

**SHORT DESCRIPTION OF THE TURKISH BLUEFIN TUNA  
(*Thunnus thynnus*) FISHERY IN 2003**

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*SUMMARY*

*In this paper the characteristics of the Turkish purse seiners fishing bluefin tunas in the national and international waters, the fishing grounds, period of catch and the catch composition are explained.*

*RÉSUMÉ*

*Le présent document décrit les caractéristiques des flottilles de senneurs turcs qui pêchent le thon rouge dans les eaux nationales et internationales, les zones de pêche, la période de la capture ainsi que la composition de la capture.*

*RESUMEN*

*En este trabajo se explican las características de los cerqueros turcos que pescan atún rojo en aguas nacionales e internacionales, los caladeros, el periodo de captura y la composición de la captura.*

*KEY WORDS*

*Bluefin tuna, purse seining, size composition, Turkey*

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## 1 Introduction

The history of the bluefin tuna fishery in Turkish waters and in the Eastern Mediterranean Sea is very old. Writers of the Antiquity such as Homer (8, B.C.), Plinius (1, A.D.), and Athenaios (2-3, A.D.) have written on the pelamides and the bluefin tunas in the Bosphorus and Dardanelles. The name Golden Horn (Halic) comes from the big numbers of these fish in Byzantine (Devedjian, 1926, Sara, 1964 and Cuvier, 1969). The catch of bluefin tunas by dalian (traps) carried in the ancient times continued till 1987 (Karakulak, 2000). The catch of bluefin tunas by purse seiners in Turkish seas began in 1950's (Iyigüngör, 1957) and is used widely today.

## 2 Results

In 2003 covering the period from 1 January – 09 June 2003, 43 Turkish purse seiners of 30-62 m and 24-694 GRT with 1000-4710 HP have carried out the bluefin tuna fishery. According to the lengths of the purse seiners, the purse seines differed between 2000-2430 m length and 252-324 m height.

The main fishing grounds were the southern area of the Sea of Marmara, in the Aegean Sea (**Figure 1**); in the Northern Bay of Saroz, off Gökçeada and Bozcaada Islands, and Çanakkale, in the Central Aegean Sea; Bay of Edremit, in the Eastern Mediterranean Sea (**Figure 2**); Bay of Antalya and off the shores of Northern Cyprus.

### 2.1. The Fishing Season

In 2003, the catch of bluefin tunas began in January and continued till the second week of June. Bluefin tuna fishing was conducted in January, February, March, and April in the Southern area of the Sea of Marmara, Northern and Central Aegean Sea, and in May and June; in the Eastern Mediterranean Sea.

The catch of bluefin tunas was carried out from 10 May till 9<sup>th</sup> June of 2003 in the Eastern Mediterranean Sea, for farming bluefin tunas in the Turkish bluefin tuna farms.

The farming of bluefin tunas which began in 2002 in Turkey continued in 2003. In the period between May-June 2003, bluefin tunas caught in the Eastern Mediterranean Sea were all transferred to the four Turkish bluefin tuna farms for fattening.

### 2.2. Catch at Size

In 2003, the Turkish purse seiners caught around 3300 tons of bluefin tunas. The bluefin tunas caught in the period of January – April 2003 were between 15-50 kgs.

213 bluefin tunas which died either in the cages or during the transfers were measured (**Table 1**). The lengths of these fish varied between 101-277 cm. The mean length was  $156,36 \pm 2,84$  cm.

Looking at the length frequency of the specimen, most of the fish were in the group of 120-130 cm (24,41 %).

In **Figure 3**, the length frequency distribution of the Bluefin tunas in 2003 is given.

## 3 Conclusion

With the expansion of the bluefin tuna purse seining to international waters, some changes in the equipment of the purse seiners were made.

The lengths of the purse seiners, fishing for bluefin tunas in 1994-2001 were given as 19-62 m; with 24,50-694 gross tons and 300-2610 HP. The purse seines in 2003 were 756-1980 m long and 108-270 m high (Karakulak, 2003)

Increase of the purse seine length and depth in the year of 2003 were done in order to comply with the open sea conditions.

Turkey has become a contracting party of ICCAT in 2003. The Turkish Ministry of Agriculture and Rural Affairs, Directorate for Protection and Control took all the necessary measures to ensure that the bluefin tunas catch was carried under control.

According to the decree of the Ministry of Agriculture and Rural Affairs, the Turkish purse seiners had to give catch reports to the Ministry every 24 hours.

As the bluefin tuna catch reached 3300 tons, the bluefin tuna fishing season for Turkish purse seiners was closed voluntarily on 9 June 2003, 36 days before the actual catch restriction in the Mediterranean Sea (between 16 July-15 August 2003).

