



Voyage ss2012_t07

Epibenthic communities of northern Australia and an examination of the microbial oceanography of north-eastern Australia

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Contribution to Australia's national benefit:

Through an intensive sampling program of less than 24 hours we have acquired 263 samples of benthic organisms, including sponges, cnidarians (hard and soft corals, sea fans), echinoderms (basket, brittle and sea stars, sea cucumbers), ascidians (sea squirts), crustaceans, bryozoans (lace corals) and fish to document the biodiversity and composition of benthic communities in two areas of Arafura Sea included in the North Marine Region of Australia, one of which is located in a Commonwealth Marine Reserve (CMR). We have also acquired qualitative video data to characterise the sampled habitats. These data will contribute to the Marine Bioregional Plan of the North Marine Region (Commonwealth of Australia 2012) by increasing the knowledge of the region's biodiversity and ecosystems. We also provided samples for research in biodiscovery which will contribute to the knowledge of our biological and genetic resources, some of which might have potential value for human health.

As a result of this voyage we have a better understanding of the habitats and benthic communities of the sampled areas: a bank (Area I) and, a terrace/hole (Area II) feature located in the CMR north of the Wessel Islands. The bank was characterised by a diverse and abundant sessile invertebrate community with consistent patchy occurrence of sponges, sea fans, and hard corals. The terrace in Area II supports moderate densities of sponges and sea-fans, while the adjacent deep hole at ~ 100 m seems to be covered with muddy gravel and supports scattered mobile and sedentary invertebrates, of which crinoids dominate, as well as skates and numerous small demersal fish. The samples collected are now deposited in three major museums of Australia

(Museum and Art Gallery of the Northern Territory, Museum of Victoria and Museum of Tropical Queensland and available to taxonomic experts for future identification and refinement of biodiversity inventories of the sampled areas. Selected samples are also lodged at the Australian Institute of Marine Sciences Bioresources Library for future research in biodiscovery and screening for anti cancer compounds at the US National Cancer Institute under current Benefit Agreements between the two organisations.

Itinerary

Departed Darwin 18:00
Monday 15 October 2012
Arrived Cairns 09:00
Wednesday 24 October 2012

> Voyage track ss2012_t07

