

Length distribution and total mortality rate *Z* of *Merluccius merluccius*, *Mullus barbatus* and *Eledone cirrhosa* exploited by the trawling fleet in 1982 and 1991 off the Catalan Coast (NW Mediterranean)

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Hake (*Merluccius merluccius*), striped mullet (*Mullus barbatus*) and white octopus (*Eledone cirrhosa*) are three of the main target species of the trawling fleet off the Catalan Coast. During the last ten years, catches have remained at a similar level. Hake catch was around 1800 tons during the period June 1982- May 1983, and 2400 tons in 1991; the striped mullet catch has been the same during all this period, about 700 tons per year; and the octopus catch (*Eledone cirrhosa* and *Octopus vulgaris*) was 1500 tons at the beginning of the period, and 1100 tons in 1991 (MARTIN, 1991; SANCHEZ & PDPEM, 1991).

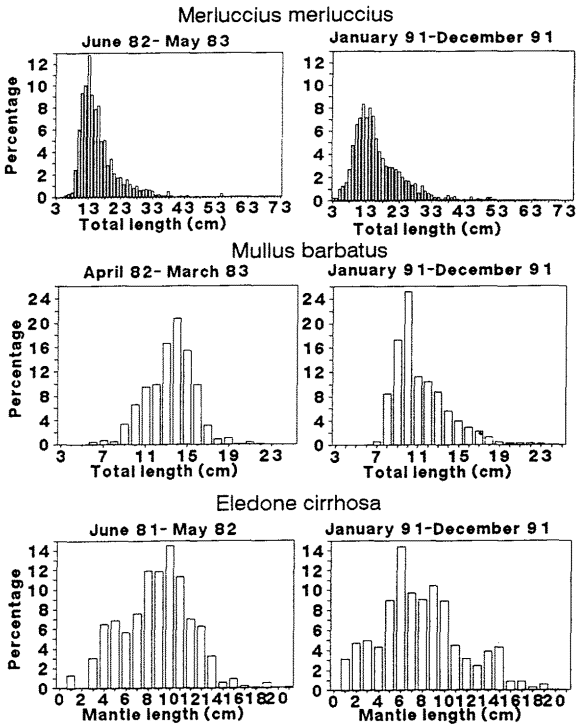
The range of exploited sizes has not changed significantly since 1981 in the three species (Figure 1). The mean length of catches has been the same in the case of hake (16.2 and 16.8 cm) and octopus (8.9 and 7.9 cm mantle length), while that corresponding to the striped mullet has decreased (from 13.4 cm to 11.3 cm).

	<i>Merluccius merluccius</i>		<i>Mullus barbatus</i>		<i>Eledone cirrhosa</i>	
	1982	1991	1982	1991	1982	1991
l min.	5.0	3.0	6.0	6.0	1.0	1.0
l mean	16.2	16.8	13.4	11.3	8.9	7.9
l max.	68.0	73.0	22.0	23.0	21.0	20.0
l'	13.0	12.0	14.0	10.0	10.0	6.0
lm	18.3	19.4	15.1	12.2	11.7	9.5
Z*	0.785	0.558	1.150	0.7		
Z**	0.435	0.377	0.694	0.469		
Catch (Ton)	1799.4	2386.5	674.8	694.8	1474.2	1118.3

l' smallest length fully recruited
lm mean length estimated from l'

The smallest length fully represented in the catch samples (l'), in the three species, is very close to the mean length of the catch, which indicates that the exploitation is driven mainly towards the smallest lengths (class 0 and 1 in the hake and striped mullet, and recruits of the year in the white octopus).

During the period from 1982 to 1991, the fishing effort has undergone slight variations (466 vessels in 1982, 430 vessels in 1991). With respect to catches, these have remained at a similar level, which seems to indicate that an equilibrium in the exploitation has been achieved, centered mainly in the recruits (overexploitation of the recruitment).



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