. 1981. "Overall fishing intensity, catch, catch by size of yellowfin tuna in the Atlantic tuna longline fishery, 1956 - 1978", Col. Vol. Scie. Paper., 15(1), P. 1-5.
 International Commission for the Conservation of Atlantic Tunas. 1980. "Statistical Bulletin". Vol. 10.

Table 1. Hook rate, catch in number, yield in weight and overall fishing intensity of yellowfin tuna in Japanese and catch, yield and overall fishing intensity in the whole longline fishery in the Atlantic Ocean, 1956 - 1979.

Year	Japanese longline fishery				Whole longline fishery		
	Hook rate (%)	Catch in number of fishes	Yield in tons	Intensity in 1,000 hooks/5 ² sq.	Catch in 1,000 fishes	Yield in tons	Intensity in 1,000 hooks/5 ² sq.
1956	4.91	12,028		2.0	2.0
1957	4.28	258,544	13,198	48.3	272	13,894	50.9
1958	4.50	746,490	27,159	132.8	775	28,203	137.9
1959	4.10	1,097,535	44,071	216.4	1,144	45,927	225.5
1960	3.38	1,158,534	50,822	279.1	1,212	53,142	291.8
1961	2.85	980,339	42,609	303.2	967	44,929	319.7
1962	1.49	990,472	41,973	543.7	1,088	46,434	597.5
1963	0.96	885,796	37,717	566.3	1,011	43,522	646.4
1964	0.83	879,188	35,106	749.9	959	38,860	817.7
1965	0.72	927,287	36,918	913.7	1,002	40,068	987.3
1966	0.72	394,338	22,354	450.8	449	26,690	513.0
1967	0.84	366,046	12,824	316.3	485	20,935	427.2
1968	0.84	274,181	13,913	264.1	762	30,111	738.8
1969	0.76	241,832	9,966	260.9	737	32,199	849.6
1970	0.65	189,569	6,809	237.4	657	30,451	938.5
1971	0.56	292,062	10,629	425.5	915	28,556	1,561.0
1972	0.51	159,010	6,497	253.8	912	29,681	1,365.1
1973	0.48	108,585	3,803	184.1	1,120	31,607	1,972.8
1974	0.63	94,700	3,475	121.9	966	29,461	1,509.3
1975	0.40	116,319	4,192	239.8	687	27,709	1,589.1
1976	0.56	105,879	3,360	152.1	620	25,302	1,179.5
1977	0.44	41,483	1,467	76.3	730	26,887	2,030.5
1978	0.54	56,332	1,923	84.2	607	20,714	907.1
1979	0.50	62,883	1,986	100.1	500	15,803	796.7

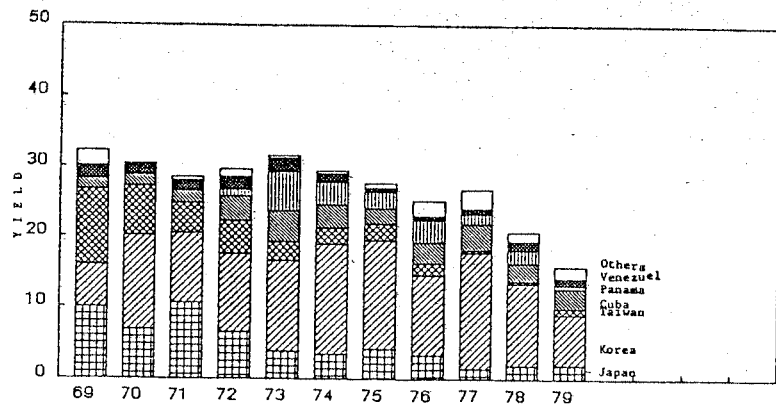


Fig. 1. Yield in thousand tons of yellowfin tuna by country in the Atlantic longline fishery, 1969-1979.

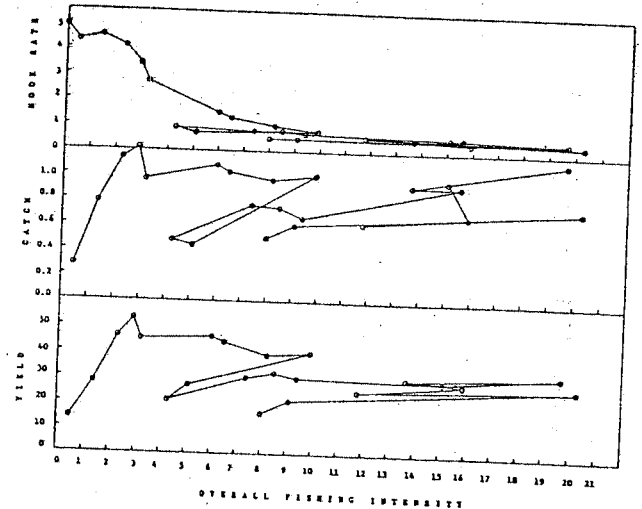


Fig. 2. Hook rate in percent (upper panel), catch in million fish (central panel) and yield in thousand tons (lower panel) of yellowfin tuna against overall fishing intensity in hundred thousand hooks per 5° squares in the Atlantic longline fishery, 1956-1979.

