

THE CATCH DISTRIBUTION AND CATCH PER UNIT OF EFFORT BY ICCAT SKIPJACK AREA CAUGHT BY KOREAN BAITBOATS FOR 1978-1980

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SUMMARY

The catch proportion of skipjack by Korean baitboat fishery showed high levels in the Annobon area (SJ-73) for 1978-80 but the catch per unit of effort was relatively lower than other areas. Fishing areas showing healthy abundance throughout the years seem to be shifted toward the area up to 5°W from the east side in the northern part of the equator. From length compositions, over 55 cm. in fork length was dominant in the Angola offshore (SJ-79) and in the Annobon area the predominant composition consisted of around 50 cm.

RESUME

Le pourcentage des prises de listao des canneurs coréens est élevé dans la zone d'Annobon (SJ-73) pour la période 1978-80, mais la prise par unité d'effort a été relativement plus faible que dans d'autres zones. Les secteurs de pêche qui montrent une forte abondance pendant toutes ces années semblent se déplacer vers la zone qui va jusqu'à 5°W du côté est de la partie nord de l'équateur. La composition par taille a permis d'établir qu'au large de l'Angola (SJ-79) les tailles dépassant 55 cm de longueur fourche prédominaient, alors que dans la zone d'Annobon les tailles prédominantes se situaient aux alentours de 50 cm.

RESUMEN

La proporción de captura de listado llevada a cabo por la pesquería coreana de cebo, mostró un alto nivel en el área de Annobon (SJ - 73) para 1978-1980, pero la captura por unidad de esfuerzo fue relativamente inferior a la de otras zonas. Los caladeros que mostraban abundancia a lo largo de varios años, parecen haberse desplazado hacia el área de los 5°W desde la zona oriental en el sector norte del Ecuador. Referente a la composición por tallas, dominó la longitud a la horquilla de más de 55 cm., frente al litoral de Angola (SJ -79), mientras que en el área de Annobon, predominó la composición de tallas de aproximadamente 50 cm.

INTRODUCTION

Korean bait boat fishery in the Atlantic Ocean has been operating since 1972 and its fishing ground is limited around the tropical area of the eastern Atlantic, especially within the Gulf of Guinea. The main catch composition of this fishery is skipjack with the proportion of over 70 percent of the total catch (Gong et al, 1981) and also this fish is dealt with as one of the important species, as well as yellowfin and bigeye in a viewpoint of management of Korean tuna fishery.

On the other hand, the International Commission for the Conservation of Atlantic Tunas has recently established the International Skipjack Year Program for the purpose of reasonable increase of the catch, new stock appraisal and management implication for skipjack.

In accordance with the above mentioned, this report is to provide some information on skipjack tuna caught by Korean bait boats in the conformity with the skipjack area of the commission.

DATA AND PROCESS

The data used for this report is the catch and effort data collected by Korean bait boats for Task II statistics and length composition which was measured on fishing vessels during the period of 1978 - 1980. These data were rearranged by the area - $1^{\circ} \times 1^{\circ}$ square and the catch per unit of pole (CPUP) as index of relative abundance of stock was calculated in order to know the main fishing grounds, and catch proportion by ICCAT skipjack area, by year and also length composition by the area was compared.

CATCH AND IT'S PROPORTION BY AREA

The total catch of skipjack and catch by area caught by Korean bait boats are shown in the table 1 and 2. The total catch maintained at lower level in the vicinity of 4,000 metric tons from 1974 to 1977. In 1978 the catch increased to about 8,000 metric tons and in 1979 it showed the peak level of 12,000 metric tons for 1973 - 1980 but in 1980 it again reduced to about 7,200 metric tons (Table 1).

Taking into account the catches for three years during the period of 1978 - 1980 which recorded a high level of the catch, catch proportion and CPUP by area and by year are illustrated in Table 2. The highest value of the catch has appeared in the Annobon area (SJ - 73) occupying over 85 percent from year to year and only a small quantity in other areas. This means that Korean bait boats have mainly operated around the fishing ground very near from the base port, Tema. This phenomenon is pointed out by Choo(1977) and available fishing map corresponding to the above mentioned is given by Gong et al (1981).

