



Observations on the reproductive biology of two cyclopoid copepods: *Oncaea media* and *O. scottodicarloi*

Georgios Fyttis (1), Monica Demetriou (1), Iole Di Capua (2), and Yianna Samuel-Rhoads (1)

(1) Oceanography Center, University of Cyprus, Nicosia, Cyprus (fyttis.georgios@ucy.ac.cy), (2) Stazione Zoologica Anton Dohrn, Napoli, Italy (dicapua@szn.it)

The small cyclopoid copepods *Oncaea media* and *O. scottodicarloi* are important components of the zooplanktonic communities in the Mediterranean Sea due to their numerical abundance and common distribution in coastal and open waters. However, knowledge on their biology is still limited. The present study was aimed to acquire data on their reproductive traits to highlight any difference between these two co-occurring oncaeids that are very similar in size and morphology. Experiments were conducted in the laboratory by monitoring groups of *Oncaea* ovigerous females (*O. media* + *O. scottodicarloi*) sorted from zooplankton samples collected in February and March 2013 from coastal waters in the inner Gulf of Naples (Tyrrhenian Sea, Western Mediterranean). The females were incubated individually at *in situ* temperature (15 °C) in cell culture plates containing oxygenated seawater with food particles that was changed every other day. The plates were inspected daily under an inverted microscope to count the hatched nauplii and measure the interclutch period, until all females were dead and subsequently identified as *O. media* or *O. scottodicarloi*. Both species carry the eggs in two dorsal sacs where the eggs are densely packed and cannot be precisely counted. The clutch size was therefore estimated from egg sacs detached from ovigerous females sorted from the same samples and fixed. The average number of eggs per sac was 35.2 ± 6.6 (range 20-52) for *O. media* and 24.4 ± 4.5 (range 14-32) for *O. scottodicarloi*. Egg production rates (EPR) were estimated to be on average 8.75 eggs female⁻¹ day⁻¹ for *O. media* and 6.15 eggs female⁻¹ day⁻¹ for *O. scottodicarloi*. The average egg development time was 8.05 ± 3.78 days for *O. media* and 7.9 ± 0.89 days for *O. scottodicarloi*. The interclutch period for the females that produced new egg sacs was 2.2 ± 1.3 days for *O. media* and 3 ± 2.7 days for *O. scottodicarloi*. The average recruitment of *O. media* was 7.6 ± 3.7 nauplii f⁻¹ d⁻¹, with the minimum number of hatched nauplii being 4 and the maximum 93. *O. scottodicarloi* recruited on average 6.5 ± 4.4 nauplii f⁻¹ d⁻¹, with the minimum number of hatched nauplii from one female being 17 and the maximum 50. *O. media* and *O. scottodicarloi* differed significantly ($p < 0.01$) in mean clutch size. The present study presents the first data on reproductive traits of *O. scottodicarloi* and additional information on reproduction of *O. media*, towards a better understanding of the biology of these co-occurring congeneric species.