

L'EXPLOITATION DES REQUINS SUR LES CÔTES FRANÇAISES
DE MÉDITERRANÉE (QUARTIER DE NICE)

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SOME BIOLOGICAL ASPECTS OF COD-END MESH SIZE REGULATION
ON THE ADRIATIC MULTISPECIES DEMERSAL RESOURCES

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ABSTRACT: As a consequence of the intensive fishing effort in a Mediterranean trawl fishery (PEARSE, 1980), especially in the north-western regions, 40 mm stretched mesh size cod-end was recommended by GFCM (6th session 1978) and was accepted by member countries.

In relation to such regulative measure for the Mediterranean trawl fishery, experimental studies on the selectivity of various types of cod-ends were carried out along the eastern Adriatic Sea coast, central and channel regions, in order to assess possible effects of proposed 40 mm cod-end, on biological and economic aspects of the commercial trawl fishery.

For such purposes covered cod-ends experiments were carried out, either by research or commercial vessels, in connection to most commercially important populations: Silver Hake (*Merluccius merluccius* L.), Striped Mullet (*Mullus barbatus* L.), *Pandora* (*Pagellus erythrinus* L.), Horse Mackeral (*Trachurus trachurus* L.) and Norway Lobster (*Nephrops norvegicus* L.). Results of these experiments, partly, are presented in this abstract.

Computation of the selectivity characteristics of each cod-end, especially of 50% retention point, mean size at first capture (l_c) are obtained by means of: fitting selection curve on the base of collected data; programmable calculator using programme FB 2 (PAULY, 1984), and for comparison, morphometric characteristics (girth factor). The following types of the cod-ends were studied: 41 mm (210/48 Den) 55 mm (210/48 Den), 65 mm (210/48 Den), 51 mm (20/18 Nm) all with knots and on research vessel; 40 mm (210/48 Den) with knots and 40 mm (210/48 Den) knotless, on the commercial vessel.

Taking into the consideration nature and characteristics of the Adriatic demersal stocks, especially those along the eastern coast (biological, morphometric, length frequency distribution) two populations: semi-demersal (*M. merluccius*) and demersal (*M. barbatus*) were treated in this report, i.e. it has been tried to evaluate immediate or long-term management effects, including bio and economic aspects. Results of the cod-ends mesh size experiments of: 41 mm, 55 mm and 65 mm cod-ends with knots have pointed out (figures) that proposed cod-end of 40 mm by GFCM might be partly effective in the case of Striped Mullet population while in the case of Silevra Hake, cod-end mesh size should be larger, at least 55 mm.

It has been stated as well that the other species: *Pagellus erythrinus*, *Trachurus trachurus* and *Nephrops norvegicus* need to have a larger mesh size of the cod-end, i.e. above the proposed 40 mm.

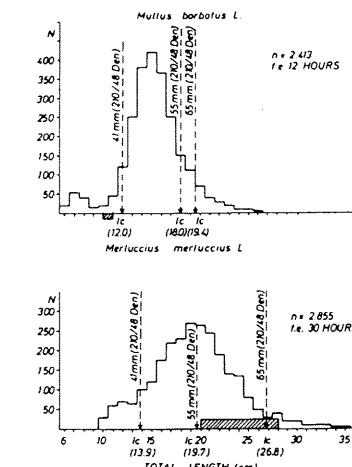


Fig. - Length frequencies distribution of the Hake (*Merluccius merluccius* L.) and Striped Mullet (*Mullus barbatus* L.) populations along the eastern Adriatic coast, central and channel regions, obtained throughout of covered cod-ends selectivity experiments with cod-ends of: 41 mm, 55 mm and 65 mm (stretched mesh-size) with knots. --> 50% retention points (l_c); f.e. -fishing effort; └── lengths at first sexual maturity.

Respecting nature of Adriatic demersal stocks (unit, shared, multispecies) an increment of the cod-end above 40 mm would lead commercial trawl fishery to economic (financial) losses. In connection to our results it seems that 40 mm mesh size might be applied only over the spawning grounds (seasonally) and that regulation of demersal stocks should be search throughout of fishing effort control approaches.

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