

RELATIONSHIP BETWEEN CORAL REEF COVER AREAS
WITH SEA URCHIN DISTRIBUTION IN BIDONG ISLAND

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RELATIONSHIP BETWEEN CORAL REEF COVER AREAS WITH SEA URCHIN DISTRIBUTION IN BIDONG ISLAND

By

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**DECLARATION AND VERIFICATION REPORT
 FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:

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List of abbreviations

- | | |
|--------|------------------------|
| 1. ACB | Acropora branching |
| 2. DCA | Dead Coral with Algae |
| 3. DC | Dead Coral |
| 4. S | Sand |
| 5. R | Rubble |
| 6. TA | Turf algae |
| 7. CF | Coral foliose |
| 8. OT | Others |
| 9. CE | Coral Encrusting |
| 10. CM | Mushroom Coral |
| 11. CB | Non-acropora Branching |
| 12. SP | Sponges |

CHAPTER 1

INTRODUCTION

The echinoderms or animals from phylum Echinodermata are the second largest group of deuterostomes after the chordates and also the largest phylum without freshwater or terrestrial representative because they are found at all ocean depths. The phylum also appeared near the start of the Cambrian period and today their community reaches approximately 7,000 living species. Echinoderms also are very important both biologically and geologically. They are important biologically because few of their groups are abundant in both the biotic desert of the deep sea and the shallower oceans, and geologically, as their ossified skeletons are major contributors to many limestone formations, and thus can provide valuable clues regarding the geological environment. Further, it is held by some that the radiation of the echinoderms was responsible for the Mesozoic revolution of marine life (Yassin, 2008)

Communities in coral reef are referred to the relationship between coral reef area and also the organisms around it such as invertebrates and also other marine algae. The community includes animal and plants around the area but they are controlled by meteorological and oceanographic conditions. Corals are classified under anthozoans groups and they are organisms with the largest class in phylum cnidaria. Organisms in anthozoa groups include all sea fans, sea pansies and also anemones. Study on relationship between coral reefs communities and the distribution of sea urchins had been done in many years because sea urchins give massive impact on the reef area they