

SEXUAL CYCLE OF SKIPJACK TUNA (*KATSUWONUS PELAMIS*) FROM THE WESTERN INDIAN OCEAN.

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ABSTRACT

*Some aspects of the reproduction of skipjack tuna (*Katsuwonus pelamis*) in two different areas of the western Indian Ocean has been studied from February 1989 to February 1994. From samples done either at sea, on board purse seiners based at Seychelles Islands (1656 fish), or at the tuna cannery of Mauritius (4152 fish), the different stages of the sexual cycle have been specified.*

The monthly variation of the proportion of different maturity stages of gonads assessed by gross visual examination shows that, whatever the month, there is always 70% of sampled females which have ovaries in terminal stage of maturation (stage IV). The minimum is observed in July and August, corresponding to the end of the southeast monsoon.

The variations of the gonadosomatic index indicate that the reproduction of this species is effective all during the year with some periods of more intense sexual activity. Size at first maturity for female is 41-42 cm, and, 42-43 cm for males, corresponding approximately to 1.5 years old.

For the 737 studied females, histological examinations demonstrate that postovulatory follicles (indicators of a recent spawning) are present during the two monsoon seasons, northwest monsoon (from November to March) and southeast monsoon (from beginning of June to end of August). The percentage of ovaries with atretic follicles is maximum during the two inter-monsoon seasons (April-May and September-October).

For all the Indian Ocean, the sex ratio study presents equal proportions of males and females (1 : 1) but for some areas, important monthly variations can be observed in relation with the sexual cycle.

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FOREWORD

Since 1985, the Indo-Pacific Tuna Development and Management Programme (IPTP), a UNDP/FAO regional programme, has been convening and sponsoring the Expert Consultations on Indian Ocean Tunas, to provide a forum for the dissemination of research results and the exchange of information on the status of the tuna stocks and tuna fisheries in the Indian Ocean.

The latest meeting, the 6th Expert Consultation on Indian Ocean Tunas, was held in Colombo, Sri Lanka, on 25-29 September, 1995. It was attended by 51 scientists from the national institutions of 20 countries and representatives of two international bodies responsible for tuna management in other oceans, in addition to staff from FAO and IPTP, and 62 national reports and scientific papers were presented, a record for these Consultations. The increasing participation of scientists from nations bordering the Indian Ocean is particularly encouraging, as a measure of the interest that the tuna fisheries are generating in the nations of the region. The collection of working documents presented in this volume is a significant sample of the most recent research on Indian Ocean tunas and the status of the fisheries.

This volume includes the working documents made available to the participants in the Consultation. Frequently, comments made during the discussions that followed each presentation put the results presented in context; these discussions are summarised in the companion volume, *Report of the Sixth Expert Consultation on the Indian Ocean Tunas (IPTP/95/GEN/23)*, published earlier this year by IPTP. Since the working documents formed the basis for the discussions and conclusions reached by the Consultation, they are reproduced here in substantially the same form in which they were presented at the meeting, with editorial changes.

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