COMPARATIVE ANALYSIS OF COMMUNITY STRUCTURE OF TWO FRINGING REEFS OF MAGNETIC ISLAND (NORTH QUEENSLAND)

Dissertation submitted by
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ABSTRACT

The scleratinian coral distributions on two fringing reefs (Geoffrey Bay and Cockle Bay) of Magnetic Island were surveyed using a line transect method.

The community structures are discussed in relation to prevailing environmental conditions. Of the two reefs surveyed, the Cockle Bay reef is less exposed and more heavily sedimented than the Geoffrey Bay reef.

The communities are divided into "zones" on the evidence of percentage coral cover, number of species per transect, colony size, Shannon and Weaver diversity indices and numerical classification of transects. The species composition and dominant species of each zone reflect the environmental conditions.

The relative severity of the environment in Cockle Bay is reflected in a smaller number of species and lower values of the Shannon and Weaver diversity indices, than are found in the Geoffrey Bay community.

The community structures and zonation patterns of these Magnetic Island reefs are discussed and compared with those of other high island fringing reefs. It appears that Magnetic Island reefs exhibit features typical of fringing reefs in very sheltered and sedimented areas.

STATEMENT OF SOURCES

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institute of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

G.D. BULL
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