

RESEARCH ON THE BIOLOGY AND POPULATION DYNAMICS OF *Mullus*  
*barbatus* L. FROM THE IZMIR BAY

by

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Résumé

Cette recherche comprend les études sur la population dynamique et biologique du Rouget pêché par le chalut à Gülbahçe dans le Golfe d'Izmir. D'une part, on a étudié la biologie et la morphologie de cette espèce et d'autre part son abondance dans la même baie et ses relations avec d'autres groupes de poissons.

Summary

The research concerning the general biology and the population dynamics of red Mullet has been carried out in Gülbahçe bay of Izmir. Firstly their general morphology and other biological aspects-characteristic for the species, have been studied. Secondly their population density in this particular region and their relationship with the other species.

Introduction

*Mullus barbatus* L. of Mullidae which has an importance in the country's economics, studied in Turkey previously by KINIKARSLAN (1972) in Aegean Sea, by NUMANN (1955) and AKYUZ (1956) in Eastern Mediterranean.

Detailed investigations on this species have been carried out by numerous workers covering different countries sea-waters, such as ANANIADIS (1949) in Greece, WIRSZUBSKI (1953) and GOTTLIEB (1956) in Israël, SCACCINI (1947) in Adriatic, BOUGIS (1953) in French, PLANAS et VIVES (1956) in Spanish waters.

## Methods

6054 Red Mullet have been caught by other trawl in four seasonal trials.

In their length distribution, the individuals were categorised in the length groups of 0.5 cms. The age was postulated from otoliths. The sex and stomach contents determination has been done on live animals.

## Results

In the biological studies, the length distribution of the species is investigated in different periods. According to our results, their distribution is between length groups of 7,5 and 12.0 cms. The length-weight relationship within the population has been estimated by the least squares method.  $n = 2.9231$  which is estimated by  $W = c.L^n$  formula, has suggested that a regular growth pattern is present in this region.

During the age determination the animals were categorised in O-VI age groups. Red Mullet reaches sexual maturity at the end of first year. Crustaceans and Molluscs were the main constituents of their diet.

For the determination of the population dynamics abundance measurements have been made and it has been found that *Mullus barbatus* L. covers 99,71 % of the Mullidae family, it is the dominant fish caught by trawl, and 53.4 % of the catch is represented by the Mullidae family.

## Conclusion

At the end of this research, we found that the trawls with 10 mms mesh size are causing high mortality in the Mullus population. It can be postulated that the trawls with a mesh size of 18 mms. can be used for fishing for this particular species for population density in the region.