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PROGRESS REPORT ON JAPANESE RESEARCH ACTIVITY ON ATLANTIC SKIPJACK IN THE INTERNATIONAL SKIPJACK YEAR, 1981

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SUMMARY

For the ISYP, two skipjack tagging cruises were conducted in the Gulf of Guinea during July-August, 1981. The results of the cruises were briefly summarized.

RESUME

Pour l'Année internationale du listao (ISYP), deux campagnes de marquage de listao ont été menées dans le golfe de Guinée durant la période juillet-août 1981. Ce document récapitule les résultats obtenus.

RESUMEN

En relación con el ISYP se realizaron 2 cruceros de marcado en el Golfo de Guinea durante Julio-Agosto 1981. Se hizo un breve resumen de los resultados de estos cruceros.

1. Introduction

To obtain better knowledge of biological features of Atlantic skipjack, to evaluate the feasibility of development of further exploitation, and to consider future management of the resources, the International Skipjack Year Program (ISYP) was established in 1977 by the International Commission for the Conservation of Atlantic Tunas (ICCAT). The ISYP program plan (ICCAT 1980) assigns the International Skipjack Year (ISY) in 1981 and includes various research teams which are driven by international participation.

In 1981, Japanese research contribution to the ISYP has been essentially the same as that in 1980 (Kume 1981) and highlighted its activities on massive dart tagging, collection of improved statistics and predater stomach sampling. Brief outline of these activities are described in this paper.

2. Dart tagging

The dart tagging team is one of the most important research items in the ISYP, to elucidate stock structure, to determine age and growth and to obtain information on survival and availability of the Atlantic skipjack. Two tagging cruises in charge by a scientific personnel of Far Seas Fisheries Research Laboratory (FSFRL) were successfully carried out during the summer in the Gulf of Guinea, resulting in total release of 7,519 skipjack and small bigeye tuna.

(1) Research period and area engaged:

The whole research period extended 50 days from July 8 to August 26, 1981 in Annobon area (ICCAT skipjack area 73). The cruise itinerary and cruise tracks are shown in Table 1 and Fig. 1, respectively.

(2) Research vessel:

A commercial baitbaot, 301 Katsushio-maru based at Tema, was chartered by the Japanese government, and its specification is given in Table 2.

(3) Research personnel:

Investigation ------ Mineo Yamaguchi (FSFRL)

Crews ------ Akiyoshi Isoe, captain and 27 other crews

(4) Specification of tags used:

All tags are made of vinyl tubing and yellow in color.

- ENYOSUIKEN SHIMIZU 424 JAPAN -

B 0001-4400 for skipjack
V 3001-3630 for skipjack
V 2001-2520 for bigeye tuna

- COMISION INTERN ATUN CP 542 MADRID ESPANA -

SJ 006000-009999 for skipjack

(5) Results of releases:

Actual tagging was conducted for 32 days from July 11 to August 25. Total number of fish tagged were 7,000 skipjack and 519 bigeye tuna. All were single-tagged. The number of release by species and 1x1 area are shown in Figs 2 and 3. At the time of release, 87 % of skipjack and 70 % of bigeye tuna were measured to the nearest cm in terms of fork length. The length frequency distributions of tagged and measured fish are shown in Fig. 4 by species. By now, as of the end of October, 140 skipjack and 5 bigeye were recaptured and reported to FSFRL. The positions of recaptures were within the range of overall released area.

(6) Pursuit test of tagged fish:

To test unrecovered rate of recaptured fish, an onboard experiment was made by attaching a tag on the fish ("salted") without any notice to the crew members. One salted skipjack at fishing platform at stern was readily discovered as expected during it was transferred to fish hold at bow side of the boat, since the catches on the belt conveyer were well under some crew's eyes for watering and counting. The test was terminated to another type, and 13 tags were salted on skipjack just before the fishes were put in the fish hold (Table 3). All these salted individuals were recovered during unloading at port, suggesting that a possibility to be detected is quite high in case of Japanese baitboat before the catch is transshipped.

