

REPORT ON THE KOREAN BAITBOAT FISHERY IN THE ATLANTIC OCEAN, 1975

by

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SUMMARY

Some data on the Korean tuna baitboat fishery which operated in the eastern tropical Atlantic Ocean in 1975 are analyzed. Catches per fishing day, compiled by quarter and by 1° x 1° square, are illustrated. Since all Korean boats are based at Tema, Ghana, fishing was carried out mainly in the "Annobon" area (of the ICCAT skipjack areas). The fishing ground was north of 2°S and between 12°W and 8°E. In the "Sherbro" area, i.e. west of 5°W, only 11.5% of total fishing effort was made, and in number, 11.4% of the total skipjack was caught there. The length composition of skipjack samples is summarized. Fork length ranged from 31 to 75 cm with a mean value of 47.6 cm.

RESUME

Des données sur la pêche des canneurs coréens dans l'Atlantique Tropical Oriental en 1975 sont analysées. Les prises par journée de pêche compilées par trimestres et carrés de 1° x 1° sont représentées. Du fait que tous les bateaux coréens ont leur port d'attache à Tema (Ghana), la pêche a surtout eu lieu dans le secteur "Annobon" (zones listao ICCAT). Les limites de la zone de pêche sont au nord des 2°S et entre 12°O et 8°E. Le secteur "Sherbro", à l'ouest des 5°O ne représentait que 11,5% de l'effort de pêche total et 11,4% de la prise numérique totale de listao. La composition de taille des échantillons est résumée en ce qui concerne cette espèce. La longueur fourche va de 31 à 75 cm, avec une valeur moyenne de 47,6 cm.

RESUMEN

Se analizan algunos datos de la pesquería de barcos de cebo coreanos que han operado en el Atlántico tropical oriental durante el año 1975, y se ilustran las capturas por día de pesca, compiladas por trimestre y cuadrículas de 1° x 1°. Debido a que todos los barcos coreanos tienen su base en Tema, Ghana, la pesca se efectuó principalmente en la zona "Annobon" (zonas ICCAT para el listado). La zona de pesca estaba situada al norte de 2° Sur, entre 12° Oeste y 8° Este. En la zona "Sherbro", es decir, al Oeste de 5° Oeste, fue sólo el 11,5% del total del esfuerzo de pesca, y el 11,4% del total de la captura numérica de listado. El documento resume la composición por talla de las muestras. La longitud horquilla varía de 31 a 75 cm, con una media de 47,6 cm.

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## INTRODUCTION

The Korean bait-boat fishery (pole-and-line fishery) in the Atlantic Ocean began in 1972, using two boats based at Tema, Ghana. Since the fishery of the beginning year was an exploratory as well as training operation for fishermen, it could not be considered as a commercial fishing venture. Consequently the statistics do not appear on the Korean tuna catch. The Korean commercial fishery of bait-boat in the Atlantic Ocean started practically from 1973. The fleet of Korean bait-boat fishery is registered to either Korea or Panama. The Panamanian flag vessels are chartered and operated by Korean firms, and are subject to the same fishery regulations under the Korean fishery laws as are the vessels flying the Korean flag. Therefore, these chartered boats and their catches are included in the Korean statistics without any distinction. The fishery concerned is a new one compared to longline fishery, and the catch amount comprises only a minor proportion of the total Korean tuna catch from the Atlantic Ocean. No regular data collecting system has been set up for the fishery in Korea. The author, however, has tried to collect bait-boat fishery data from several sources. But they are fragmentary, and are not well linked to each other. It is hoped that this paper can give some broad idea on Korean live bait-boat fishery in the Atlantic Ocean.

## CATCH STATISTICS

Tables 1 and 2 summarize the number of Korean bait-boats by size and their landings in the Atlantic Ocean from 1972. As explained previously, Korean boats and landing statistics include some Panamanian-flag vessels and their catches. The bait-boats are based in Ghana and their fishing grounds are restricted to the eastern tropical Atlantic. Accordingly, strictly speaking, the tables show the number of bait-boats of Korea and Panama, and their landing statistics in the eastern tropical Atlantic Ocean. There are no official figures to separate the statistics by country.

Table 1. Number of Korean bait-boats by size in the Atlantic Ocean.

Year	Gross tons			
	100-	200-	300-	Total
1972	2	-	-	2
1973	2	1	-	3
1974	4	4	-	8
1975	4	4	-	8

Table 2. Number of Korean bait-boats and landing statistics in the Atlantic Ocean.

