SPAWNING PERIOD AND SEXUAL MATURITY OF *SYMPHODUS CINEREUS* (TELEOSTEI, LABRIDAE) IN THE GABES GULF (TUNISIA)

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Abstract

In this paper, we studied for the first time in Tunisia the spawning period and the sexual maturity of the Gray wrasse *Symphodus cinereus* in the Gabes gulf. The monthly evolution of the gonado-somatic index GSI, liver-somatic index LSI, and conditional factor K, showed that the spawning period of the Grey wrasse in the Gabes gulf occurs from April to June. The length at 50% of sexual maturity, L_{50}, was 8.3 cm for males and 7.0 cm for females.

Keywords : Gulf Of Gabes, Spawning, Teleostei.

Introduction

The Grey wrasse *Symphodus cinereus* was one among the twelve species of wrasses in Tunisia waters [1]. In the Gabes gulf this species is mainly caught by the artisanal fishing gears in spring. In this area, the biology of the wrasses was carried out for the first time [2]. In this work we present data on its spawning period and estimate the size at first sexual maturity.

Material and methods

The present study is based on 679 individuals, 534 males and 145 females, having a total length between 6.6 and 13.8 cm. Each individual was weighed for total weight, gonad and liver weight, and its total length was measured. The degree of sexual maturity was estimated.The spawning period was determined by analyzing the monthly evolution of the gonado-somatic index GSI. The liver-somatic index LSI and the condition factor K were also calculated. The degree of maturity was determined after macroscopic observation of the gonads. The percentage of mature specimens by sex was calculated for each size class and the size at first maturity, L_{50}, was determined using the logistic function [3] which was fitted to the observed data using the software 'FSAS' and the Maquardt non-linear adaptation [4].

Results and discussion

The evolution of the GSI, LSI and K showed that *Symphodus cinereus* reproduction takes place from Junuary to June. Gonad maturation took place from Junuary to April; spawning occurred in April, May and June, while sexual resting extended from July to October (Figure 1). At the beginning of the gonad maturation, LSI is decreasing. This can be explained probably by the use of the liver reserves for developing its gonads.

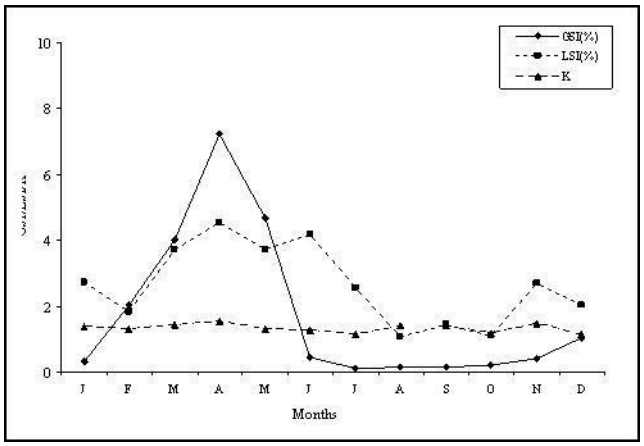

Fig. 1. Monthly evolution of GSI, LSI and K for the female *Symphodus cinereus*.

$L_{50}$was estimated equal to 8.4 cm for males and 7 cm for females. The coefficients of the logistic function were: males, a = 0.958; b = 8.013; females, a = 0.592; b = 7.926.

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