

STUDY OF THE INFLUENCE OF SUBANTARCTIC DRAKE PASSAGE WATERS ON THE ARGENTINE SHELF THROUGH THE ABUNDANCE AND BIOGEOGRAPHY OF TINTINNIDS (PROTOZOA, CILIATA)L F Santoferrara¹, V A Alder²¹Fac. Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, Argentina,²Instituto Antártico Argentino, Buenos Aires, Argentina

Subantarctic waters of the Drake Passage are known to influence the hydrological conditions and distribution patterns of communities of the Argentine shelf. The spatial distribution and abundance of tintinnid species as well as their relationships with environmental factors was examined in order to assess this phenomenon. The study involves materials collected by the icebreaker "Almirante Irizar" from a depth of 9m at 71 oceanographic stations corresponding to two transects performed during February and April 2002, and extending from the Drake Passage to inner-intermediate (58-40° S, 62-68° W) and outer-intermediate (57-41° S, 61-62° W) waters of the Argentine shelf, respectively. Eight environmental parameters were measured, and microplanktonic and nutrient samples were collected at each station. Species-specific abundance, correlation with environmental factors and a biogeographic zonation were assessed by cell counting under inverted microscope, Spearman correlation index and Bray-Curtis cluster analyses, respectively. A total of 31 taxa comprised in 21 genera were recorded. Mean and maximum tintinnid densities were one order of magnitude higher in February (150 and 1873 ind. l⁻¹ vs. 23 and 252 ind l⁻¹). Highest biomass values were found on the southern shelf at 54°S (4.65 µg C l⁻¹) and 51°S (1.46 µg C l⁻¹). Average densities of typical oceanic waters were higher than those found on the middle shelf (41 and 9 Ind. l⁻¹, respectively). Density and biomass correlated significantly and negatively with temperature, while positively with salinity, depth and fluorescence. Six biogeographic zones were determined in the area examined, five of which were located on shelf waters. The sixth zone, located mostly on Drake Passage waters (62 to 65°W), hosts an assemblage of subantarctic taxa (*Acanthostomella norvegica* f. *typica*, *Codonellopsis pusilla*, *Cymatocylis antarctica*, *Cy. kerguelensis*, *Undella* sp.) which extend over the southern Argentine shelf up to 54-55°S and 50.5°S through inner and intermediate coastal waters, respectively. The influence of the Cape Horn Current and the ACC on shelf waters is discussed.