DISTRIBUTION OF CATCH PER POLE

The catch per unit of pole by $1^{\circ} \times 1^{\circ}$ square is calculated using the Korean Task II data for bait boats from 1978 to 1980 and plotted in Figure 1. Gong et al (1981) has already mentioned that the range of fishing ground of Korean bait boats was mainly limited within the Annobon area and particularly in 1979 extended to the Sherbro offshore and partly to the Ascension area.

In this report however, the covered aspects of fishing area for skipjack by Korean bait boats are reviewed in details by one degree square and by year. Fishing area showing healthy abundance in 1978 occurred in the area near the

equator in the east between 5° - 10° E but in 1979 it appeared between 0° and 4° N and the area between 0° and 5° E, and there showed a trend expanding gradually up to around 5° W from the above area. The fishing ground in the southern part of the equator in this year has been formed sporadically but extended up to the area between 17° S and 8° E. The fishing in this area was exploratory fishing by some Korean bait boats and although the catch recorded was at a very low level the catch per unit of pole was higher compared to other skipjack areas (See Table 2).

In 1980, the high values of CPUP showed up in the area between 1° and 4° N and in the area between 2° and 5° W, and also healthy abundance areas in the southern part of the equator compared to the northern part of that have occurred partially (Fig. 1).

LENGTH COMPOSITION OF SKIPJACK BY AREA

The length composition of skipjack sampled by Korean bait boats was illustrated by Choo(1977) and Gong et al(1981). However they did not explain it by skipjack area. Accordingly Figure 2 shows the length composition of skipjack by ICCAT area for 1978 - 1980.

From this figure, over 55 Cm in fork length was dominant with the average value of 59.6 Cm in 1979 and 52.4 Cm in 1980 in the Angola offshore area(SJ - 79) through all the area and in the Annobon area(SJ - 73) size groups with the average of around 50 Cm were predominant compositions but Sherbro inshore area(SJ - 72) seems to be intermingled mainly with small size fishes less than 50 Cm.

LITERATURE CITED

- Choo, W. I. 1977. Report on the Korean bait-boat fishery in the Atlantic ocean, 1975. ICCAT Collective Vol. VI (SCRS - 1976) (1): 69 - 71.
- Gong, Y., J. U. Lee and W. S. Yang. 1981. Review of the catch composition by species caught by Korean bait boat fishery based in Tema for 1977 - 1979. ICCAT Collective Vol. XV (SCRS - 1980) (1): 20 - 25.
- ICCAT. 1979. Data record Vol. 14.
- 1980. Data record Vol. 16.

Table 1. Total catch of skipjack by Korean bait boats in the Atlantic ocean, 1973 - 1980.

Year	1973	1974	1975	1976	1977	1978	1979	1980
Catch (M/T)	922	2,123	4,469	1,948	3,600	8,132	12,017	7,176
Fishing boats	3	8	8	6	15	20	18	16

Table 2. Catch proportion and catch per unit of pole (CPUP) of skipjack by area, 1978 - 1980

Year	Area Division	Sherbro inshore (SJ-72)	Annobon (SJ-73)	Angola inshore (SJ-74)	Ascension (SJ-79)	Angola offshore (SJ-79)	Remarks
1978	Catch(M/T)	602	7,522			8	Percentage and CPUP: derived from Korean Task II statistics
	(%)	(7.4)	(92.5)			(0.1)	
	CPUP(Kg)	122.1	119.3			129.6	
1979	Catch(M/T)	216	10,887		192	721	
	(%)	(1.8)	(90.6)		(1.6)	(6.0)	
	CPUP(Kg)	265.9	211.7		327.1	369.3	
1980	Catch(M/T)	101	6,171	43		861	
	(%)	(1.4)	(86.0)	(0.6)		(12.0)	
	CPUP(Kg)	140.0	132.9	530.8		220.7	

