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Macrobenthic patterns at the shallow marine waters in the caldera of the active volcano of Deception Island, Antarctica

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Abstract

Deception Island is an active volcano located at the southern end of the South Shetland Archipelago, in the Antarctic Ocean. After the last eruption in 1970, benthic recolonization took place within the bay, with echinoderms being the dominant epifauna (e.g., the ophiuroid *Ophionotus victoriae*, the echinoid *Sterechinus neumayeri* and the sea star *Odontaster validus*), together with dense infaunal communities (mostly composed by oligochaetes, polychaetes, and bivalves). Here, we aim to describe the actual status of the marine benthic ecosystems inhabiting the shallow subtidal areas of this volcanic island. Benthic species were qualitatively scored as presence *versus* absence, considering the different sampling effort between localities done over the years. A total of 139 species of macroorganisms, belonging to 16 phyla were found, including fauna and flora, increasing the species richness values previously reported in all sites surveyed within the volcano caldera. Moreover, a dramatic increase in biodiversity was found towards the entrance of the bay. We suggest, however, that recolonization from external waters may not be the only reason for this pattern. In fact,

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