

Contribution on the Knowledge of the age and growth of
the Mediterranean Red Mullet, Mullus surmuletus (L.1758)

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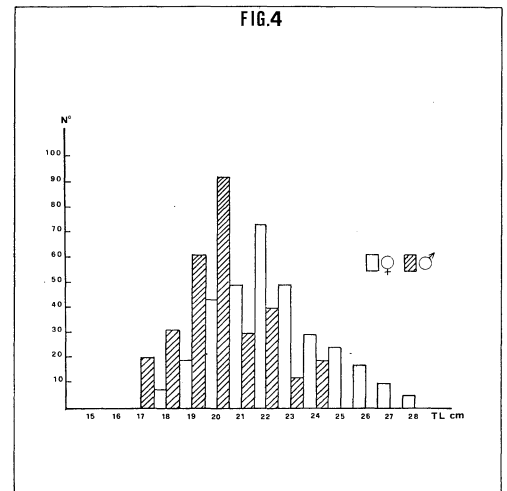
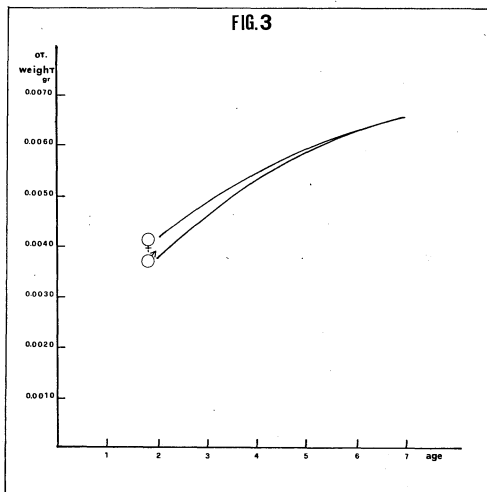
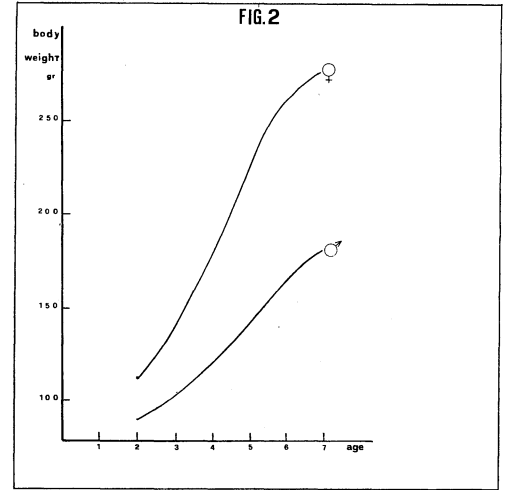
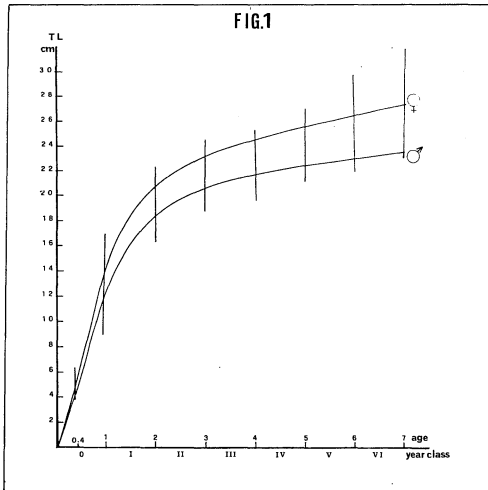
SUMMARY

In the frame of a study on the biology of some ichthyic species interesting the littoral fisheries; herein it is reported about the age and growth of Mullus surmuletus of Southern Tyrrhenian Sea and Northern Jonian Sea putting the results in connection with the selectivity of trammel net used for catch. From this study it comes out how the two sexes have diversity of growth. Their distribution for sizes is also taken into consideration.

RÉSUMÉ

On fait un exposé sur l'âge et la croissance du Rouget de roche, Mullus surmuletus de la Mer Tyrrhénienne méridionale et de la Mer Ionienne septentrionale. Les déterminations d'âge ont été faites au moyen de la lecture des écailles et des otholites. Les observations conduites sur le matériel biologique, provenant de 48 échantillonnements saisonniers, ont mis en évidence une croissance plus rapide chez les femelles que chez les mâles. Les otholites, d'autre part, ne présentent pas une différence de poids entre les deux sexes, malgré la diversité des tailles des individus au même âge. Il n'y a pas de remarquables diversités de croissance parmi les populations ioniennes et tyrrhéniennes. On a calculé enfin le rapport de sélectivité du filet tramail que nous avons employé et qui est le type d'engin le plus couramment utilisé dans les zones qui nous avons considérées.

INTRODUCTION - The study on biology of some coastal ichthyic species interesting the littoral fishery is taken into consideration in this contribution. An exposition on the age and growth of Mullus surmuletus is in particular set forth.



		AGE	①	②	③	④	⑤	⑥	⑦
		♀	TOTAL LENGTH		12.84	20.85	22.80	24.41	25.62
BODY WEIGHT				112	143	181	238	266	280
OTOLITH WEIGHT				0.00410	0.00500	0.00563	0.00603	0.00662	0.00680
♂	TOTAL LENGTH		12.22	18.63	20.38	21.38	22.31	23.1	23.6
	BODY WEIGHT			90	110	124	142	163	170
	OTOLITH WEIGHT			0.00395	0.00480	0.00551	0.00598	0.00660	0.00680

RESUMPTIVE TABLE OF DATA

MATERIALS AND METHODS - The specimens examined have been caught in 4 sampling points, 2 of which placed in the Jonian Sea and the others in the Tyrrhenian Sea, in the Straits of Messina area. The samplings, for a period of 3 years and carried out with seasonal rate, have been conducted with trammel net (800 mts. in length, 2.29 cm mesh).

After excuting the biometrical measurements, from samples scales and sagittae have been drawn. For age determination the latter were preferred even if some comparison readings on the former were made.

GROWTH - In order to obtain a complete curve, the specimens under 17 cm. in total length have been sampled by methods different from the trammel net one. Thus, 7 age groups have been determined. The growth curves derived to reckon the total length (fig.1) have pointed out a much faster growth of females than males. The difference, verifiable since the early months of age, becomes macroscopic as from 2th year of age where the curves leave the steep stage of growth to arrange in asymptical values in accordance with the teoretical curve.

A growth difference between the two sexes is also noticed from the curves constructed to reckon the body weight (fig.2) where, however, the rate is different than the total length one.

Growth curves have been also derived for sagitta weight. It appears here interesting how said curves are nearly coincident for the two sexes (fig.3) in spite of the specimens dimensional diversities. Differentiated growth curves, constructed for Jonic and Tyrrhenian populations, have shown nothing remarkable. Histograms of numerical distribution for the two sexes of the specimens caught with trammel net have been plotted. The issue is a maximum catch frequency of 20 to 21 cm. for the males, and 21 to 22 cm. for the females (fig.4).

CONCLUSION - The highest value of selectivity factor calculated for the kind of gear used ($k=9.89$) points out how the trammel net does not play a negative rôle in the economy of the stocks.

