

DISTRIBUTION OF THE ICHTHYO-JELLYPLANKTON *Mnemiopsis leidyi*
(Agassiz, 1865) IN THE MARMARA SEA (October 1992)

İHTİYO JELLİ-PLANKTON *Mnemiopsis leidyi* (Agassiz, 1865)'nin MARMARA
DENİZİNDEKİ DAĞILIMI (Ekim 1992)

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Abstract

In this study, the distribution and the abundance of the abundance of Ctenophora *Mnemiopsis leidyi* in the Sea of Marmara are investigated. Samples were taken vertically and from surface from 16 stations with special plankton nets. They were determined taxonomically and separated into three different size groups.

According to vertical sampling the abundance of *M. leidyi* was found to be approximately 4.3 kg/m² near the Bosphorus and 9.7 kg/m² near the Dardanelles. According to the surface samples, the abundance was 0.5-0.7 kg/catch in near Bosphorus and 11-13 kg/catch in Dardanelles. It was determined that the population of *M. leidyi* was distributed between 10 and 30 m. water depth and there were no fish eggs or larvae in the area.

Introduction

Geographically the sea of Marmara, the Black Sea and the Sea of Azov are considered by the General Fisheries Council for the Mediterranean (GFCM) as subregions of unit region. This has biological foundations because commercial ichthyofauna of the Azov, Black and Marmara sea consists of the species that spend different periods of their life cycles in the Black and Marmara Seas and some of them in the Sea of Azov.

Many dramatic changes took place in the recent years of these seas, connected with anthropogenic stress. This includes unregulated diversion of fresh water for irrigation and power generation, industrial and agricultural wastes into the rivers that drain into the seas, increase in the level of marine pollution, change in the level of the Bosphorus and Kerch straits and heavy exploitation of the fish stocks in the last two decades (Caddy and Griffiths, 1990; Rass, 1992; Oven *et al.*, 1991).

Particularly considerable changes in the structure of the Black Sea communities have occurred since 1987 due to the transfer of Ctenophore from the Atlantic coast of North America (Vinogradov *et al.*, 1989). It appeared also in the sea of Azov in 1988 (Studenikina *et al.*, 1991). By 1989 it was observed practically everywhere in the Black and Azov Seas (Vinogradov and Shushkina, 1991). The mass development of *Mnemiopsis leidyi* has resulted in decrease of the medusa *Aurelia aurita* zooplankton biomass and the resultant reduction in quantity of the pelagic fish eggs and larvae (Vinogradov and Shushkina, 1992).

Materials and Methods

The studies were conducted under the plan of the Turkish scientists in October 1992. For plankton sampling a BR closed net was used (500 μm mesh the upper ring diameter of 113 mm to the low 140 mm). The samples were taken from 100 m to 0 m depth or from the bottom to 0 m depth, if depth was less than 100 m (3-4 catches per 1 station) from 100 m thermocline (1 catch). The surface unclosed net PS (140x60 cm, 500 μm mesh size) was used for surface sampling. The tows were made during 10 min. in the 0-50 cm layer (1-2 catches per station). During the expedition 76 samples from 16 stations were collected. The ichthyoplankton was identified, preserved and stored in a buttered 4 % formaldehyde-water solution.

Zooplankton was preserved, identified and counted, Jellplankton was identified, measured, counted by size into three groups : 1 < 10 mm, 1=10-45 mm, 1>45 mm Vinogradov and Shushkina method (1982, 1989) was used for calculation of the abundance and biomass.

