

CHANGE IN CATCH PER UNIT OF EFFORT FOR SKIPJACK AND YELLOWFIN TUNA
CAUGHT BY JAPANESE POLE-AND-LINE FISHERY IN THE GULF OF GUINEA, 1969-1976

by

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SUMMARY

Bi-monthly changes in CPUE are presented concerning skipjack and yellowfin tuna caught by Japanese pole-and-line fishery in the Gulf of Guinea since 1969. It seems that there is no definite annual decreasing trend in the level of skipjack CPUE and that low CPUE of yellowfin tuna in 1976 may have been influenced by the more strengthened observation of the size limit regulation of the species.

RESUME

Le présent document fait état de modifications bimestrielles de la CPUE des listaos et albacores pris par les canneurs japonais dans le Golfe de Guinée depuis 1969. Il ne semble pas qu'il y ait de tendance annuelle nette à la baisse dans le niveau de la CPUE listao; la faible CPUE albacore de 1976 pourrait avoir été influencée par l'observance plus stricte de la réglementation de taille limite de cette espèce.

RESUMEN

Se presentan los cambios bimestrales en la CPUE respecto al listado y al rabil capturado por la pesquería japonesa de caña-liña en el Golfo de Guinea desde 1969. No parece existir una marcada tendencia de descenso anual en el nivel de la CPUE respecto al listado, y la baja CPUE del rabil en 1976 podría ser en parte resultado de una más estricta observancia de las regulaciones sobre límite de talla.

Data on catch and effort

In 1977, catch and effort statistics by area based on all logbook records of the Japanese pole-and-line fleet operating in the Atlantic and submitted to the Fishery Agency have completed for the years from 1969 through 1976. The bi-monthly catch and effort data concerning baitboat operation in the Gulf of Guinea are summarized by ICCAT areas for skipjack and yellowfin tuna (Fig. 1). Bi-monthly numbers of vessels from which the logbooks were provided are shown in Table 1.

As a unit of effort, previous "fishing day" in the same kind of study by Kume (1977) is revised in this report. New "fishing day" is defined as the day when any amount of catches of skipjack and/or yellowfin tuna is recorded. The present "fishing day" appears to be better than the old one, which was designated as the day when the concerned species is caught, because the fleet aims to capture skipjack and yellowfin tuna at the same time at least until the execution of the yellowfin size limit and in most cases yellowfin is mixed with skipjack in the same school. CPUE is expressed in terms of catch in tons per number of fishing days.

In Figure 2, indicated are annual changes in CPUE by bi-monthly period for skipjack in ANNOBON area and yellowfin tuna in ABIDJAN area. In these two areas, catch and effort data are available for the long term observation. Also indicated in the same figure are annual CPUE's for each species.

Skipjack

Seasonal change in CPUE of skipjack in ANNOBON area suggests that there are two peaks, but not so remarkably, in the year; March-April and September-October. The levels of annual CPUE were high in the years of 1970-1972. Since 1973, annual CPUE has been a little less than that of previous years. It may be that the CPUE of later half of 1976 is recovering to the higher level.

Yellowfin tuna

In the ABIDJAN area, the peak fishing season appears in the later half of the year being centered by September-October. Highest annual CPUE's were experienced in 1972 and 1973 and then the CPUE turned out to a decreasing trend. The 1976 CPUE was the lowest.

Majority of yellowfin catch made by surface fleets in the Gulf of Guinea are composed of very small yellowfin, probably 0+ and 1+ years-olds. It may be that the CPUE in the area could be an index of a level of recruitment to the yellowfin stock in the eastern Atlantic. However, it should be remarked that in recent years an instruction upon Japanese baitboat fleet to observe the yellowfin size limit regulation imposed by the ICCAT has been intensified and the Japanese fleet has been intentionally avoiding to capture young yellowfin. It is, therefore, reasonable to consider that the rather remarkably low CPUE in 1976 does not necessarily relate to the low level of recruitment of yellowfin in the Gulf of Guinea and should be interpreted carefully.

References

- Kume, S. 1977: Recent change in catch per unit of effort of skipjack and yellowfin tuna in Japanese pole-and-line fishery in the eastern equatorial Atlantic. Col. Vol. Sci. Pap., Vol. VI (SCRS-1976) No.1, 72-75.

