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A PRELIMINARY REPORT ON THE INVESTIGATIONS OF BLUEFIN TUNA (*THUNNUS THYNNUS*, L. 1758) CAUGHT IN THE TURKISH WATERS

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SUMMARY

Samples of bluefin tuna were collected in the Aegean Sea and in the Mediterranean Sea. Data from 976 specimens of bluefin tuna include the upper jaw-fork length measurements in centimeters and round weight in kilograms.

Data were collected and processed for bluefin tuna whose sizes ranged between 50 and 240 cm for the bluefin tuna fishery in the Aegean Sea, and between 120 and 230 cm for the Mediterranean fishery. In weight, the bluefin tuna ranged from 4 kg to 280 kgs.

First dorsal spines were collected. The Cort (1990) method was applied to extract, prepare and cut the spines.

The reading of the spines in not yet completed and investigations continue.

RESUME

Des échantillons de thon rouge ont été prélevés dans la mer Egée et en Méditerranée. Les données sur cette espèce comprennent la longueur maxillaire inférieur-fourche en centimètres et le poids total en kg de 976 individus.

La gamme de tailles couverte allait de 50 cm à 240 cm dans la pêcherie de thon rouge de la mer Egée. Dans la Méditerranée, des poissons mesurant de 120 cm à 230 cm ont été prélevés et triés.

En termes de poids, les thons rouges pesaient de 4 kg à 280 kg.

Des épines de la première dorsale ont été prélevées. La méthode d'extraction, de préparation et de découpage des épines a été appliquée selon Cort (1990). La lecture de ces épines n'est pas encore terminée. Les recherches se poursuivent.

RESUMEN

Se recolectaron muestras de atunes rojos en el Mar Egeo y en el Mar Mediterráneo. Los datos obtenidos de atún rojo incluyen la medición de la mandíbula superior-longitud a la horquilla en centímetros, y el peso total en kilos de 976 individuos.

El rango de tallas abarcaba entre 50 cm y 240 cm en la pesquería de atún rojo del Mar Egeo. En el Mar Mediterráneo, se capturaron y clasificaron peces entre 120 cm y 230 cm.

En peso, los atunes rojos oscilaron desde 4 kg hasta 280 kg.

Se recolectaron radios de la primera aleta dorsal. La extracción, preparación y corte de los radios se hizo según el método de Cort (1990).

La lectura de los radios aún no ha terminado. La investigación sigue en curso.

INTRODUCTION

The present status of the distribution of Bluefin tunas in the Turkish waters is as fallows : The first catches are made in the Bay of Saroz (in the Northern Aegean Sea). As the tunas move southwards, they are caught around the Islands of Gökçeada and Bozcaada (Northern Aegean Sea) and in the bays of Ayvalık, İzmir and Güllük. As the tunas move to the eastern Mediterranean area, they are then caught in the eastern Mediterranean in the bays of Antalya and İskenderun. The Bluefin tunas used to make their feeding migrations: passing from the Black Sea through the Bosphorus, the Sea of Marmara to the Aegean Sea and then to the Mediterranean Sea. These Bluefin tunas used to return back to the Black Sea (ORAY, 1994).

Since 1987 that, the Bluefin tunas are not been observed in the Marmara and in the Black Sea (Fisheries Agency of İstanbul, 1993).

Akşıray (1987) studied the systematics of the Bluefin tunas in the Turkish waters. Slastenenko (1955-1956) studied the systematics and the biology of the Bluefin tuna in the Black Sea.

MATERIALS AND METHODS

In this study in 1993 a total of 976 samples were caught by purse-seining on the Turkish coast of the Mediterranean Sea and in the Aegean Sea.

Fork lengths and weights were measured, age was determined and when possible dorsal fins were collected.

The method of extraction, preparation and the cutting of the spine which was described by Cort (1990) was used. The reading of spins have not finished yet.

The range of sizes covered varied between 50 and 240 cm in the fishery of the Aegean Sea. In the fishery of the Mediterranean Sea, between 120 and 230 cm. The fork length as referance was taken.

LENGTH- WEIGHT RELATIONSHIP

Weighted mean length was 170.8084 ± 28.4 cm (x ± Sx) with a minimum of 59 cm, maximum of 242cm.

Weighted mean weight was 96.39088 ± 1.456 Kg (x ± sx) with a minimum of 4 Kg, maximum 280 Kg.

