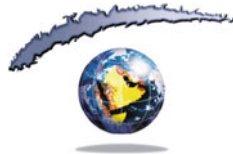

Geological Setting, Palaeoenvironment and Archaeology of the Red Sea

Najeeb M. A. Rasul • Ian C. F. Stewart
Editors

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Preface

The Red Sea has a unique tectonic history, environment and biology. It is a young ocean basin that along its length has undergone or is undergoing the transition from a continental rift to true oceanic seafloor spreading, the nature of which is still open to vigorous debate. In addition, due to its semi-enclosed nature and location within an arid region, the environment is affected by high evaporation rates that, together with limited contact with the Indian Ocean, result in high temperatures and salinities. Lower sea levels in the past have also led to extensive evaporite deposition within its basin, while brines and metallic deposits in the axial deeps have been the subject of considerable research. All of this has had a far-reaching impact on the marine and terrestrial life of the region and on its human inhabitants. As a human environment, the Red Sea region is of unusual archaeological and historical interest. It has always been the primary gateway for contact and movement between Africa and Asia, beginning far back in the Quaternary with the earliest expansion of our human ancestors out of Africa, and in later periods becoming a primary conduit for seaborne trade between southern Asia, Arabia, Africa and the Mediterranean.

This is one of a pair of volumes that together represent a successor to an earlier volume published in this series in 2015 under our joint editorship as ‘The Red Sea: The Formation, Morphology, Oceanography and Environment of a Young Ocean Basin’. The amount of new information that has become available since then is testament to the range and vigour of new research now being carried out in the region, much of it in Saudi Arabia under the sponsorship of the Saudi Geological Survey, and to the level of international interest. Indeed, so much new research has taken place that we have divided the material into two volumes, this one, which concentrates on geological, environmental and archaeological issues, and a second volume concerned with the oceanography and biology of the Red Sea.

A wide range of topics is examined in this volume, from the geological history of the region to its past and present environments and their effects on prehistoric and historic human activities. The chapters aim to present some of the current thinking and summaries of research in each field of study including useful reference lists for further study.

As with the earlier volume referred to above, which was the outcome of a workshop held in Jeddah, Saudi Arabia, in 2013, most of the chapters in this volume were originally presented at a workshop held in Jeddah, from 15 February to 17 February 2016, under the auspices of the Saudi Geological Survey (SGS), and have been extensively rewritten, independently reviewed and edited for publication.

The support of the Survey in the preparation of this volume is greatly appreciated, and we would like to thank all those who have been involved in its production. We would especially like to thank Dr. Zohair A. Nawab, former President of SGS, and Dr. Abdullah M. Alattas, former Assistant President, as well Eng. Hussain M. Al Otaibi, President of SGS and Mr. Salah A. AlSefry, Assistant Vice President for Technical Affairs. Colleagues at the SGS and the Center for Marine Geology are also thanked for making the workshop a success. Mr. Louiesito Abalos played a substantial part in the preparation of material for publication. We are happy to note our appreciation for the contributions of the technical referees who

improved the contents of the chapters as well as the assistance of Femina Joshi Arul Thas, Project Manager, Banu Dhayalan, Project Coordinator, Janet Sterritt-Brunner, Production Books Project Coordinator and Dr. Nabil Khélifi, Senior Editor, of Springer Nature. The assistance and suggestions of Dr. Geoff Bailey, in particular, in preparing some of the chapters greatly helped in the final stages of the reviewing process.

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