(7) Recaptures of tags released in 1980:

Up to now, 408 skipjack, 59 bigeye and 65 yellowfin were recaptured and reported to FSFRL. The number of releases in 1980 were 5,976 skipjack, 946 bigeye tuna and 1,042 yellowfin tuna. Fig. 5 shows the recapture positions by 1x1 area for the data reported to FSFRL during February-October. Most of the recaptures were made in the general area of release. It is noted that long-distance recaptures were recorded off Dakar for skipjack and yellowfin tuna and in the equatorial water west of 10°W for all species. These data would be of much importance for future analysis by incorporating to the results

of the ISY.

3. Improved fishery statistics-Intensive sampling.

The two tagging cruises stated above engaged as well in collecting detailed information on catches on school basis, the fishing operation and baitfishing. These data were collected to develop better estimates of fishing effort and abundance index, and are now under processing for future analysis.

4. Predater stomach analysis.

A predater stomach sampling plan through voluntary cooperation of tuna fishermen was developed to investigate where and how juvenile skipjack are present in the longline fishing ground. Until September 1981, five cruises were completed, from which 180 frozen stomachs were received by FSFRL. No skipjack have been found thus far. The majority of stomachs was collected from western North Atlantic north of 35°N from June to October 1980 and some from the Gulf of Guinea in March, 1980. Predaters from which stomachs were sampled include bluefin, bigeye, yellowfin, blue marlin, white marlin, sailfish and spearfish.

References

ICCAT 1980 International Skipjack Year Program Plan, Report of the Sub-Committee on Skipjack, July 23-27, 1979. COM-SCRS/79/24.

Kume, S. 1981 Progress report on Japanese activity for the International Skipjack Year Program in 1980. ICCAT Col. Vol. Sci. Pap. Vol. XV (SCRS-1980) (1):126-128.

Table 1. Itineracy of the research vessel.

DATE	VESSEL ACTIVITY
1981	
July 8	Left Tema (first cruise)
July 8 - 10	Baiting
July 11 - 16	Fishing
July 17	Baiting
July 18 - 22	Fishing
July 23	Baiting
July 24 - 25	Fishing
July 26	Baiting
July 27 - 29	Fishing
July 30	Baiting
July 31 - Aug.3	Fishing
Aug. 4	Baiting
Aug. 5	Fishing
Aug. 6	Arrived Tema
Aug. 7 - 10	In Port, unloading
Aug. 11	Left Tema (second cruise)
Aug. 11 - 12	Baiting
Aug. 13 - 18	Fishing
Aug. 19	Baiting
Aug. 20 - 23	Fishing
Aug. 24	Baiting
Aug. 25	Fishing
Aug. 26	Arrived Tema

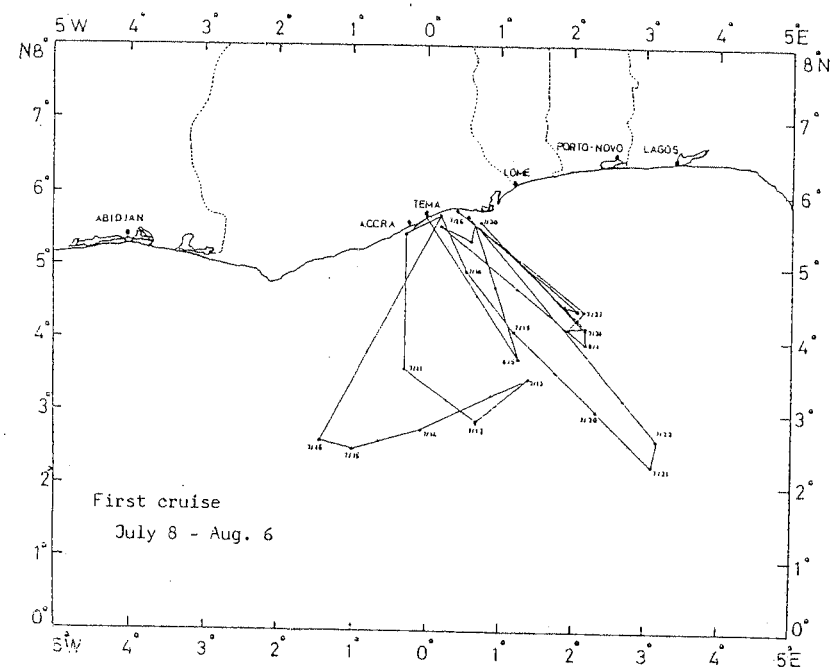
Table 2. Specifications of the research vessel.

