

## SEXUAL MATURITY OF THE STRIPED MULLET (*MULLUS SURMULETUS*) IN THE AEGEAN SEA

V. VASSILOPOULOU and C. PAPACONSTANTINOU

National Centre for Marine Research, Hellinikon 16604, Greece

Striped mullet is a demersal fish species distributed throughout the Mediterranean Sea and presenting a high commercial value. Few studies exist concerning the age and growth of the species (GHARBI & KTARI, 1981; ANDALORO & PRESTIPINO-GIARRITTA, 1985; MORALES-NIN, 1986; VASSILOPOULOU & PAPACONSTANTINOU, 1991), while there are no data on its sexual maturity. The aim of this study is to provide information on the period of reproduction, the length at first maturity ( $L_{50}$ ) and the sex ratio of the striped mullet in Greek waters.

Sampling was carried out seasonally in the Aegean Sea in 1991-1992, using a 500HP commercial trawler having a cod-end mesh size of 14mm from knot to knot. In 402 specimens, fork length (FL) to the nearest millimetre, weight to the nearest gram and sex were recorded. Gonadal maturity was determined according to Nikolsky's scale (1976) (Stage I: juvenile immature gonads; II, III: adult immature; IV, V: mature; VI: spent). From Figure 1, it is obvious that the sexual maturity process begins in early spring, peaks in late spring-early summer and is completed in late summer, since in September only one specimen, whose gonads were at spent condition was collected, the rest being immature (mainly stage II).

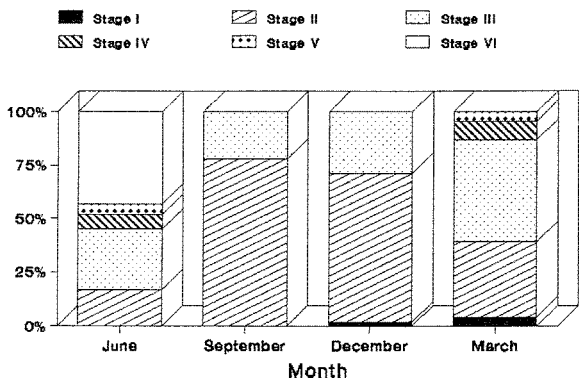


Fig. 1. Maturity stages of the striped mullet gonads collected seasonally in the Aegean Sea.

The length at first maturity was calculated according to ASHTON (1972) and GUNDERSON (1977) and was found to be  $L_{50}=103.8$  mm FL for males and  $L_{50}=135.1$  mm FL for females. Hence, taking also into account our results on the age and growth of the species (VASSILOPOULOU & PAPACONSTANTINOU, 1991), it appears that the males mature at least one year earlier (at age 1 year) than females (at age 2 years). The earlier onset of maturity in males could be a factor influencing their growth rate, which is slower than that of females, in ages greater than 1 year. The application of  $\chi^2$ -test revealed that males were significantly more numerous than females in June and September, while in December and March the domination of males was statistically insignificant (Table 1). In relation to size, males outnumbered females till 180 mm (Fig. 2), then females were encountered more frequently, dominating completely in sizes larger than 230 mm FL.

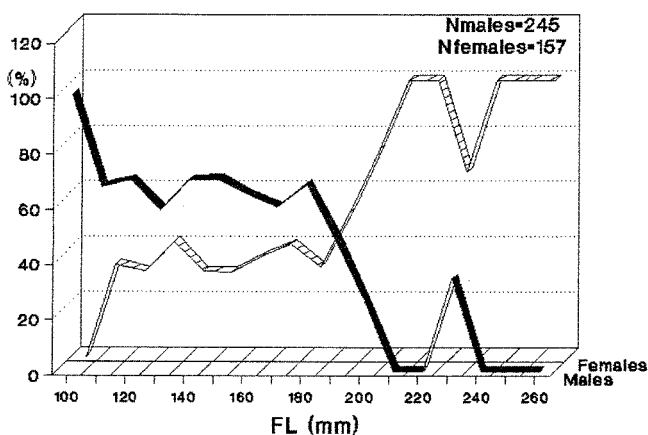


Fig. 2. Sex-ratio (%) of the striped mullet in each size interval.

	Males	Females	$\chi^2$	P
June	94	60	4.84	>0.05
Sept.	44	18	17.64	<0.001
Dec.	74	56	1.96	>0.05
March	33	23	3.24	>0.05

Table 1: Number of males and females in the 4 sampling months, with  $\chi^2$  test and probability level values.

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