

**Copepods of the  
Southern Ocean, with  
particular emphasis on  
the life cycles of the  
dominant species**

OCEANOLOGIA, No. 36 (1)  
pp. 106–106, 1994.  
PL ISSN 0078–3234

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Thesis for a 2nd doctor's degree in oceanology.

The thesis covers a sequence of work (5 publications), the objective of which is to resolve the question of the life strategies of Copepod species inhabiting an extreme environment.

The task in the first stage of the research was to establish the species composition and the dominants among the Copepoda occurring in very large numbers in the Atlantic sector of the Southern Ocean, as well as their horizontal and vertical distribution depending on region, season and the nature of the water masses. Five species among the dominants were distinguished: 3 phytophages – *Calanoides acutus*, *Calanus propinquus* and *Rhincalanus gigas*, 1 predator – *Euchaeta antarctica*, and 1 omnivore – *Metridia gerlachei*. The population structures of each of these species was analysed in detail and the lengths of their life cycles determined.

These studies have thrown new light on the mechanisms permitting the survival and maintenance of high population concentrations of the dominant copepod species. Furthermore, they have revealed differences in the life strategies of the organisms in these three trophic groups. A significant aspect thereof is the asynchronic nature of their growth and migrations (mainly vertical, and including ontogenetic migrations), and the different ranges of these migrations. One effect of this is to minimise competition for food and territory.

A knowledge of these aspects of the biology and ecology of Antarctic Copepoda is essential for an understanding of the structure and functioning of the Southern Ocean's pelagic ecosystem.

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