The bluefin tuna catch in the Eastern Mediterranean Sea was carried out between the TRNC and Turkey in the national and international waters. The biometric measurements could only be made on fish, which died during the transfers to the fattening cages.

According to our observations on the purse seined bluefin tunas in the Eastern Mediterranean Sea during 10 May-9 June 2003; the ratio of the 150-400 kg individuals was around 40-45 % of the whole catch. If during the harvesting of bluefin tunas from the cages from September till December 2003, biometric measurements can be made, this could reflect the size frequency of the caught bluefin tunas in the Eastern Mediterranean Sea in the May-June, 2003 period more accurately.

As indicated previously most probably a spawning of bluefin tunas in the Eastern Mediterranean Sea is taking place in the summer months (Oray and Karakulak, 2003). To confirm this; egg-and larval surveys in the Mediterranean Sea between Turkey and North Cyprus are urgently needed.

In 2003 research activities on sampling of bluefin tunas in the Eastern Mediterranean Sea are being carried out with the financial contribution of ICCAT. In May –August 2003, a Turkish –Italian joint research on bluefin tunas was conducted in the Eastern Mediterranean Sea. The results of these investigation will give more information on the bluefin tunas in the Eastern Mediterranean Sea.

### **Acknowledgements**

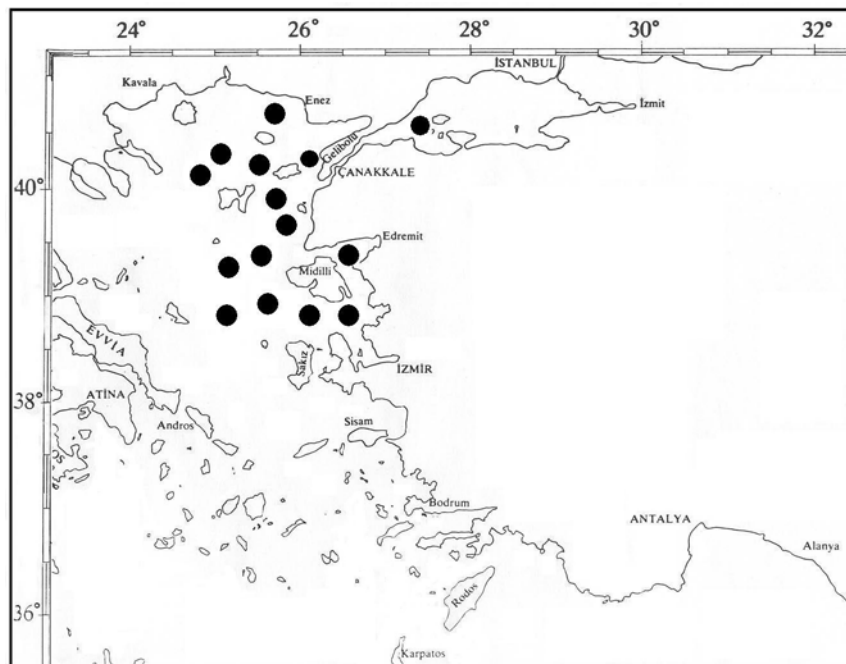
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### **References**

- CUVIER M. B., Valenciennes, M., 1969: Histoire Naturelle des Poissons. p. 57-113, Amsterdam.
- DEVEDJIAN, K., 1926. Pêche et Pêcheries en Turquie. Imprimerie de l'Administration de la Dette Publique Ottomane, İstanbul , 480 pp.
- IYIGÜNGÖR, D. (1957): Méthods et Moyens de Pêche au Thon Actuellement en Usage en Turquie. Gen. Fish. Coun. Medit., No. 33, pp. 251- 255, Rome, Italy.
- KARAKULAK, F. S. 2000. The trap nets in and around the Strait of İstanbul. In: Öztürk,B., Kadioglu M., Öztürk, H. (eds). "Marmara Sea 2000" Symposium, 11-12 November 2000, İstanbul Turkish Marine Research Foundation, p. 426-435, İstanbul, Turkey.
- ORAY, I.K., Karakulak, F.S. 2003. Short description of the Turkish bluefin tuna fishery in 2001. ICCAT, Coll. Vol. Sci. Pap., SCRS/02/38, 55 (1): p. 125-127, Madrid.
- SARA, R. (1964): Données, Observations et Commentaires sur La Présence, Le Comportement, Les Caractéristiques et Les Migrations des Thons en Méditerranée. Proc. Gen Fish. Coun. Medit., 7: pp. 371-388.
- KARAKULAK, F.S. 2003. Bluefin tuna fishery in Turkey. Oray, I.K. and Karakulak, F.S. (Eds.), "Workshop on Farming, Management and Conservation of Bluefin Tuna", 5-7 April 2003, Turkish Marine Research Foundation (TUDAV), Publication Number:13, p.120-133, İstanbul, Turkey.

