MESOZOOPLANKTON BIOMASS ESTIMATION FROM DIGITIZED IMAGES
Lehette, P. and S. Hernández-León
Facultad de Ciencias del Mar, Universidad de Las Palmas de Gran Canaria.

The measurement of mesozooplankton biomass in the ocean requires the use of analytical procedures which needs the destruction of samples or, by contrast, the development of methods to estimate biomass from optical systems and appropriate conversion factors (Postel et al., 2000). The conversion of the area recorded by an optical counter or a camera has been suggested as a suitable method to estimate total biomass by converting the digitized area of an organism into individual biomass and summing up the individual biomass. In this study, crustacean mesozooplankton from subtropical waters were analyzed and direct individual dry weight of the most common groups and body area by digitized image analysis were obtained. Relationships between individual dry weight and body area agreed with other measurements of biomass obtained in a previous study in Antarctic waters (Hernández-León and Montero, 2006), suggesting a universal regression for these organisms. Gelatinous mesozooplankton from subtropical and Antarctic waters were also sampled and processed for body area and biomass. As expected, differences between these two planktonic groups (crustacean and gelatinous) were highly significant. Transparent gelatinous organisms have a lower dry weight per unit area. Therefore, to estimate biomass from digitized images, pattern recognition discerning, at least, between crustaceans and gelatinous forms are required.

Keywords
Canary Islands, Antarctic Waters, body area, digitized images, mesozooplankton, biomass