

# Preface

India is rich in terms of biological diversity due to its diversified habitat and climatic conditions and is one among the 17 mega-biodiversity countries. India harbours as much as 7 % of the total animal species of the world, though the Indian landmass is about 2 %. India has a coastline of 8,118 km, with an exclusive economic zone (EEZ) of 2.02 million km<sup>2</sup> and a continental shelf area of 468,000 km<sup>2</sup>, spread across 10 maritime States and 7 Union Territories, including Andaman and Nicobar Islands and Lakshadweep Islands. The coastal and marine ecosystems play a vital role in India's economy by virtue of their natural resources, potential habitats, and wide biodiversity. It also supports almost 30 % of its human population being dependent on the rich exploitable coastal and marine resources. The coastline encompasses almost all types of intertidal habitat, from hyper saline and brackish lagoons, estuaries, and coastal marsh and mudflats, to sandy and rocky shores. The subtidal habitats are equally diverse. Each habitat reflects the prevailing environmental factors and is further characterized by its biota. Therefore, the diversity of marine fauna itself demonstrates gradients of change throughout the Indian coasts.

Of the 32 animal phyla, 15 are represented in the marine ecosystem of India covering 15,000+ species. The diversity of migratory organisms includes pelagic crustaceans, coelenterates, cephalopods, fishes, reptiles, birds, and mammals. The benthic macrofauna comprises resident species of polychaetes, bivalves, gastropods, sipunculates, and mud-burrowing fishes. Free swimmers or nekton are important components of the marine biodiversity. Of the 22,000 described species of fin fishes, about 4,000 occur in the Indian Ocean, of which 1,800 species are reported in Indian seas. To conserve the marine biodiversity in India, several marine habitats are brought under Marine Protected Areas (MPAs). There are 18 MPAs present in Peninsular India and more than 100 MPAs in its islands. The major MPAs are, the Gulf of Mannar Marine National Park, Gulf of Kachchh Marine National Park, Gulf of Kachchh Marine Sanctuary, Bhitrakanika National Park, Mahatma Gandhi Marine National Park, Rani Jhansi Marine National Park, and the Gahirmatha Wildlife Sanctuary.

This book is an outcome of detailed studies by reputed and dedicated scientists working in the field of marine faunal communities of India. It contains a collection of 30 chapters, and each effort has been made by an expert or professional in their

field. The book is divided into two parts, 21 chapters under the theme, *Tropical Marine Faunal Communities* covering various marine faunal groups namely, Foraminifera, Sponges, Polychaetes, Opisthobranch, Copepods, Crustacean, Echinoderms, Ascidians, Fishes, Turtles, and Marine mammals. The second part *Ecology and Conservation* consists of 9 chapters dealing with the present status of coral reefs in India, coral bleaching, conservation of Dugong, Marine biodiversity conservation and management, and MPAs. The book offers novel information on the marine faunal communities of India. We sincerely hope that this book will provide the much needed information on the marine fauna of India for future conservation needs.

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<http://www.springer.com/978-3-642-38199-7>

Ecology and Conservation of Tropical Marine Faunal  
Communities

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(Eds.)

2013, XIX, 481 p. 142 illus., 103 illus. in color.,

Hardcover

ISBN: 978-3-642-38199-7