**Table 1.** The break down of the length frequencies in 2003.

FL (cm)	Number of specimen
100	4
110	15
120	52
130	39
140	19
150	13
160	13
170	7
180	6
190	7
200	8
210	4
220	7
230	6
240	4
250	5
260	-
270	4
<b>Total</b>	<b>213</b>



**Figure 1.** The fishing grounds of bluefin tuna by Turkish fleets in the Aegean Sea and Marmara Sea in 2003.

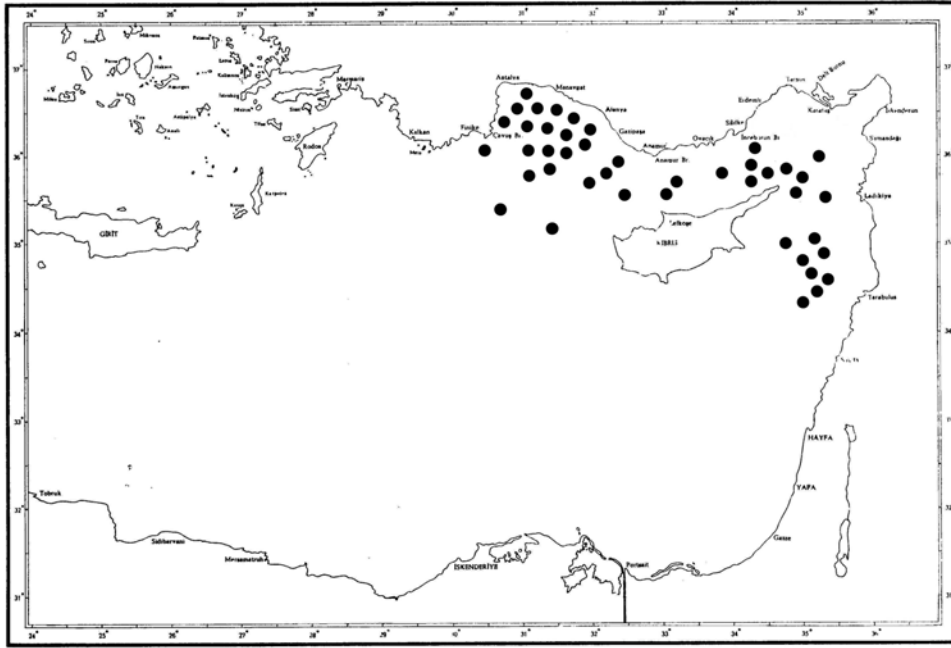


Figure 2. The fishing grounds of bluefin tuna by Turkish fleets in the Eastern Mediterranean in 2003.

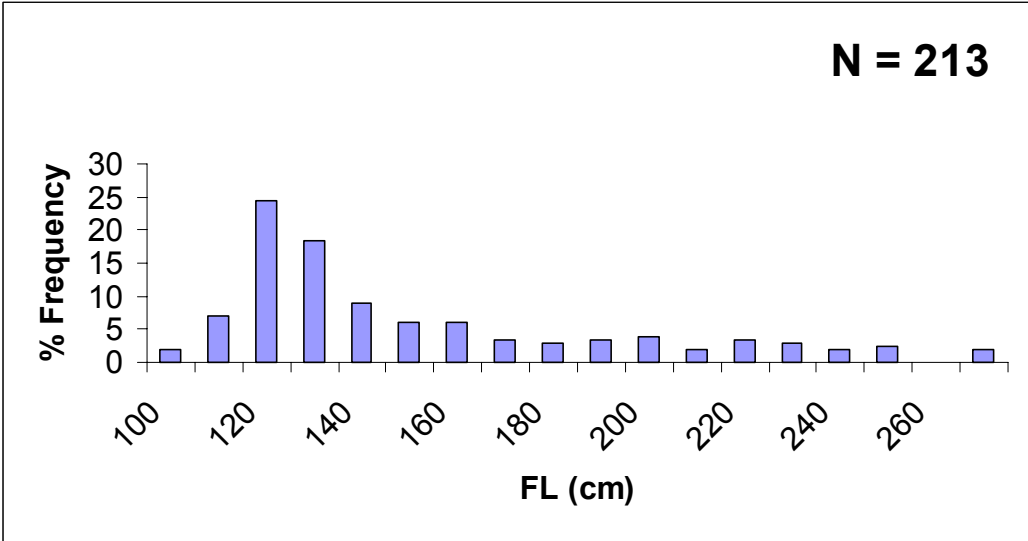


Figure 3. The length frequency distribution of bluefin tuna caught by purse seiners in Turkish waters in 2003.