

Foreword

Planktons are microscopic marine plants that float in the upper part of the ocean where sunlight penetrates the water. They are the foundation of the aquatic food web, feeding everything from microscopic, animal like zooplankton, small fish and invertebrates to multi-ton whales. It is responsible for half of the world's photosynthesis and also removes approximately 100 million tons of carbon dioxide from the Earth on a daily basis. These small plants require inorganic nutrients to survive which they obtain from colder ocean currents that rise from the sea floor. However, when too many nutrients reach these tiny plants, populations explode, producing harmful algae. These masses of plant life produce toxic compounds that harm fish, birds, mammals, shellfish and humans.

Indeed, when the delicate balance of plankton is disturbed, many larger creatures are affected. Plankton populations are important indicators that help scientists monitor changes in our oceans. Biologists have noted that as oceans get warmer, plankton distribution decreases and animals shift their migration patterns to follow sources of food. Fish populations that once thrived in certain areas move to where plankton migrate, altering larger sea creatures' habits which in turn impacts the global fishing industry. OAPGRC's mission is to promote recognition, sustainable exploitation and valuation of genetic diversity inherent in Oman's animals, plants and microorganisms as a natural heritage resource. And it is our vision to develop as a collaborative hub for all animal and plant genetic resources activities; promote the sustainable use of knowledge across economic sectors and social segments; create value from world-class research and practical innovation; share our work with the world of international science and build recognized local capacity in the field of genetic resources. It is in this context that we are proud to publish "Marine Phytoplankton Guide to Oman's Waters", the first phytoplankton guide to Oman's coastal waters. It has taken six years to collect and analyze the samples required to compile this important publication. The aim of this publication is to assist professionals as well as students identify the species and genus levels of tropical and sub-tropical species commonly found in Oman's coastal waters. The guide contains descriptions with photographs of 137 phytoplankton species - 64 diatoms, 71 dinoflagellates, one Silicoflagellate and one cyanobacterium. It also provides the reader with details of sampling methods and preservation techniques along with a glossary of terms used in the phytoplankton studies.

Finally, we should like to express our sincere thanks and appreciation to Dr. Khalid Abdullah Al-Hashmi for his hard work and dedication in bringing this important scientific work to fruition.

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