

Preface

When I hear of the destruction of a species, I feel just as if all the works of some great writer have perished.

—Theodore Roosevelt

We know that when we protect our oceans we're protecting our future.

—Bill Clinton

The oceans cover more than 70 % of our planet's surface area, and the massive marine and coastal environments are blessed with diverse marine life. To meet the demands of increasing population we are becoming more reliant on the marine bioresources. For example only the marine fish and invertebrates provide more than 2.6 billion people with about 20 % per capita protein consumption. To make the marine environment sustainable, the proper assessment and conservation of marine biodiversity is of prime importance. In the last decade, the molecular technique of DNA barcoding has become an effective tool in the assessment and conservation of biodiversity. The marine ecosystem is threatened by several activities such as overfishing, introduction of invasive alien species, depleting mangrove and sea grass cover, illegal trading of endangered marine species and their body parts, etc. DNA barcoding plays a very significant role in all these aspects along its primary role in the proper and prompt identification of species. In this book we discuss DNA barcoding from the marine perspective.

The present book offers insights into different aspects of DNA barcoding in relation to the marine habitat. The chapters cover diverse marine life including marine plants such as phytoplanktons, marine algae, seagrasses, and also marine animals as marine invertebrates including the primitive nemartines, horse shoe crabs, fishes, etc. Since marine fishery has a very significant role, a special emphasis has been given to DNA barcoding of marine fishes including Antarctic fishes. The chapters also include aspects such as bioinformatics, seafood safety assessment and authentication. Many of the chapters are based on the research projects and case history studies conducted at specific sites and also around the globe. The chapters

not only describe the promise of DNA barcoding but also some of its pitfalls. The contribution made by authors from nine different countries has enriched this book.

The editors and the contributing authors think that this book will provide important and interesting insights to DNA barcoding in the diverse and massive marine ecosystem. Till date, only a few books are available on DNA barcoding and we hope this book will fill the lacuna. This is the first book related to DNA barcoding exclusively on marine organisms.

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Assessment and Conservation of Biodiversity

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