In 1993 length frequency distribution is shown in figure 1. The peak is seen at 160 cm in the Mediterranean and the Aegean Seas. In 1993 length frequency distribution is shown in figure 2. The peak is seen at 170 cm in the Aegean Sea. In 1993 length frequency distribution is shown in figure 3. The peak is seen at 160 cm in the Mediterranean Sea.

In 1993 the weight frequency distribution is shown in figure 4. The peak is seen at 80 Kg in the Mediterranean and Aegean Seas.

The length-weight relationship of the examined Bluefin tunas is shown in the figure 5.

FISHERIES

The bluefin tuna fishery in Turkey begins around the end of August and continues until the end of May.

Bluefin tunas are caught mainly by surface fisheries, including traps, live-bait, trolling, purse-seine. They are the scarce in longline catches. Locally gillnets, trammel nets, harpoons etc. are used on a minor scale (ICCAT, 1990).

In the past the Bluefin tunas were caught by hooks and lines, and by fish traps in Turkish waters, Sinces 1950 the purse-seine fishery for Bluefin tunas began (according to İYİGÜNGÖR, 1957). Presently the Bluefin tunas are fished by purse-seiners only.

The Bluefin tuna catches are shown in the figure 6 (ICCAT, 1991).

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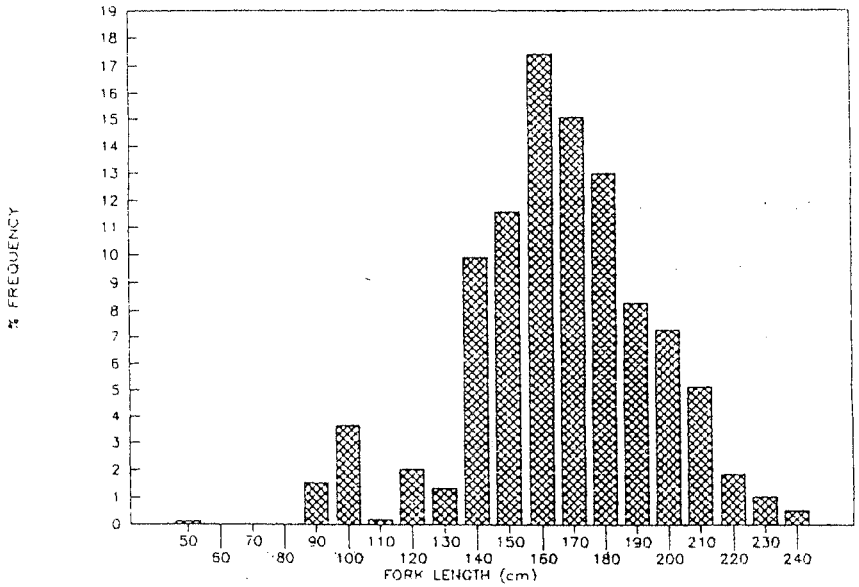

Figure 1. Fork length composition of Bluefin tuna by purse-seine fishery in the Mediterranean and the Aegean Sea, 1993.

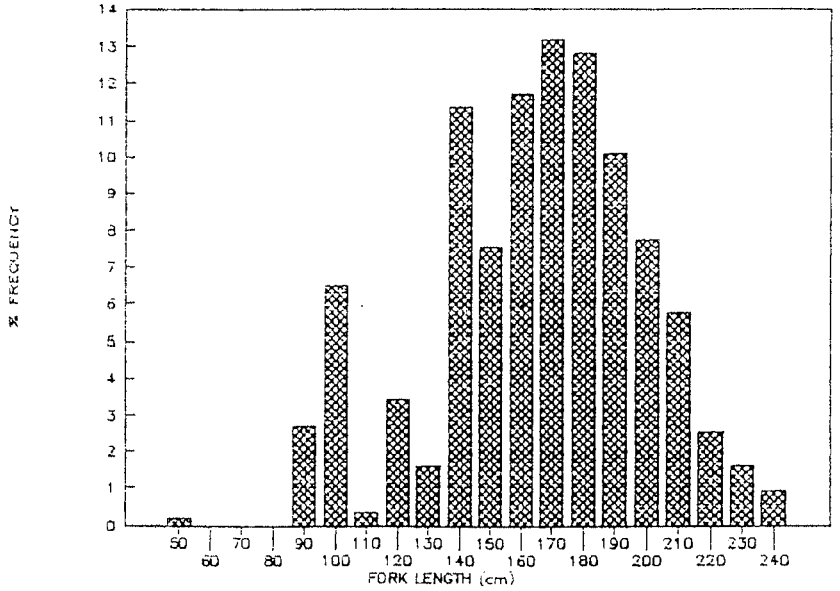

Figure 2. Fork length composition of Bluefin tuna by purse-seine fishery in the Aegean Sea,1993.

