AGE AND GROWTH OF *CHELIDONICHTHYS LASTOVIZA* ((BONNATERRE, 1788) IN TUNISIA

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Abstract
A total of 768 specimens of *Chelidonichthys lastoviza* was collected from landings of bottom trawlers between January 2003 and November 2004. The total length ranged from 12 to 22 cm in females and from 13 to 19 cm in males. Marginal increment analysis of otoliths showed that the translucent zone was laid from November to April and the opaque zone laid from May to October. Females were from age group I to V and males from I to IV. Growth parameters of the von Bertalanffy growth function were $TL_\infty = 33$; $K = 0.13$ and $t_0 = -2.94$ in females and $TL_\infty = 29.84$; $K = 0.13$ and $t_0 = -3.73$ in males.
Keywords: Growth, Gulf Of Gabes

Introduction
Chelidonichthys lastoviza (Bonnaterre, 1788), together with *Chelidonichthys lucerna* (Linnaeus, 1758) and *Chelidonichthys obscurus* (Linnaeus, 1764), are the main gurnards landed by Tunisian fiheries. The present study aims to provide information on age and growth, of this species in the Gulf of Gabès (Southern Tunisia).

Materiel and methods
A total of 768 specimens of *C. lastoviza* were monthly sampled from January 2003 to November 2004 randomly from the landings of bottom trawlers operating in the Gulf of Gabès. Total length (TL) and total weight (TW) were measured to the nearest mm and 0.01g respectively. 674 Sagittal otoliths were read as whole. Opaque and transparent rings were counted and one opaque zone with one transparent zone considered as anual growth. Yerly increments are counted considering the tranlucent zones, which are considered to be laid down in winter. Growth was expressed through the "classic" model of Von Bertalanffy. Growth parameters were estimated by non – linear approach as implemented in the FISAT package [1]. For the sake of comparison, the index of overall growth performance φ' [2] was used.

Results and discussion
Marginal increment analysis showed that one opaque and one translucent zone were deposited annually. The translucent zone, corresponding to the period of slow growth, occurred from November to April while the opaque zone, corresponding to the period of fast growth, occurred from May to October. A similar pattern was common among other gurnard species [3,4]. The seasonal changes observed in the otolith margin maybe related to seasonal fluctuations in water temperature in the Gulf of Gabès [5]. Nevertheless, the pattern observed may reflect other environmental changes such as photoperiod and prey availability, in addition to internal physiological factors as suggested by Pannella (1980) [6]. Females ranged between 12 to 22cm TL and males between 13 and 19 cm TL. The age group in the exploited stock varied between I to IV (males) and V (females). Von Bertalanffy parameter estimates (table 1) showed that *C. lastoviza* is a relatively fast-growing and moderately long-living species, like other gurnads species (3). A comparison of male (2.06) and female (2.15) φ' values shows that the population of the Gulf of Gabès had a slow growth performance compared with other populations [7].

Tab. 1. Growth parameters of the Von Bertalanffy growth equation and the growth performance index (φ') for *C. lastoviza*.. (Lt: asymptotic total length; K: the growth curvature parameter; t_0: the theoretical age when total length of fish is zero)

Paramètres	Mâles	Femelles
LT	29.84	33.00
K	0.13	0.13
t0	-3.73	-2.94

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