Name	KATSUSHIO-MARU No.301
Registration No.	KNI - 540
Gross tonnage	373.64 tons
Length	47.40 m
Width	8.90 m
Depth	3.90 m
Horse power	1600 ps
Call sig.	JGWU
Vessel type	Baitboat (live bait)
Loaded skiffs	3 skiffs
Baiting gear	Lampara net

Table 3. Detail of "salted" tags.

DATE	TAG No.	PLACE SALTED
July 12	B- 223	stern fishing platform
	B- 320	Fish hold S* No.2
July 13	B- 390	" P* No.2
	B- 667	" P No.2
July 14	B- 991	" S No.5
July 15	B-1383	" S No.6
July 16	B-1454	" P No.6
	B-1457	" P No.6
July 19	B-2076	" S No.7
	B-2077	" S No.7
July 21	B-2508	" P No.7
July 22	B-2975	" P No.7
July 24	B-3140	" S No.3
Aug. 1	V-3361	" P No.3
	V-3362	" P No.3
	V-3573	" P No.4
	V-3574	" P No.4
Aug. 3	V-3625	" S No.4
	V-3628	" S No.4

S* : Starboard, P* : Port



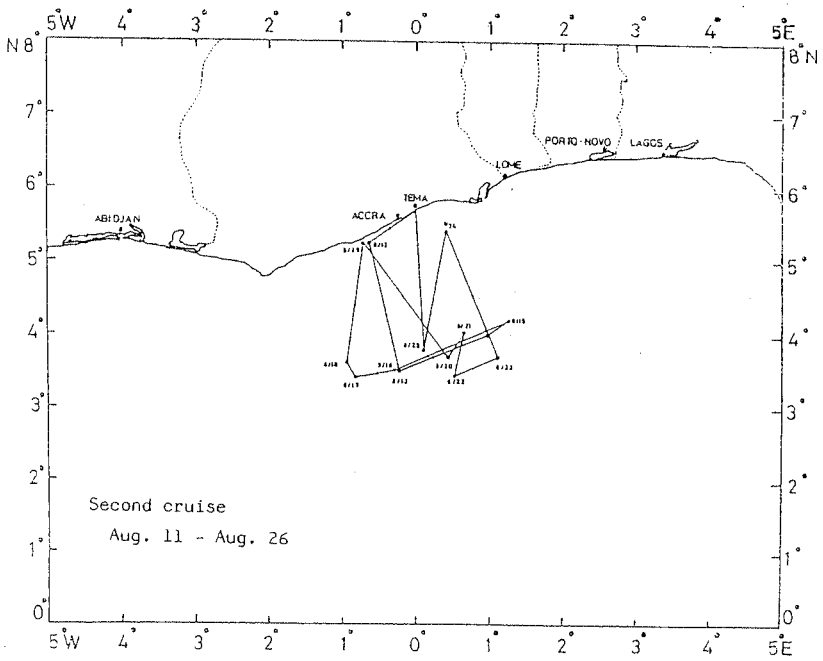


Fig.1. Cruise tracks of the research vessel.

