VERTICAL DISTRIBUTION AND DIVERSITY OF BENTHIC GASTROPODS AND BIVALVES FROM THE SOUTH SHETLAND ISLANDS TO THE BELLINGSHAUSEN SEA (WEST ANTARCTICA)

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Vertical distribution and diversity patterns are important topics in the study of benthic fauna and may be attributed to complex and combined physical and/or biological factors. Studies of this type in the Antarctic fauna are needed to elucidate the factors contributing to global-scale benthic patterns. Based on a large data set we examined the vertical distribution, patterns of zonation and diversity–depth trends of benthic gastropods and bivalves from the South Shetland Islands to the Bellingshausen Sea, a very poorly known area in West Antarctica. A total of 647 individuals of gastropods belonging to 82 species and a total of 2934 individuals of bivalves belonging to 52 species were collected. Most gastropods showed discrete depth distributions, whereas most bivalves showed broader depth ranges. Replacement of species with depth was more gradual for bivalves than gastropods. Nevertheless, three bathymetric boundaries could be recognized: (1) a continental shelf zone from 0 to 400 m with a gradual rate of succession, (2) an upper slope zone from 400 to 800 m, and (3) a lower slope zone from 800 to 2000 m, extending to 3300 m for bivalves. Diversity patterns were complex for both groups with no significant trends with depth.