

SEASONAL OCCURRENCE AND SIZE DISTRIBUTION OF GREY MULLET FRY (PISCES, MUGILIDAE) IN STRYMONIKOS GULF (GREECE)

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Abstract

The seasonal occurrence and size distribution of mullet fry was studied in the two estuarine systems of Strymonikos Gulf (Northern Aegean Sea). Samplings were carried out on a monthly basis between September 1997 and December 1998 using a bag seine net. Five species of Mugilidae were caught: the common grey mullet (*Mugil cephalus*), the thick-lipped mullet (*Chelon labrosus*), the thin-lipped mullet (*Liza ramada*), the golden mullet (*L. aurata*) and the leaping mullet (*L. saliens*).

Keywords: Aegean Sea, Eastern Mediterranean, fishes, estuaries, migration.

Introduction

The five species of Mugilidae that occur in the Greek coastal waters are commercially important fish and constitute a significant part of the fish production in the Mediterranean, especially in lagoons.

The two estuarine systems where the study was carried out were those of Strymon and Rihios, which are the two main rivers flowing into the Strymonikos Gulf (Fig. 1). Strymonikos Gulf is located at the northwestern part of the Aegean Sea, occupying an area of 540 km². Strymon River, one of the three most important rivers in Northern Greece, originates from Bulgaria and flows to the northern part of the gulf. Rihios is a small river with a steady flow throughout the year that drains the lake Volvi.



Figure 1. Map of the study area.

Materials and methods

Samplings were carried out on a monthly basis from September 1997 to December 1998. Four sampling stations were selected, two in each estuarine system. A bag seine net of 20 m length and 2 mm mesh size was used for the collection of the samples.

Results

With respect to the Strymon estuarine systems, members of the Mugilidae family were among the most abundant species, accounting for 41.8% of the total catch [1]. In Rihios estuary, Mugilidae accounted for 29.1% of the total catch. A total of 3,515 juveniles of grey mullets were caught. The monthly size distribution of the juveniles is shown in Fig. 2. *Chelon labrosus* accounted for 5.4% of Mugilidae catch in Rihios and for 5.2% in Strymon estuary. The first appearance of the fry occurred in March 1998 but the smallest individuals were caught in May 1998 (SL= 15-66 mm). Fry catches continued till November 1998 when length reached 99 mm. *Mugil cephalus* percentage of the total Mugilidae catch reached 14% in Rihios and 13.9%

in Strymon estuary. The juveniles first appeared in August 1998 but the smallest individuals were caught in October 1998 (SL= 17-29 mm) and November 1998 (SL= 17-41 mm). Fry catches continued till December 1998 but maximum standard length (41 mm) was observed in November 1998. *Liza saliens* exhibited the highest percentage in the total Mugilidae catch in Rihios system (45.8%) and the lowest in Strymon with 3.8% of the mullet catch. The first appearance occurred in July 1998 but the smallest individuals were caught in August 1998 (SL= 8-45 mm). The catch of *L. saliens* juveniles continued till December 1998. The biggest specimen was caught in November 1998 (78 mm). The percentage of *L. ramada* in the total Mugilidae catch in Rihios was 10.7% and in Strymon reached 17.4%. The smallest individuals were caught in December 1998 (SL= 14-20 mm). In 1997 the fry catches continued till the following September when juvenile length reached 112 mm. The percentage of *L. aurata* in the total Mugilidae catch in Strymon was the highest recorded in the present study (59.6%) and the second higher in Rihios system (24.4%). The smallest individuals were caught in October 1998 (SL=10-26 mm). In 1997 the first appearance of the fry occurred in November and fry catches continued till next July when standard length reached 75 mm.

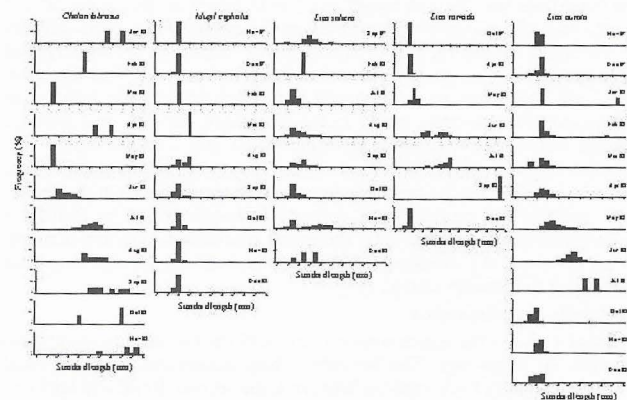


Figure 2. Size composition of the juveniles of the five Mugilidae species caught in Strymonikos Gulf between September 1997 and December 1998.

Discussion

The first appearance of each grey mullet species occurred in different months of the year but in general follows the same order in the Mediterranean with 1-2 months variation [2]. The first Mugilid species which appeared during the year near the coasts of Strymonikos Gulf was *C. labrosus* in March, followed by *L. saliens* in July, by *M. cephalus* in August and then by *L. aurata* in October. The juveniles of *L. ramada* appeared last, in November. Results from a similar study in another lagoon of Northern Greece [2], reported the same order of appearance shifted 1-2 months later in the year than in Strymonikos Gulf.

References

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