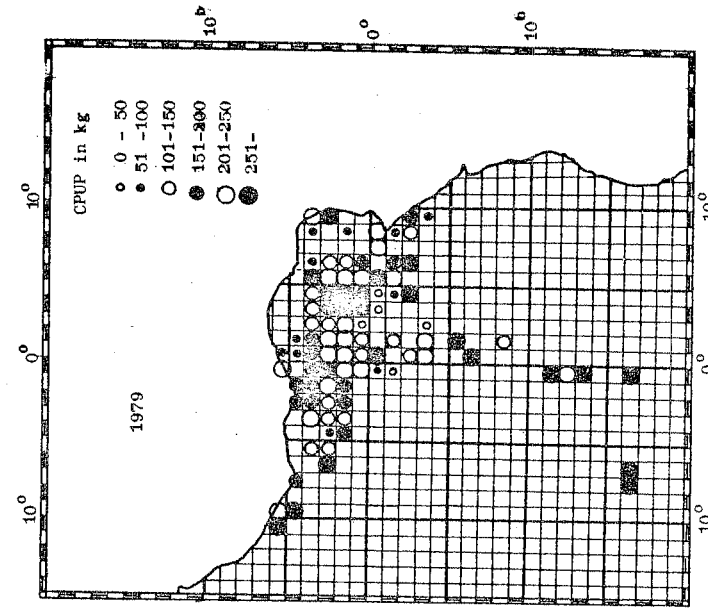


Fig. 1. Continued.

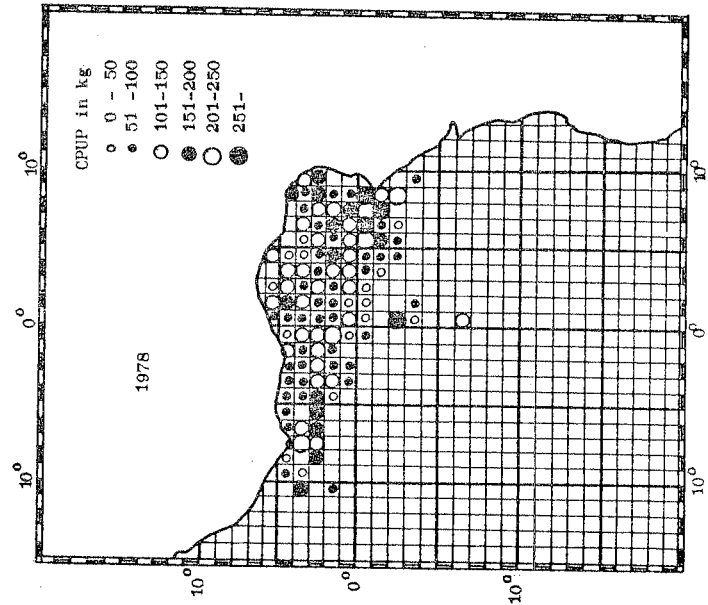


Fig. 1. Geographical distributions of catch per pole of Skipjack caught by Korean bait boats, 1978-1980.

