

ENCYCLOPEDIA *of* MODERN CORAL REEFS

Structure, Form and Process

Encyclopedia of Earth Sciences Series

ENCYCLOPEDIA OF MODERN CORAL REEFS – STRUCTURE, FORM AND PROCESS

Volume Editor

David Hopley is Professor Emeritus in the School of Earth and Environmental Science at James Cook University, Townsville, Queensland, Australia, where he has worked since 1965. He has an M.A. from the University of Manchester and Ph.D. from James Cook University. His initial research into Holocene sea levels and tropical landforms quickly focused on the evolution of coral reefs, reflecting the importance of the Great Barrier Reef to his home institution. Experience with coral reefs extends to many parts of the world including Australia, Barbados, India, Indonesia, Maldives, Papua New Guinea, Rodrigues and Thailand. He has authored and edited almost 200 scientific publications. Amongst numerous awards have been the J.P. Thomson silver medal from the Royal Geographical Society of Australasia (1984) and Life Membership of PACON International (1992).

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ENCYCLOPEDIA OF EARTH SCIENCES SERIES

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Au1 **MOLLUSCS**

Definition

The Mollusca are soft-bodied animals that usually have a hard, protective shell. They constitute the most diverse marine phylum and the most diverse group of coral-reef organisms (Paulay, 1997). Coral reefs provide substrata, protection, and food for molluscs (Caterall, 1998; Morton, 1983). In turn, molluscs influence reef growth and internal biological processes. Some gastropods prey directly on live coral tissue, causing, in some cases, a significant impact in structuring of reef communities. Bioerosion of live coral skeletons and coral rock alters and destroys, ultimately reducing them to fine, unconsolidated sediments. Bioeroders may be divided into the epilithic and the endolithic (Glynn, 1997). Using their reinforced radular teeth, epilithic bioeroders abrade limestone in the process of grazing on algae or other organisms. These include chitons, patellids, trochids, littorinids, and neritids (Glynn, 1997). Endolithic bioeroders bore into coral skeletons using chemical and/or mechanical processes. Bivalves in the genera *Lithophaga*, *Gastrochaena*, *Fungiacava*, and *Choristodon* are active borers, whereas *Tridacna* and

Hippopus show a limited degree of downward penetration (Glynn, 1997; Morton, 1983). Reef-building vermetid gastropods in the genera *Vermetus* and *Dendropoma* can be important contributors to the structure of coral reefs.

José H. Leal

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