Appendix table 1. Catch of yellowfin tuna by length class in Japanese longline fishery, 1979.

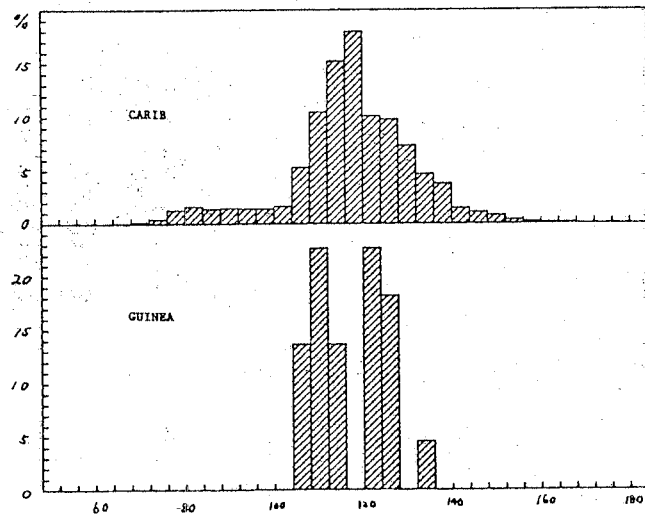


Fig. 3. Percentage length composition of yellowfin tuna caught by Japanese longline fishery in the Atlantic Ocean (CARIB and GUINEA Areas) in 1979.

A. CARIB AREA						
Length class	Jan. - Mar.	Apr. - June	July - Sep.	Oct. - Dec.	Total	
48 - 50	12	-	-	-	12	
56 - 58	5	-	-	-	5	
58 - 60	12	-	-	-	12	
60 - 62	5	-	-	2	7	
62 - 64	-	-	-	5	5	
64 - 66	23	-	-	5	28	
66 - 68	12	-	-	-	12	
68 - 70	40	-	2	-	42	
70 - 72	23	-	-	7	30	
72 - 74	48	4	17	7	76	
74 - 76	126	-	34	-	160	
76 - 78	143	4	-	5	152	
78 - 80	505	19	31	18	573	
80 - 82	434	49	14	27	494	
82 - 84	351	26	14	27	418	
84 - 86	279	95	36	34	444	
86 - 88	65	197	32	21	315	
88 - 90	53	260	52	24	389	
90 - 92	71	311	43	11	436	
92 - 94	60	304	38	11	413	
94 - 96	65	203	88	21	377	
96 - 98	118	121	109	13	361	
98 - 100	148	51	195	22	416	
100 - 102	98	-	240	18	346	
102 - 104	95	-	418	53	566	
104 - 106	291	13	826	135	1265	
106 - 108	220	13	1265	177	1675	
108 - 110	404	63	2253	416	3136	
110 - 112	416	44	1799	434	2693	
112 - 114	660	69	1854	699	3284	
114 - 116	1128	82	2210	1756	5176	
116 - 118	1389	95	1633	1990	5107	
118 - 120	1562	202	1351	1980	4896	
120 - 122	909	304	677	1281	3171	
122 - 124	1099	203	411	728	2441	
124 - 126	1045	323	755	1069	3192	
126 - 128	427	475	764	542	2248	
128 - 130	309	415	1265	232	2441	
130 - 132	166	431	966	47	1650	
132 - 134	118	317	893	24	1352	
134 - 136	88	260	855	45	1248	
136 - 138	78	197	893	16	1164	
138 - 140	148	140	598	24	910	
140 - 142	78	63	323	18	482	
142 - 144	23	57	245	16	341	
144 - 146	65	101	159	22	347	
146 - 148	53	64	114	22	253	
148 - 150	53	89	114	13	269	
150 - 152	48	76	57	-	181	
152 - 154	-	19	43	2	64	
154 - 156	-	82	37	2	141	
156 - 158	-	4	21	-	25	
158 - 160	-	38	38	-	76	
160 - 162	5	13	24	7	49	
162 - 164	-	-	16	-	16	
164 - 166	3	6	38	-	47	
166 - 168	-	-	2	2	4	
168 - 170	-	-	9	-	9	
172 - 174	-	-	-	2	2	
174 - 176	-	4	-	-	4	
176 - 178	-	-	-	2	2	
Total	13598	6090	23735	12131	55564	

B. GUINEA AREA						
Length class	Jan. - Mar.	Apr. - June	July - Sep.	Oct. - Dec.	Total	
106 - 108	-	-	-	442	442	
108 - 110	-	-	-	442	442	
110 - 112	-	-	-	295	295	
112 - 114	-	-	-	442	442	
114 - 116	-	-	-	-	-	
116 - 118	-	-	-	-	-	
118 - 120	-	-	-	-	-	
120 - 122	-	-	-	147	147	
122 - 124	-	-	-	589	589	
124 - 126	-	-	-	147	147	
126 - 128	-	-	-	442	442	
128 - 130	-	-	-	147	147	
130 - 132	-	-	-	-	-	
132 - 134	-	-	-	-	-	
134 - 136	-	-	-	-	-	
136 - 138	-	-	-	147	147	
138 - 140	-	-	-	-	-	
Total	(108)	(38)	(124)	3240	3240	

Numbers in parentheses denote number of catches, and no substitution was made for these catches.