

Anomastrea irregularis, a Vulnerable coral of the rocky intertidal zone of Watamu Marine National Park, Kenya

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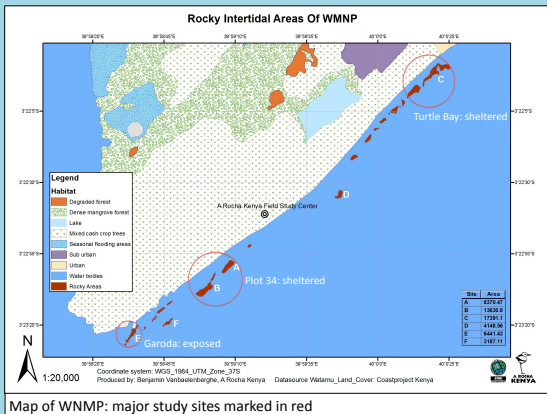


INTRODUCTION

The scleractinian coral *Anomastrea irregularis* is a rare coral usually found in rock pools or at the base of fringing reefs. It is classified as vulnerable on the IUCN Red List of Threatened Species, and is a target conservation species of the EDGE (Evolutionarily Distinct and Globally Endangered) Programme. *A. irregularis* generally forms small massive colonies that are brown in color. The corallites form an irregular honeycomb pattern. Previously there have been no published studies focusing solely on *A. irregularis*, and little is known about its ecological significance. *A. irregularis* is relatively common in the Watamu National Marine Park (WNMP) on the coast of Kenya.

The WNMP was established in 1968 and covers around ten square kilometers of marine habitat, including lagoonal reefs and rock pools. The park is completely closed to fishing and other extractive activities. However, there has been significant impact of tourism on the most heavily visited coral reef site and our observations suggest that many tourists also visit rockpools to view marine life.

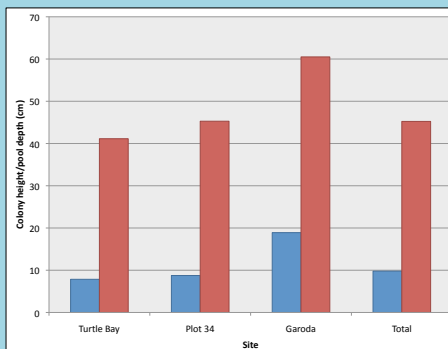
This study provides the first observations on the density and distribution of *Anomastrea irregularis* in East Africa and attempts to determine ecological factors influencing this distribution.



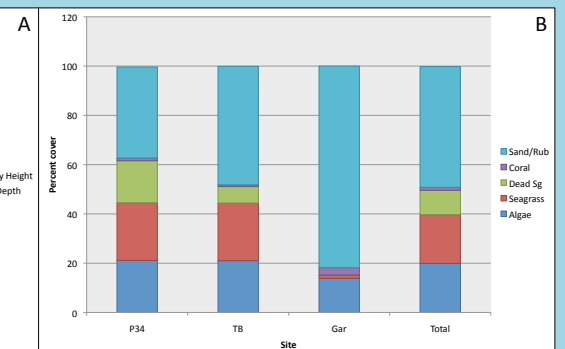
Clockwise from upper left – study site located at Turtle Bay; a typical rockpool containing *A. irregularis* as well as various other life; *Pavona frondifera* and *Acropora bruggemanni*, other coral species commonly observed in WNMP rockpools.

RESULTS

- 131 total colonies: 20 at Garoda (exposed); 36 at Plot 34 (sheltered); 75 at Turtle Bay (sheltered)
- Most corals located on seaward facing wall of rockpools
- No significant relationship between the height of the colony from the bottom of the pool and the size of the colony
- Exposed colonies were outliers with significantly deeper, smaller pools with more colonies per pool.
- Colonies at the two sheltered sites were most frequently found singly.
- Exposed pools were frequently dominated by sand/rubble and algae, while sheltered sites showed a much higher seagrass presence
- *A. irregularis* does not seem positively or negatively affected by the presence of other coral species.
- Coral species observed in rockpools:
 - *Anomastrea irregularis*
 - *Pseudosiderastrea tayami*
 - *Hydnophora microconos*
 - *Favia speciosa*
 - *Pavona frondifera*
 - *Galaxea fascicularis*
 - *Acropora bruggemanni*
 - *Porites* spp.
 - *Psammacora* sp.
 - *Platygyra* sp.



A. Average *A. irregularis* height above the bottom of the pool compared with average pool depth (cm)



B. Average percent cover of five major benthic categories compared over all sites

CONCLUSIONS

- *Anomastrea irregularis* generally form small, seaward facing colonies in productive pools near the seaward edge of rockpool areas
- Exposed and sheltered sites seem to show significantly different ecological trends
- More information is needed on *A. irregularis* population dynamics and reproductive strategies
- Rockpools in this national park not actively protected through the current management plan. Understanding the importance of this habitat to local biodiversity will lead to better future protection.

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