

Contribution to the knowledge of the age and growth of Large-Eye Dentex, *Dentex macrophthalmus* (Bloch, 1791) in the African continental shelf of the Sicilian Channel (Mediterranean Sea)

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Deux prospections par chalutage ont été réalisées en 1982 et 1983 dans le Canal de Sicile, en utilisant des bateaux et engins de pêche professionnels; 102 traits de chalut ont été effectués à des niveaux bathymétriques et bionomiques différents. La croissance des spécimens de denté à gros yeux capturés a été étudiée. La corrélation taille-poids obtenue a été : $Wt=0,0000076Tl^{3,138}$ et les paramètres de croissance calculés par la méthode de von Bertalanffy sont les suivants : L_{∞} (mm)=257; $K=0.245$; $t_0=-0.457$.

Within a research program on trawl fishery in the Sicilian Channel, two experimental surveys were carried out by ESPI (Ente Siciliano per la Promozione Industriale) in 1982-83 on the North African side of the mentioned area. A total number of 102 hauls were by using professional vessels and gears. The hauls have been performed in four sampling areas, characterized by bottom depths between 58 and 642m. Good catches of *Dentex macrophthalmus* were observed on epibathyal bottoms in the 200/300 m depth range covered with sand and mud and characterized by *Funiculina quadrangularis* and *Terebratula vitrea* facies (sub area C fig. 1). On the whole, 1654 specimens were sexed, measured and weighed (respectively to the lower mm and g), TLs ranging from 54 to 225 mm (fig. 2). The length-weight relationship result to be properly described by the curve. $Wt=0,0000076Tl^{3,138}$ (fig. 3).

Age reading has been done on sagitta and scales : the latter being used in few cases for comparison only because otolith result more clear and easy to read. A total number of 520 otoliths were read on dark ground by using reflected light and 1:1 alcohol/glycerine solution as clearing substance. Six age groups were determined, a single growth was defined by combining females and males, since sex differences (if any) seemed of limited extension.

The parameters of von Bertalanffy length-growth equation have been calculated as : $L_{\infty}=257$; $K=0.245$; $t_0=-0.457$.

Our results differ from those observed by TRUNOV (1972) and KUNDERSKAYA (1984) for Southeast Atlantic *Dentex macrophthalmus*. Indeed, both the authors identified in the otoliths and in the scales two rings per year, but in the Mediterranean specimens used in our study, rings seem to be laid down a year, this maybe in relation to different environment conditions.

In our sampled specimens the formation of two separate rings per year was excluded because the well separated several length groups (fig. 2) probably originate from different spawning seasons and *D. macrophthalmus* in the investigation area, it is known to reproduce in September (BINI, 1968); this is in accordance to our direct observation since most fishes caught in October were in postdepositional gonadic stages.

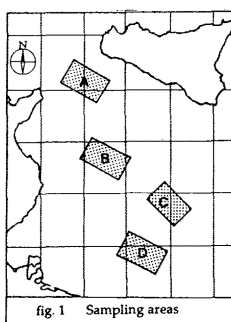


fig. 1 Sampling areas

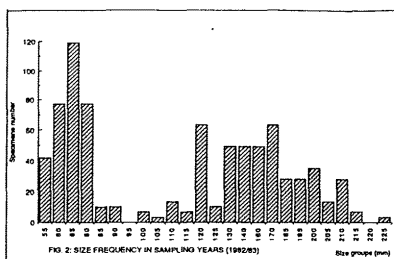


FIG. 2: SIZE FREQUENCY IN SAMPLING YEARS (1982/83)

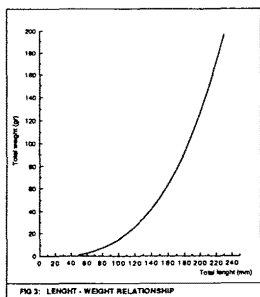


FIG. 3: LENGTH - WEIGHT RELATIONSHIP

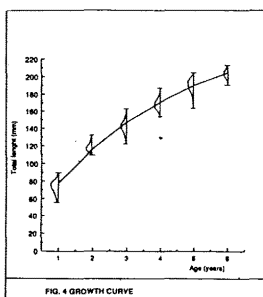


FIG. 4: GROWTH CURVE

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