

The Biology of the Indian Ocean

Edited by
Bernt Zeitzschel

In Cooperation with
Sebastian A. Gerlach

With 286 Figures



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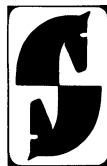
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Preface

This volume contains the proceedings of a Symposium held at the University of Kiel, Germany, from 31 March to 6 April, 1971. The Symposium was organized by the Scientific Committee on Oceanic Research (SCOR) and the Marine Productivity section of the International Biological Programme (IBP/PM) with the assistance of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Food and Agriculture Organization (FAO), and the International Association of Biological Oceanography (IABO). The aim of the Symposium was to summarize present knowledge of the biology of the Indian Ocean.

Twenty-two presentations by invited speakers reviewed the research work carried out during the International Indian Ocean Expedition (IIOE) 1959–1965, the first cooperative project coordinated by the Intergovernmental Oceanographic Commission (IOC). In addition, reports were presented of postexpedition examination of material and of more recent investigations relevant to the aims of the IIOE.

In keeping with the aims of “Ecological Studies”, the present volume contains much new information and some synthesis, all directed towards obtaining an understanding of the functioning and organization of the ecosystem of the Indian Ocean. The plan of the Symposium was to present the relevant meteorological, physical, chemical and geological background and to follow this with the various aspects of biological oceanography.

Because of the uneven stage of development of the different disciplines, the papers included in this volume vary in their analytical level.

The papers are included more or less as written for the Symposium. However, in order to obtain uniformity the manuscripts have been edited, overlapping review material has been removed, references have been grouped together and most figures have been redrawn. I would like to thank all contributors for their cooperation.

The scientific work received substantial support from various organizations, such as:
Deutsche Forschungsgemeinschaft (BOJE et al., KREY, LENZ)
Oceanographic Institute of the University of S. Paulo Brazil (VANNUCCI and NAVAS)
Pakistan Navy (HAQ et al.)
University of Kerala, Trivandrum, India (SHAH)
U.S. National Science Foundation (EL-SAYED and JITTS)
U.S. National Science Foundation (GB 12412) and Marine Life Research Program of the Scripps Institution of Oceanography (FLEMINGER and HULSEMANN)
U.S. National Data Center, U.S. National Science Foundation (GP-821) and U.S. Coast Guard Academy (MCGILL)
and others.

The journals in the reference list are in most cases abbreviated according to the new “World List of Periodicals for Aquatic Sciences and Fisheries” in preparation by the FAO Fisheries Division. I would like to thank Mr. AKYÜZ for his kind assistance.

The organization of the Symposium and the subsequent preparation of the volume were immense tasks, made possible by the generous and substantial help of the Aus-

wärtiges Amt, Bonn, the University of Kiel, and the Institut für Meereskunde, Kiel. Special thanks are due to Mrs. G. KREDEL, for her extraordinarily helpful assistance throughout the organization of the Symposium and the editing of this volume. Prof. S. A. GERLACH, Bremerhaven, read all manuscripts. I acknowledge his valuable comments. With pleasure we acknowledge the stimulating discussion and encouragement provided by Dr. G. HUMPHREY, CSIRO, Marine Biochemistry Unit, Sydney University.

Kiel, February 1973

BERNT ZEITZSCHEL

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