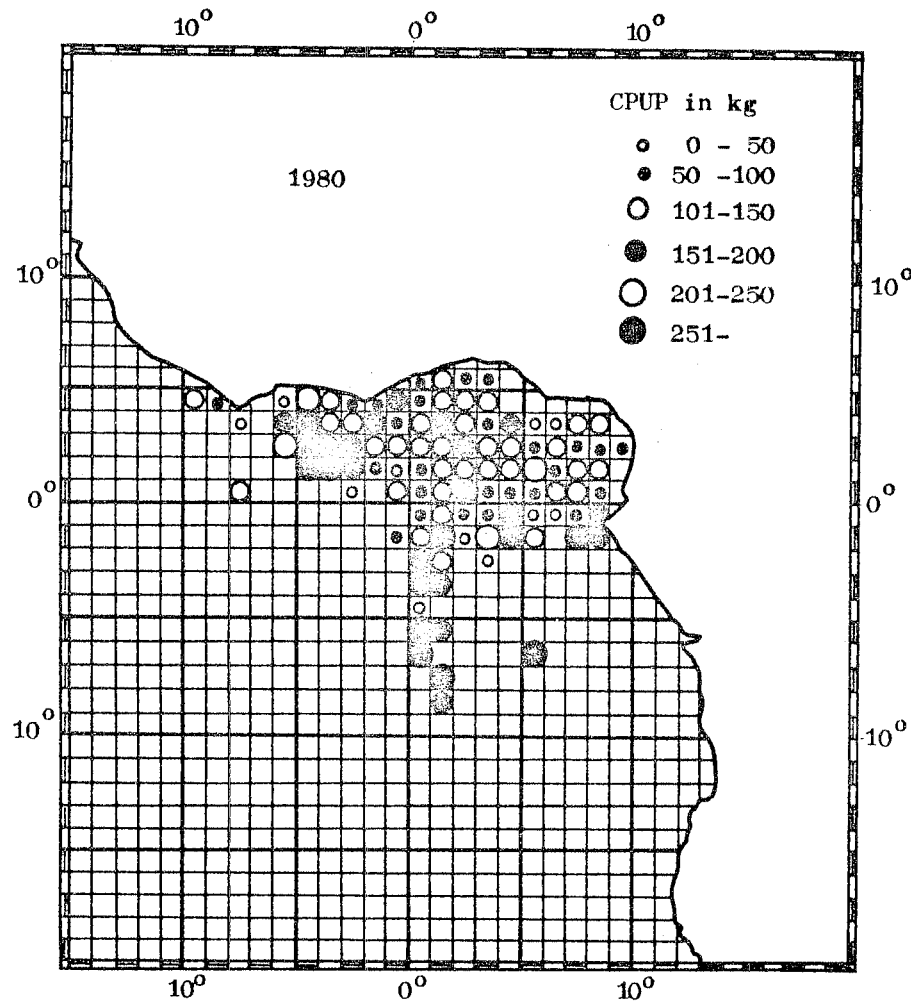


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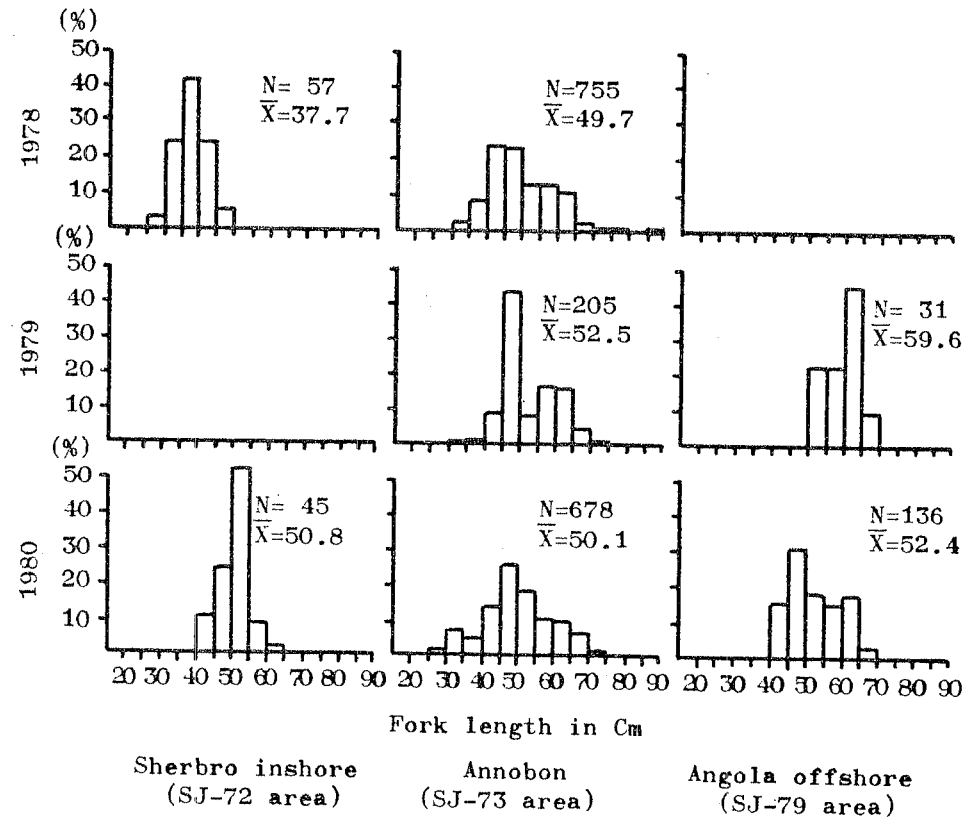


Fig. 2. Length composition by ICAT Skipjack area caught by Korean bait boats, 1978-1980.