

GREAT BARRIER REEF MARINE PARK AUTHORITY

TECHNICAL MEMORANDUM GBRMPA-TM-11

AN ATLAS OF THE SKELETAL COMPONENTS OF THE
CROWN-OF-THORNS STARFISH (ACANTHASTER PLANCI (L.))

P.D. WALBRAN

February, 1987
(Submitted October 1984)

Geology Department, James Cook University of North Queensland
Townsville, Queensland 4811, Australia

SUMMARY

In recent years extensive damage has been caused to many reefs in the Great Barrier Reef complex by the crown-of-thorns starfish (A. planci). Authors on the subject are divided as to whether the outbreaks are a recurring natural phenomenon or a result of the influence of man. The identification of crown-of-thorns skeletal-rich zones in reef sediment and cores may help to determine if large population fluctuations occurred prior to the arrival of Europeans in central Queensland.

An atlas of crown-of-thorns skeletal components has been compiled to assist in the identification of these parts. The atlas features representative examples of each of the separate skeletal series present in A. planci and discusses skeletal architecture, gross morphology, microstructure, and the recognition of elements in the sedimentary record. In addition, the atlas compares skeletal elements of A. planci with similar elements from four other stars common on the Great Barrier Reef and concludes that they are readily distinguished.

KEYWORDS: Acanthaster, GBR, microstructure, morphology, sedimentary record, skeletal architecture.

Technical memoranda are of a preliminary nature, and represent the views of the author, not necessarily those of the Great Barrier Reef Marine Park Authority.

Please address comments or requests for additional copies to:

The Executive Officer,
Great Barrier Reef Marine Park Authority,
P.O. Box 1379 TOWNSVILLE, AUSTRALIA, Q 4810.

c Commonwealth of Australia

ISSN 0817-6094

ISBN 0-642-52641-9

Published by the GBRMPA, Townsville

Printed by the JCUNQ, Townsville