AGE AND GROWTH OF *CHAMELEA GALLINA* (BIVALVIA : VENERIDAE) IN THE CENTRAL ADRIATIC SEA OBTAINED BY THIN SECTIONS

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Chamelea gallina is a very common bivalve in Mediterranean inshore waters where it inhabits well sorted fine sand biocoenosis (PICARD, 1965) : along the Western Adriatic shore it is found in shallow sandy bottoms down to a depth of about 13 metres and it sustains an important fishery worth an estimated total catch of about 100000 tons per year in the 80's (FROGLIA, 1989).

Fishery for *Chamelea gallina* along the Western Adriatic coast is performed by means of hydraulic dredges : in order to assess the available biomass of *Chamelea gallina* experimental surveys are carried out every year by IRPEM in an area covering about 200 km of coastline around Ancona. Material for this study was collected in June 1991, October 1991, November 1991, February 1992, June 1992 and December 1992. 917 specimens ranging from 7 to 49 mm in shell length were retained for the growth study.

Shell sectioning as method for investigating growth rates in bivalves is a long term established technique (RHOADS and LUTZ, 1980), it has been applied recently to the stock of *Chamelea gallina* of the Western Mediterranean (RAMON and RICHARDSON, 1992).

The right valve was sectioned from the umbo to the ventral margin along the axis of maximum growth in order to obtain a thin section of about 20-30µ mounted on a glass slide. The section was ground, polished and examined using a dissecting microscope under reflected light : 719 sections could be interpreted showing distinct annual increments. Annual periodicity was validated observing the period of formation of the increment on the ventral margin of the shell : slow growth increments are formed once per year approximately between October and February. The analysis of length frequency distributions of the experimental samples is in agreement with these findings .

A complete record of size at age for each *Chamelea gallina* was obtained by measuring incremental growth as the distance from the ventral margin of each translucent band to the umbo using an Image Analysis System linked to a dissecting microscope.

Chamelea gallina spawns in Central Adriatic mainly in late spring (POGGIANI *et al.*, 1973) therefore conventional birthday was assumed to be the 1st of July. The maximum age found in the sample is 8 years.

Parameters of the von Bertalanffy growth function together with their asymptotic standard errors were computed by means of non-linear regression analysis using the program FISHPARM (SAILA *et al.*, 1988):

L_∞= 41.6 (0.54) K= 0.48 (0.016) t_0= - 0.01 (0.17)

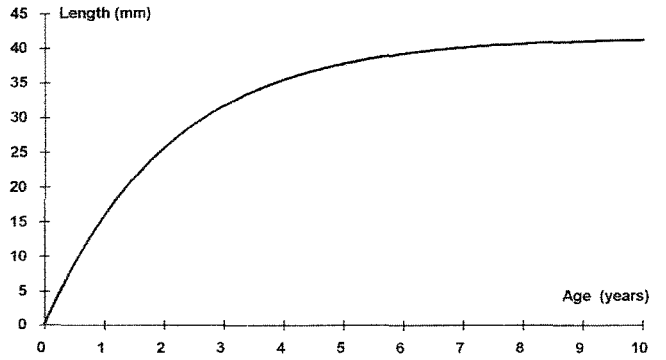

Fig. 1 - Von Bertalanffy growth curve of *Chamelea gallina*.

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