

INVESTIGATIONS ON MORPHOLOGY, ABUNDANCE, DISTRIBUTION AND MORTALITY  
OF PELAGIC EGGS AND LARVAE OF ANCHOVY (*Engraulis encrasicolus* L.)  
IN IZMIR GULF (TURKEY)

by  
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**Résumé**

Le but de la recherche est d'observer la morphologie, la distribution, l'abondance et la mortalité des 5658 œufs et 178 larves des Anchois, recueillis de la Baie d'Izmir, en 1976.

**Summary**

This investigation concerns the morphology, abundance, distribution and mortality of 5658 eggs and 178 larvae of Anchovy collected from plankton material of Izmir Gulf in 1976.

**Introduction**

Anchovy, which is one of the most important pelagic fish species of Turkey, is fished in Izmir Gulf throughout the year.

The purpose of the present study is to determine the egg-laying regions of Anchovy in the heavily polluted Izmir Gulf by means of monthly sampling, also the seasonal differences in egg-laying and the present level of mortality are determined.

There are several works done on Anchovy of Turkish coastal waters; DEMİR (1957, 1959, 1968) also. Some other works concerning the neighbouring seas DEMİR (1973), LA FAYLLE (1888), ABOUSSOUAN (1964), MARINARO (1971).

**Method**

Eggs and larvae are sampled by means of a Hensen zooplankton net. Horizontal hauls were made while the vessel's speed was 2 knots. The collected material than preserved in 4-5 % formaline diluted with salt-water. Measurements are made on fixed material by means of a stereo binocular and a micrometric ocular of 1/100 mm.s.

**Results**

As usual, Anchovy eggs are pelagic, oval, a segmented yolk-

massis present, their perivitellin space narrow and contain no oil globule.

Measurements taken from Izmir Gulf material shows that longitudinal axes are 1.02-1.55 mm.s., transversal axes are 0.37-0.62 mm.s. During summer months a reduction is observed in egg-diameters.

Egg-laying period of Anchovy in Izmir Gulf is between second half of March and end of October. The most abundant egg-laying is during April-July. According to DEMİR (1968) Egg-laying period for Turkish coastal waters is April-November.

Our material was collected from 10 research stations. The number of total Teleost pelagic eggs collected from the planktonic material during the same period is 22154. 25.53 % of these are Anchovy eggs. The ratio for the larvae is 4.75 %. It was possible to collect Anchovy eggs in every research station during April-August. The eggs were abundant in the harbour region where the 1st to 6th stations are located. Abundance changes according to the months. The most abundant eggs were recorded in May. Total mortality of eggs in 2nd and 3rd stages is 56.9 and 56.3 %. The same is 5.3 % in 7th stage. Mortality changes seasonally and is maximum between April - July.

### Conclusion

Anchovy eggs are dominant quantitatively between the Teleost fish of Izmir Gulf. The same is not true for the larvae. It is possible to find live eggs and larvae of Anchovy even in the most polluted waters of the Bay, even though mortality in these regions is quite high.

### References

- DEMİR (ARIM), N. (1957): Marmara ve Karadenizdeki bazı Kemikli Balıkların (Teleostların) Yumurta ve Larvalarının Morfolojileri ve Ekolojileri. Hid.Mec.Ser.A IV, 1-2,
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