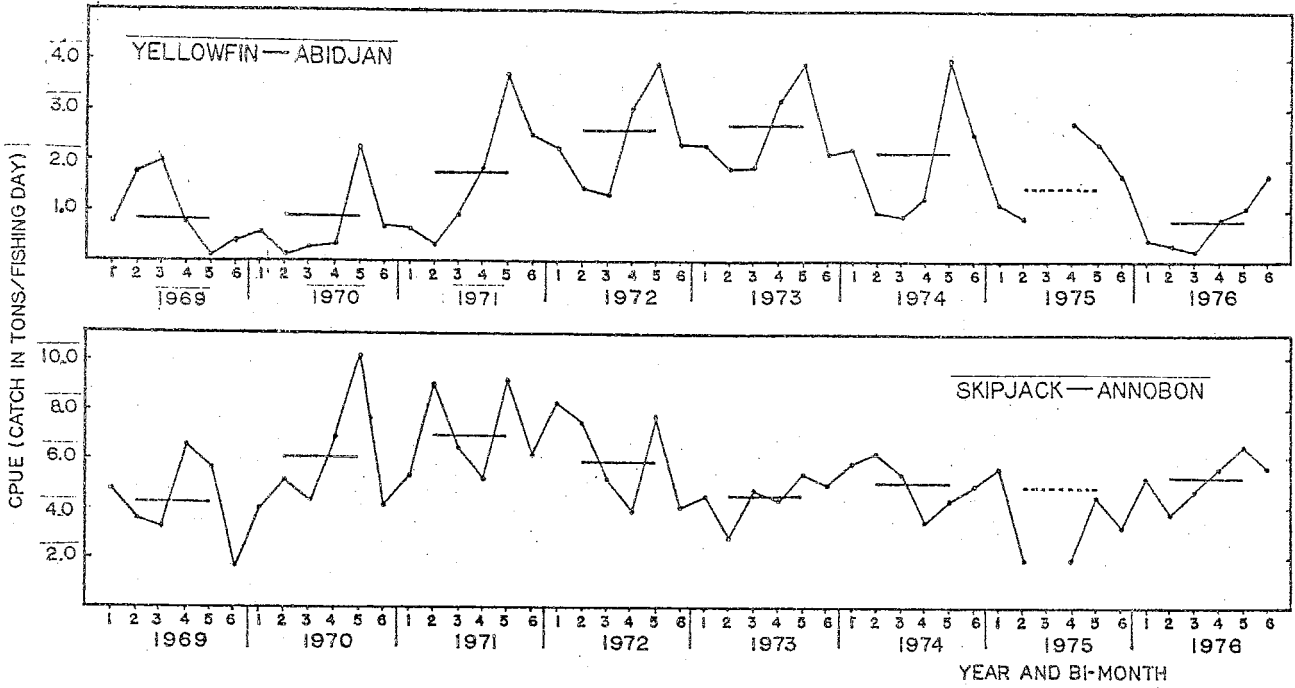


Fig. 2. Bi-monthly change in CPUE's of yellowfin tuna in ABIDJAN area (upper panel) and skipjack in ANNOBON area (lower panel) caught by Japanese pole-and-line fleet, 1969-1976. Dashes in each panel indicate levels of annual CPUE.

Table 1. Bi-monthly numbers of Japanese baitboats from which logbooks were obtained in the Gulf of Guinea, 1969-76.

Bi-monthly period	Number of vessels											
	1969	1970	1971	1972	1973	1974	1975	1976	1976	1976	1976	1976
Jan-Feb	6	6	7	7	7	14	20	17	11			
Mar-Apr	6	6	7	7	13	17	1	12				
May-Jun	6	6	7	6	14	15	0	13				
Jul-Aug	6	7	6	11	17	17	2	14				
Sep-Oct	6	7	7	12	17	17	2	14				
Nov-Dec	6	7	7	13	18	17	7	14				

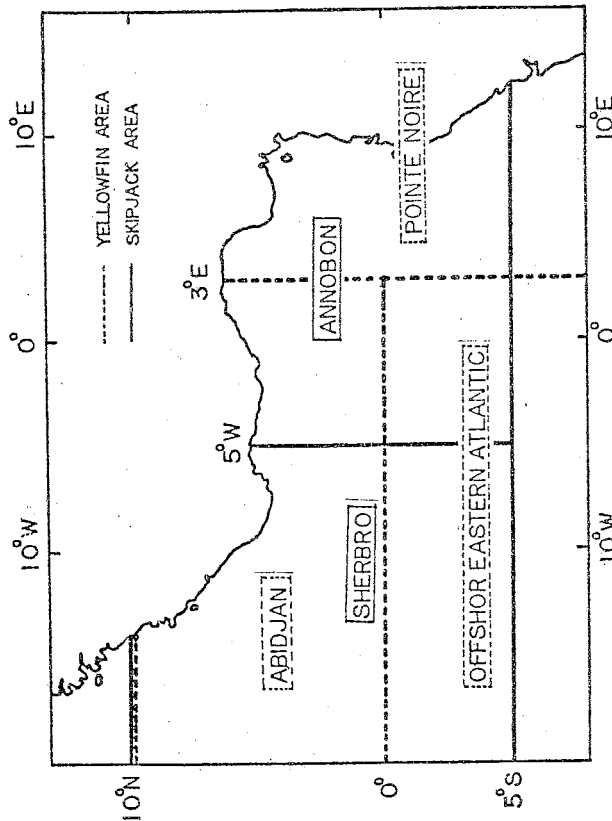


Fig. 1. ICCAT statistical areas for tropical tunas in the Gulf of Guinea.