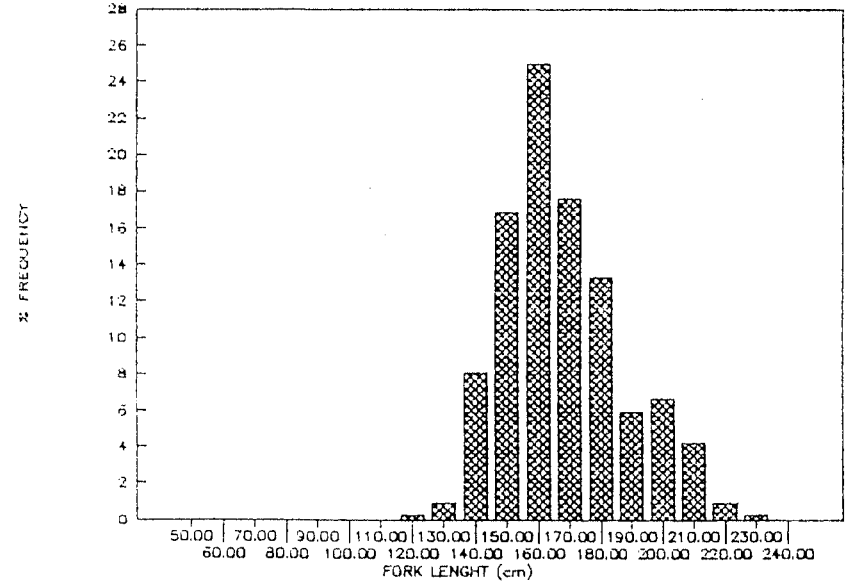

Figure 3. Fork length composition of Bluefin tuna by purse-seine fishery in the Mediterranean Sea, 1993.

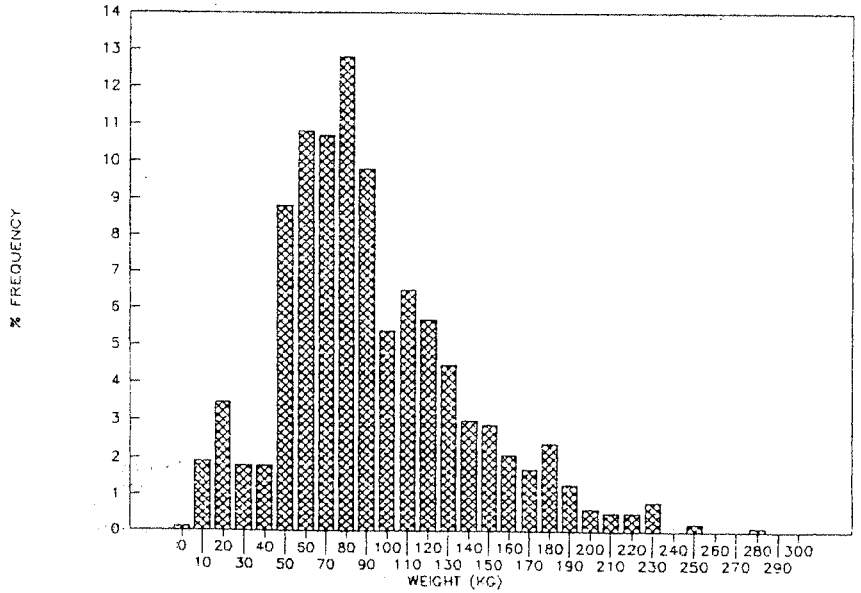

Figure 4. Weight composition of Bluefin tuna by purse-seine fishery in the Mediterranean and the Aegean Sea, 1993.

