

CRUSTACEA DECAPODA ASSEMBLAGE OF THE POMO PIT. II - REPRODUCTION

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Between December 1992 and April 1994, fishery investigations in the Western basin of the Pomo pit, the main *Nephrops* fishery stretch in the central Adriatic, using an experimental prawn trawl with cod-end mesh size of 10 mm. The small mesh size of the gear made possible to gather data on the biology of the decapod species associated with *Nephrops norvegicus*. Different strategies adopted by different species (see the review by WENNER & KURIS, 1991) may be responsible of their relative abundance in a particular area. Therefore we considered worthwhile to summarize data on reproduction of the most common species in the decapod assemblage, gathered from this investigation and previous investigations, started over 20 years ago in the Pomo pit (FROGLIA, 1976).

In decapod crustaceans, Penaeoids excluded, females carry their eggs underneath the abdomen until the hatching of the larva. The period of ovigerousness, characteristic of each species, is influenced by water temperature. In the Pomo pit temperature is rather constant and ranges between 15-20°C. Under these conditions the incubation period extends for 6-7 months in the case of *Nephrops norvegicus* and for 3 months in the case of *Munida intermedia*.

The presence of ovigerous females in the trawl catches has been recorded throughout the year (TAB. 1). Ovigerous females of *Processa canaliculata* and *Chlorotocus crassicornis* were found all the year, indicating the lack of an annual cycle. Other species have a marked annual cycle. The presence of ovigerous females with ripe ovaries of *N. norvegicus* and *M. intermedia* was respectively from late-spring to summer and in early autumn and the presence of ovigerous females was restricted to part of the year. The presence of ovigerous females carrying eggs in advanced stage of development, was an indication of the possibility of multiple broods within the spawning period, as in the case of *Pandalina profunda*.

SPECIES	I	II	III	IV	V	VI	VII	VIII
<i>Alpheus glaber</i>	◆		◆		◆	◆	◆	
<i>Processa canaliculata</i>	◆	◆	◆	◆	◆	◆	◆	◆
<i>Processa nouveli</i>	◆	◆	◆	◆	◆	◆	◆	◆
<i>Chlorotocus crassicornis</i>	◆	◆	◆	◆	◆	◆	◆	◆
<i>Pandalina profunda</i>	◆	◆	◆	◆	◆		◆	
<i>Plesionika antigai</i>		◆	◆	◆	◆		◆	
<i>Plesionika heterocarpus</i>	◆	◆	◆	◆	◆		◆	
<i>Philocheras echinulatus</i>			◆	◆	◆	◆		
<i>Pontophilus spinosus</i>	◆		◆	◆				
<i>Nephrops norvegicus</i>	◆	◆	◆			◆	◆	◆
<i>Munida intermedia</i>	◆	◆						
<i>Liocarcinus depurator</i>			◆	◆			◆	

Tab. 1 - Reproductive season of the most common species of Decapoda in the Pomo pit (based on the presence of ovigerous females).

Minimum and maximum size of ovigerous females are indicated in the table. The onset of first maturity and of the maximum size reached by the species in the Pomo pit area. Size is expressed as carapace length (c.l.) measured from the anterior margin to the posterior margin of carapace.

During the incubation period a percentage of developing eggs is present in the pleopods. GRAMITTO & FROGLIA (1981) estimated that the number of developing eggs is only 1/3 of the number of oocytes for *Nephrops norvegicus*. The potential fecundity has been estimated, for comparative purposes, for the most common species, by counting newly laid eggs (without evidence of vitelline pigment) in ovigerous females. In decapod crustaceans egg production is an exponential function of female length and in this preliminary note the maximum egg counts are given (Tab. 2).

SPECIES	Size (c.l.) mm		Egg Ø mm
	min	max	
<i>Alpheus glaber</i>	8.0	10.0	0.6 x 0.8
<i>Processa canaliculata</i>	13.0	21.0	0.5 x 0.7
<i>Processa nouveli</i>	6.2	11.6	0.4 x 0.5
<i>Chlorotocus crassicornis</i>	11.5	20.5	0.6 x 0.8
<i>Pandalina profunda</i>	3.9	5.5	0.4 x 0.5
<i>Plesionika heterocarpus</i>	9.0	17.4	0.5 x 0.7
<i>Philocheras echinulatus</i>	5.5	10.5	0.6
<i>Pontophilus spinosus</i>	11.0	14.5	0.6
<i>Nephrops norvegicus</i>	21.2	53.0	1.5
<i>Munida intermedia</i>	9.5	21.0	0.7

Tab. 2 - Size (c.l.) of ovigerous females, egg diameter and potential fecundity.

REFERENCES

- FROGLIA C., 1976. Preliminary report on the Crustacea Decapoda of the Pomo pit (*Thalassia jugoslavica*, 8(1): 75-79.
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