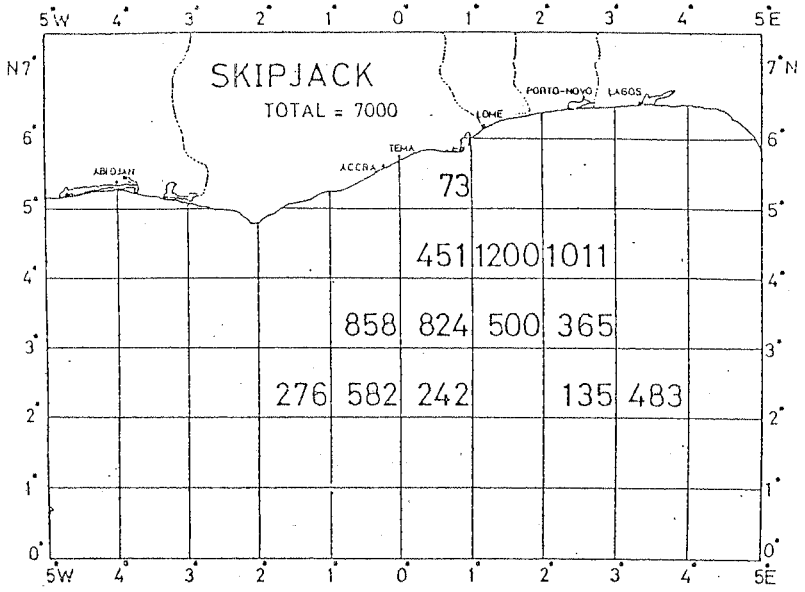


Fig.2. Number of released skipjack by 1 X 1 degree square.

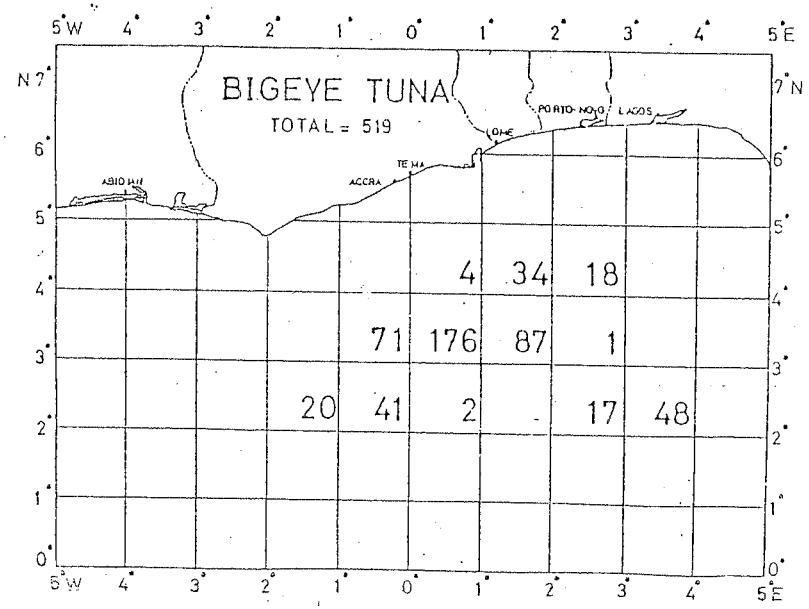


Fig. 3.Number of released bigeye tuna by 1 x 1 degree square.