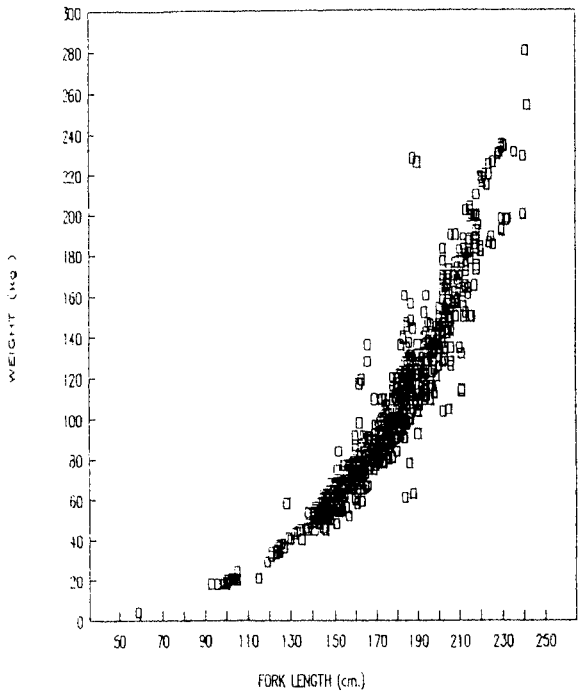

Figure 5. Length- Weight relationship of Bluefin tuna by purse-seine fishery in the Mediterranean and the Aegean Sea, 1993.

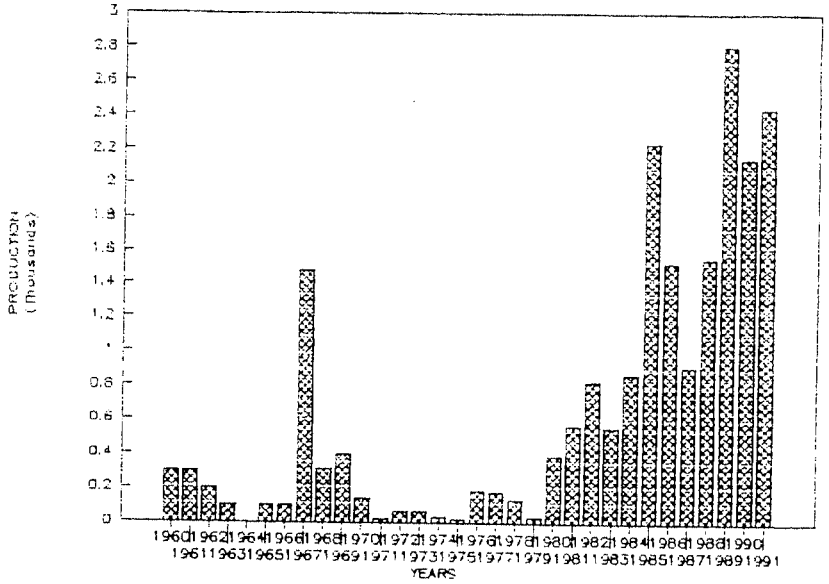

Figure 6. Total catch of Bluefin tuna by purse-seine fishery in the Turkish waters.

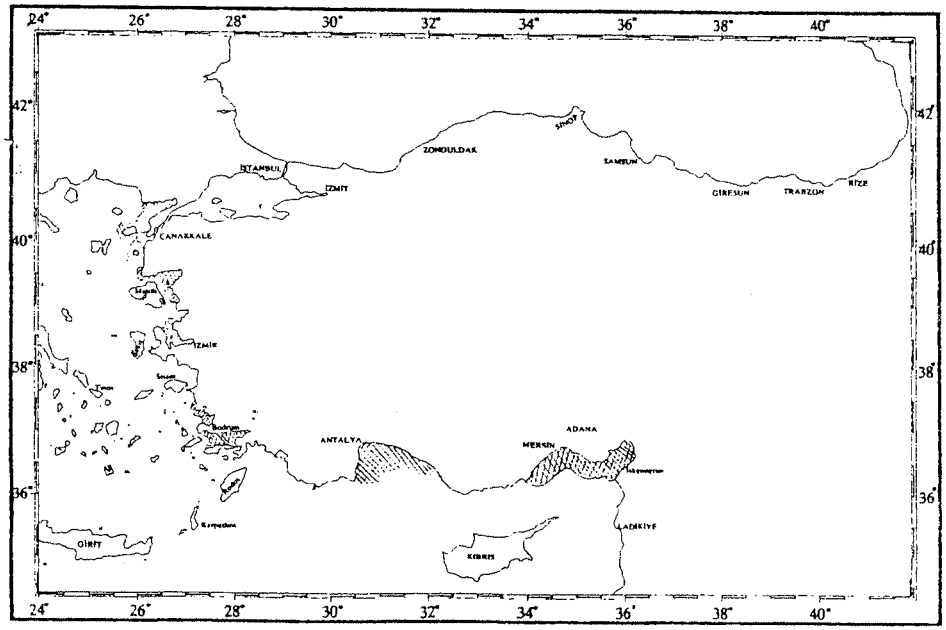

Figure 7. Distribution of the Bluefin tuna in Turkish waters.