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Abstracts



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in which seawater was recirculated over a submersed sieve containing the animals. Ingestion rate was calculated from the decrease in cell concentration which was measured with a Coulter counter. The effect of yeast concentration on the ingestion rate of adult brine shrimp was determined in the recirculating system. The data fitted a saturation response with a maximal ingestion rate of $440 \cdot 10^3$ cells individual⁻¹ h⁻¹, and an incipient limiting concentration of $600 \cdot 10^3$ cells ml⁻¹. Crowding depressed feeding rate only at high densities (> 7.5 individuals ml⁻¹) in the recirculating system. By contrast, an animal density of 3 individuals ml⁻¹ resulted in significantly decreased ingestion rates in the rotating tubes. Interference from oxygen stress, container size and mortality during the experiment may explain this system-dependence of the crowding effect. The influence of food digestibility was studied by comparing feeding on treated and untreated yeast, and various mixtures of both. For the untreated yeast feeding rates were observed which were 50 to 60% lower compared to those obtained for the treated yeast. Carmine red staining of the gut contents revealed that gut passage time is about 50% shorter when *Artemia* is fed the treated yeast. These experiments show that treated baker's yeast is an interesting product to investigate feeding in *Artemia*. Furthermore, the availability of yeast cells of low and high digestibility offers the unique possibility to explore the effect of particle digestibility on the feeding kinetics of a filter-feeder.

- 27 **WHAT ARE *LEPTOMYSIS* FEEDING ON ? AN EXAMPLE OF THE USE OF CARBON STABLE ISOTOPES IN MARINE FOOD-WEBS STUDIES.** P. Dauby. University of Liège.

Leptomysis (Crustacea: Mysidacea) is a common genus in the Mediterranean which exhibits a peculiar behaviour: during daytime, individuals form swarms staying just above benthic substrates; at nightfall, these swarms break up and individuals spread around over the bottom, feeding actively on detrital material. The purpose of this study is to identify the origin of the detritic matter consumed by these mysid shrimps. At Calvi, where this research was conducted, three main carbon sources are available for detritus feeders : phytoplankton, seagrasses and benthic algae, each one characterized by a different ¹³C/¹²C ratio. In order to determine the share of each possible source in the shrimps diet, we analyzed carbon stable isotope ratios of four *Leptomysis* species, inhabiting different biotopes, during a complete year cycle. It appears that they do not feed exclusively on organic matter originating from their own biotope, that benthic algae are a carbon source of importance, and that seasonal variations are significant. This kind of research allows a better understanding of the carbon pathway in benthic food webs. P.D. is a research assistant of FNRS.

- 28 **THE PRIMARY STRUCTURE OF *ASCARIS SUUM* HB.** I. De Baere, L. Liu*, J. Van Beeumen* and L. Moens. University of Antwerp (UIA) and *State University of Ghent.