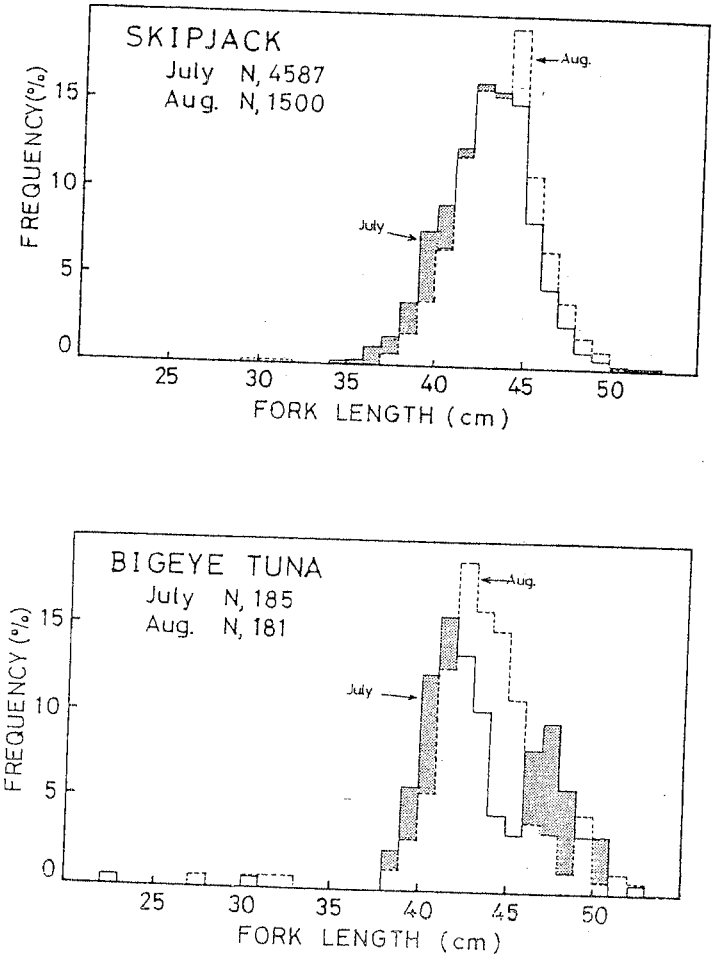


Fig. 4. Length frequency distribution of tagged fishes.

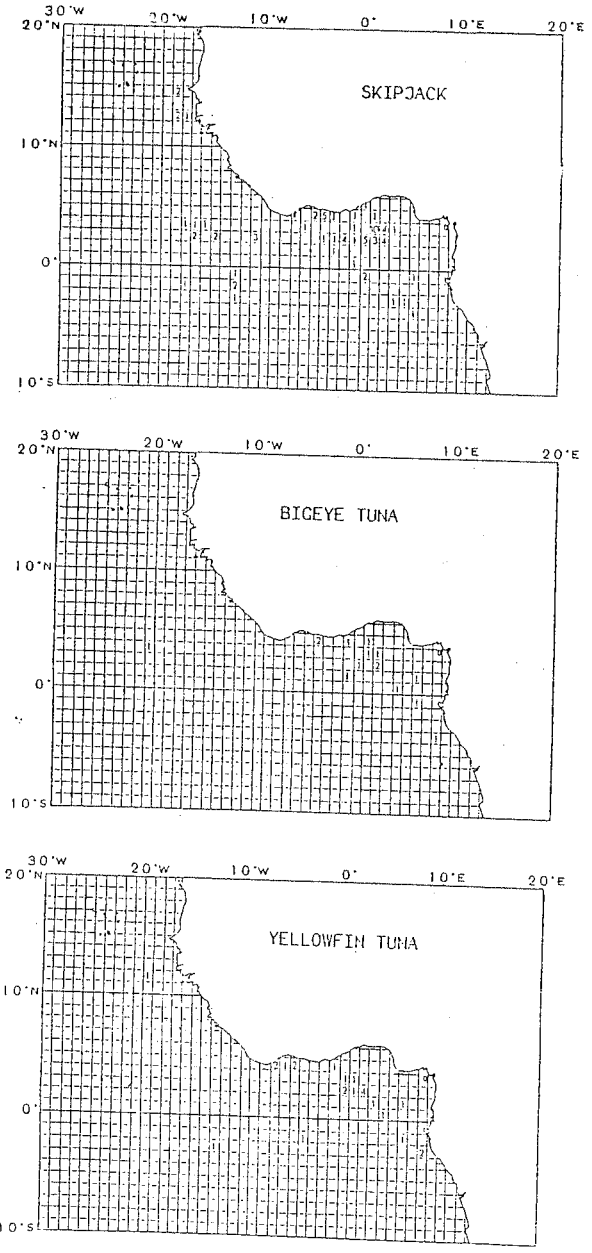


Fig.5. Positions of recovery of 1980 release by 1x1 degree square for skipjack, bigeye and yellowfin tunas reported to FSFRL during Feb.-Oct., 1981.