

Size at sexual maturity for males of *Nephrops norvegicus* (L.) in the Northern Tyrrhenian Sea

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Size at sexual maturity is basic information required for managing the harvest of a species of decapods (SOMERTON, 1980).

Most work on the size at sexual maturity of *N. norvegicus* has regarded the females, while there are fewer studies on males (FARMER, 1974; SARDA' *et al.*, 1981). Male maturity can be determined either by histological examination of the gonads or by morphometric data since many authors have recognized that many decapod species may change shape at maturity (BROWN & POWELL, 1972; HARTNOLL, 1978). All specimens examined in this work were collected from March to June 1986.

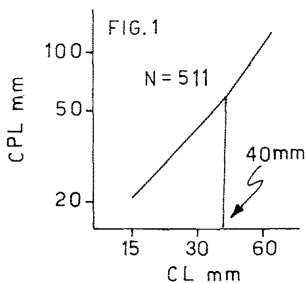
As for histological inspection we observed the presence of the spermatophore in each deferens duct, starting from 27 mm carapace length (CL). This result is in agreement with the observations of STORROW (1912) and FARMER (1974).

As it is known (HARTNOLL, 1978) the large chelipeds are primarily for sexual display and dominance. According to FARMER (1974) in most of Norway lobster juveniles the allometric growth of the chelae changes at sexual maturity. Therefore we have analyzed the relative growth of the crusher propodite length (CPL) vs. CL, using SOMERTON & MacINTOSH's (1983) computer program "Mature2".

FARMER (1974) found the change of allometry at 26 mm CL. SARDA' *et al.* (1981) also estimated the onset of sexual maturity of the males to be at 27 mm CL and found a further change in the relative growth rate at 40 mm CL.

On the contrary our analysis did not reveal any allometric change around 27 mm CL, while it was shown at 40 mm CL (Fig. 1). All the 511 points have not been drawn for the sake of clarity.

Thus the size at maturity onset obtained by our histological examination and the size at which there is a change in allometry do not agree but, as stated by AIKEN & WADDY (1980), two aspects of maturity must be considered in the Norway lobster male: physiological maturity, where the lobster is capable of producing mature spermatozoa, and functional maturity where, given a reasonable opportunity, the male is capable of mating with and inseminating a female. Whether the small males of lobster are capable of mating with females is a question that has not been properly investigated. This problem has been recognized in crabs as well (MORI, 1986). Observations in aquarium could probably clarify this aspect.



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