

Age and Growth of *Lepidopus caudatus* on the Northwestern Mediterranean Sea

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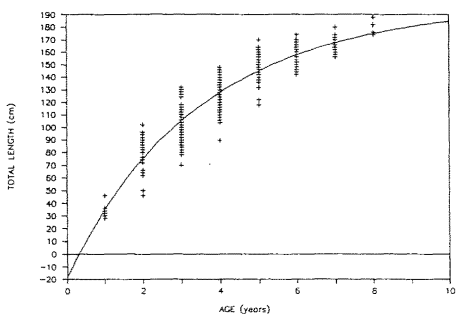
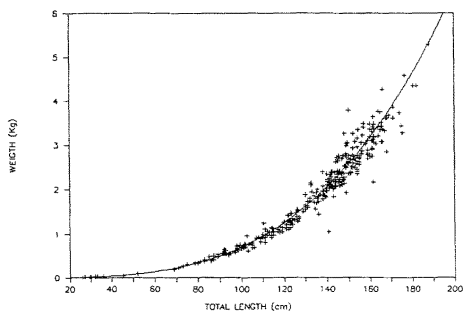
L. caudatus is captured off the Catalan coast by means of long-lines and trawls. Its importance in the catches has arisen recently, making necessary to conduct biological studies of this species to allow sound management policies. This is the first study of the length-weight relationship, age and growth of the species in the Mediterranean.

The fish were collected from trawl catches and from hook and line captures made off the Northwestern Spanish Coast from 1988 to 1989. The fish were transported to the laboratory where the total length, weight, and sex were determined.

The males were more abundant (52.16 %) than females (39.77 %), while 8.07 % of the fish couldn't be sexed. The weight-length relationship (fig.1) obtained from 533 measurements, was not significantly different for males and females and showed a positive allometry for the length ($b=3.21$).

A total of 492 otoliths were collected and after cleansing were stored dry in paper envelopes with a code number. These sagittal otoliths were read whole, against a black background and immersed in glycerol, using a compound microscope. As a rule each otolith was read twice by different readers and only coincident interpretations were accepted. The agreement between readers was high reaching 86 % of the interpretations.

The annual nature of the rings present in the otoliths was determined through marginal increment analysis, i.e. the percentage of otoliths having opaque margins was plotted for each month sampled. The thinness of the otolith margin made very difficult to assess the presence of the opaque ring in the edge, because only almost complete rings could be identified. However, it seems that the hyaline rings are formed annually with a peak in October.



Once the annual nature of the rings was established, the 1st January was used as arbitrary birth date, to transform the coincident otolith interpretations into age-length relationships. The age-length matrix thus obtained was employed to fit the von Bertalanffy growth curve to females, males and to all the population (fig.2). The fish ranged from 1 to 8 years of age corresponding to the following mean lengths:

age yr	1	2	3	4	5	6	7	8
num. ex.	13	33	105	111	133	73	19	5
length cm	32.	81.3	101.8	128.8	146.8	155.9	166.2	179.2

The growth parameters obtained showed a lower growth index (K^{-1}) for females:

	L cm	K^{-1} yr	t_0 yr
males+females	198.2	0.298	0.4561
males	185.2	0.333	0.3438
females	195.4	0.297	0.3174

The otoliths of *L. caudatus* in the Northwestern Mediterranean showed rings that proved to be valid of age determination.