Year	No. of bait-boats	Landings (metric tons)				
		Skipjack	Yellowfin	Bigeye	Others	Total
1972	2					-
1973	3	922	900	-	-	1,822
1974	8	2,123	2,169	4	120	4,416
1975	8	4,469	1,259	1,750	175	7,653

The number of boats in 1975 remained same as in 1974, but the landings increased greatly. In 1973-1974, skipjack was caught in almost equal amount to yellowfin tuna; but in 1975 skipjack became the dominant species in catch. Another notable phenomenon in 1975 statistics is the greatly increased catch of bigeye tuna (22.9% of the total landings). It may be partly due to misidentification between two species, yellowfin and bigeye, of small sizes. Incidental catch includes such species as Atlantic little tuna (*Euthynnus alletteratus*) and frigate mackerel (*Auxis* sp.).

## DISTRIBUTION OF CATCH PER DAY FISHING

The catches per day fishing by species, quarter and 1° x 1° square are calculated from the partial sampling data on the Korean pole-and-line fishery in 1975 and plotted in Figs. 1 to 3. Skipjack catch in number per day fishing is illustrated in Fig. 1. The fishing grounds are extended up to 12°W in the west side, 8°E in the east side, and 2°S in the south side. But the main fishing ground is always concentrated near Tema throughout the year. The

available fishing map corresponding to the above Figure was given by Honma et al (1975). They illustrated the monthly distribution of skipjack catch in tons by Japanese pole-and-line fishery based at Tema in 1973 on the basis of partial sample. The Japanese pole-and-line fishing area was bounded by the lines of 15°W, 4°S and 9°E. But the catch was mainly taken from the fishing ground not very far from base port, Tema, same as the Korean fishery. For statistical purposes, ICCAT (1976) divides skipjack surface fishing grounds in the eastern Atlantic into 5 areas, among which the Korean pole-and-line fishery occupies only two areas. The Korean fishing was intensively carried out in the "Annobon" area, i.e. east of 5°W, throughout the year of 1975. The fishing ground expanded up to the "Sherbro" area, i.e. west of 5°W only in the 2nd and 4th quarters according to the Korean sampling data. On the yearly basis, the original raw data show that only 11.5% of total fishing efforts are assigned to the "Sherbro" area, and the rest are exclusively to the "Annobon" area. On the other hand, 11.4% of the total skipjack catch in numbers are taken from the "Sherbro" area, and the rest are taken from the "Annobon" area. The fishing grounds of yellowfin catch in numbers and total catch in weight are illustrated in Figs. 2 and 3 respectively. The extension and general fishing pattern are almost the same to that of skipjack.

#### LENGTH FREQUENCY OF SKIPJACK

The raw data were drawn from the Fishery Research Unit, Tema, Ghana. The crew of Mr. N. Ansa-Ennig. Tuna catches were sampled randomly for length frequencies aboard the bait-boats during transshipping at Tema. Generally 50 fishes were measured from a vessel. The accompanying information such as on date of fishing, date of departure and arrival to and from the port, and catch by species is obtained simultaneously from the vessel.

Since the main fishing grounds all fall in the "Annobon" area, the data are combined without any geographical stratification. Table 3 summarizes the range and mean fork length of skipjack. The corresponding body weights are calculated with the equation presented by Lenarz (1974).

$$W = 0.000005611 \times L^{3.31497}$$

Table 3. Summary table of skipjack length and weight compositions caught by Korean bait-boats in 1975.

Quarter	No. of fish measured	No. of samples	Fork length in cm		Body weight in Kg	
			Range	Mean	Range	Mean
1st	550	11	33 - 65	49.8	0.61-5.74	2.37
2nd	550	11	32 - 62	48.5	0.55-4.91	2.17
3rd	450	9	31 - 75	45.6	0.49-9.22	1.77
4th	198	4	36 - 54	44.1	0.81-3.19	1.59
Total	1,748	35	31 - 75	47.6	0.49-9.22	2.04

The relative length frequencies by quarter are illustrated in Fig. 4. The overall range of fork length are between 31 and 75 cm with the average value of 47.6 cm.

#### LITERATURE CITED

- Honma, M., S. Kume and Z. Suzuki (1975) Biological views for conservation of yellowfin tuna in the Atlantic Ocean based on information up to September 1974. ICCAT Col. Vol. Sci. Pap. Vol. IV, p. 26-32.
- ICCAT (1976) Proceedings of the 4th Regular Meeting of the Commission. Madrid, Nov. 1975 (Provisional).
- Lenarz, W. (1974) Length - weight relations for five eastern tropical Atlantic Scombrids. Fish. Bull., U.S. 72 : 848-851.
- Sakagawa, G.T., T.C. Murphy and A.L. Coan (1976) Report on the sampling of imports of Atlantic-caught tunas in Puerto Rico, U.S.A., ICCAT Col. Vol. Sci. Pap. Vol. V, No. 1, P.67-71.