

## REPRODUCTIVE CYCLE OF THE *SPHYRAENA CHRYSOTAENIA* FROM THE GULF OF GABES (TUNISIA)

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### Abstract

Reproduction of *Sphyraena chrysotaenia* from the Gulf of Gabès was investigated. Monthly variation of gonadosomatic index (GSI %) and hepatosomatic index (HSI %) revealed that the species reproduces between May and November and spawning takes place between August and November.

**Keywords :** *Fishes, Gulf Of Gabes, Migrant Species, Reproduction.*

### Introduction

The lesspsian fish species *Sphyraena chrysotaenia* was observed for the first time in Tunisia in December 2002 when it was fished by bottom trawlers in the Gulf of Gabès [1]. Since then, it became relatively abundant but its landing were irregular. This species found new feeding habitats and adapted to new areas. This study provides data on its reproductive period.

### Material and Methods

Biological data was collected monthly from 955 specimens purchased from commercial catches made in the Gulf of Gabes between August 2003 and February 2005. Total length (TL) in the nearest 1 mm and total weight (W) in the nearest 0.01g were recorded for each specimen. The sex of all individual was determined by macroscopic examination of the gonads of mature specimens but microscopic examination was used for differentiating sex in juveniles. Gonads and liver were weighted (Wg and Wf respectively) with an accuracy of 0.01 g. Mean monthly gonadosomatic (GSI) and the hepato-somatic indices (HSI) were calculated for all sexually identified specimens (GSI = 100 Wg/W and HSI = 100 Wf/W).

### Results and Discussion

It is well known that the gonads in fish show a seasonal variation which might vary within the same species in different geographic localities in response to environmental factors which affect the physiological activity of the fish [2]. The GSI of *Sphyraena chrysotaenia* attained a maximum in July for males (4.691) and in August for females (11.199), followed by a rapid decrease in September following egg deposition (Fig. 1). The female GSI was higher than that of males; but both displayed nearly the same cyclic trend during the period of study. From December to April, the GSI reached the lowest average values in both sexes. Reproduction is concentrated in May and October and spawning took place between August and November with fish in spawning condition only being observed during this period. This is confirmed by an examination of the ovaries and the GSI for each female: by October, 70% of the females had terminated their reproduction, and by November the reproduction was completed. Similarly, in the Egyptian Sea the breeding season extends from May to October with analysis of the monthly distribution stages.

The HSI for females, during the more intensive reproduction period, increased with GSI with a peak in July and started to decrease in August when GSI was highest, suggesting that the liver had a weight loss, which may indicate the mobilisation of hepatic reserves for oocytes maturation. For males, HSI peaked during September, suggesting that liver reserves may not be used in the final maturation stages [3].

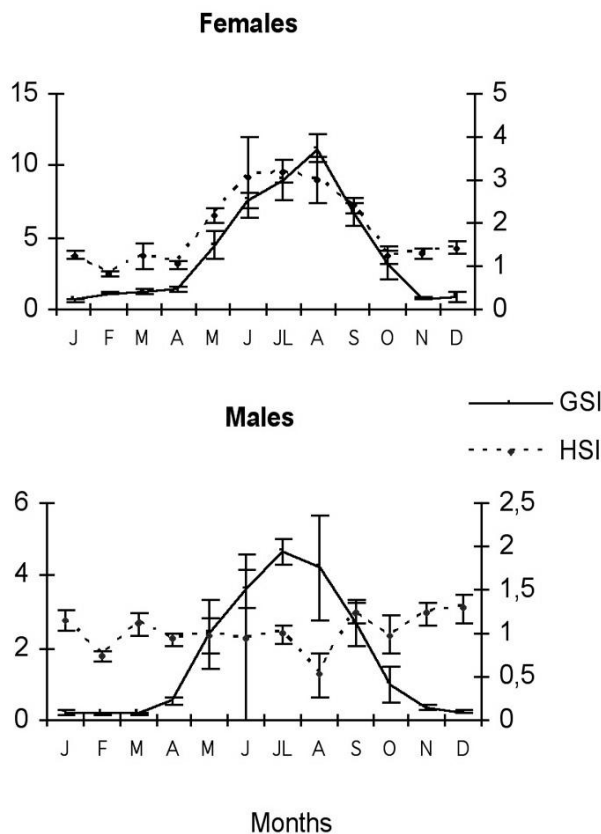


Fig. 1. Monthly variations in the gonadosomatic index and hepatosomatic index for female and male *Sphyraena chrysotaenia* in the Gulf of Gabès.

### References

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