403

HOW WELL DO WE KNOW THE SOUTHERN OCEAN MARINE FAUNA?

A Clarke, H J Griffiths, K Linse, D K A Barnes

British Antarctic Survey, Cambridge, United Kingdom

Although the public view of the polar regions is one of the last great unexplored regions, the work of the great oceanographic expeditions and other pioneers mean that the marine fauna is far better known than is often recognised. A compilation (Clarke & Johnston 2003) yielded a total of over 4000 described species of benthic marine invertebrate for the Southern Ocean, and Gutt et al (2004) have estimated that the total fauna may exceed 17000 species. In this study we use a recently constructed database containing all available data on the occurrence of gastropod and bivalve molluscs in the Southern Ocean (SOMBASE: Griffiths et al. 2003), to ask how well we know the fauna. We conclude that sampling of the continental shelf fauna is reasonable full and extensive, but knowledge of the slope and deep-sea faunas remains poor (though improving rapidly). Species richness varies spatially but as yet there is no convincing evidence for a latitudinal cline in diversity, either along the Antarctic Peninsula or Victoria Land. Multivariate analyses define biogeographical regions very similar to those established previously, though with intriguing extra detail.

Clarke, A. & Johnston, N.M. (2003) Antarctic marine benthic diversity. *Oceanography and Marine Biology: an Annual Review*, **41**, 47-114.

Griffiths, H.J., Linse, K., & Crame, J.A. (2003) SOMBASE - Southern Ocean Mollusc Database: a tool for biogeographic analysis in diversity and ecology. *Organisms, Diversity & Evolution*, **3**, 207-213.

Gutt, J., Sirenko, B.I., Smirnov, I.S., & Arntz, W.E. (2004) How many macrozoobenthic species might inhabit the Antarctic shelf? *Antarctic Science*, **16**, 11-16.