HYPERBENTHIC MYSIDAE HAWORTH, 1825 (PERACARIDA, MYSIDA)
FROM THE CONTINENTAL SHELF OF THE NORTHERN ADRIATIC SEA

BY

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ABSTRACT

Species composition, distribution, and spatio-temporal dynamics of hyperbenthic Mysidae Haworth, 1825 (Peracarida, Mysida) were studied on the continental shelf of the northern Adriatic Sea. A total of seven species was collected: Anchialina agilis, Erythrops elegans, Haplostylus lobatus, Leptomysis gracilis, Mysidopsis angusta, Mysidopsis gibbosa, and Paraleptomysis banyulensis. The hyperbenthic mysid assemblage was dominated by A. agilis, E. elegans, and L. gracilis, in terms of frequency of occurrence, abundance, and biomass. Notable seasonal fluctuations in the abundance of the catches were observed, with a minimum reached in the period July-September, probably due to the species' life cycles as well as to environmental factors, such as the presence of mucilaginous aggregates close to the bottom.

RESUMEN

Se estudiaron la composición en especies, la distribución y la dinámica espacio-temporal de los crustáceos suprabentonicos de la familia Mysidae Haworth, 1825 (Peracarida, Mysida), en un area de la plataforma continental del Mar Adriatico del Norte. Siete especies fueron capturadas: Anchialina agilis, Erythrops elegans, Haplostylus lobatus, Leptomysis gracilis, Mysidopsis angusta, Mysidopsis gibbosa, y Paraleptomysis banyulensis. El assemblaje de mysides suprabentónicos fue dominado por A. agilis, E. elegans, y L. gracilis, en términos de frecuencia de captura, abundancia, y biomasa. Notables fluctuaciones en la abundancia de las capturas fueron observadas, con un mínimo alcanzado en el periodo Julio-Septiembre, probablemente debido a los ciclos biológicos de las especies, así como a factores ambientales, en este caso a la presencia de agregados mucilaginosos cerca del fondo.

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INTRODUCTION

The macrofaunal assemblages of the Benthic Boundary Layer (BBL), also defined as hyperbenthos or suprabenthos, are composed of small-sized animals (particularly peracarid crustaceans) with swimming capacity, that occupy the sediment-water interface layer immediately above the sea bottom during different periods of their life or at different times of day, while retaining some contact with the substratum (Brunel et al., 1978; Mees & Jones, 1997). Information on the taxonomic composition and the role of hyperbenthic species in the trophic webs and energy flow of the benthic ecosystem is still scarce and scattered, even though most hyperbenthic groups (e.g. mysids, amphipods) represent basic components in the diet of adults and juveniles of several demersal commercial species (Cartes & Sorbe, 1999; Cartes et al., 2002; Pallaoro et al., 2004). Mysids are considered the most important component of the hyperbenthic assemblages of the continental shelf, while their importance decreases in slope-shelf break habitats, increasing again on muddy bathyal bottoms (Cartes & Sorbe, 1999; Cartes et al., 2001; Madurell & Cartes, 2003).

Consistent catches of mysids belonging to the family Mysidae Haworth, 1825 (Peracarida, Mysida) were obtained by experimental sampling in the northern Adriatic Sea, in the framework of the EU Project “Response of benthic communities and sediment to different regimes of fishing disturbance in European coastal waters” (Acronym: RESPONSE, Contract n° Q5RS-2001-00787).

The present paper is focused to describe the species composition and the temporal trend of the mysid assemblage collected in the investigated area and to provide some biological data for the most abundant species.

MATERIALS AND METHODS

The study was carried out in an area of about 10 km², located 15 nautical miles (approx. 27 km) off the harbour of Fano (Italy) in the northern Adriatic Sea (fig. 1). The local sea bottom is flat, and gently slopes from 50 to 55 m depth. Sediments are composed of fine and very fine sand; the median grain size is around 75 µm and remained practically constant during the sampling period, as did the organic matter content (OM, around 1.5%). The near-bottom turbidity and near-bottom temperature were characterized by variations (fig. 2) during the sampling period. Near-bottom turbidity was high in summer; the highest values of near-bottom temperature were observed in autumn.

Seven experimental cruises were carried out: March, July, August, September, October, and November 2003, and March 2004, using a sledge (mouth 80 × 40 cm), provided with a plankton net of 500 µm mesh size. Four diurnal