



# Common Seaweeds of India

**Dinabandhu Sahoo**



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**I.K. International Publishing House Pvt. Ltd.**

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NEW DELHI • BANGALORE

*Published by*

I.K. International Publishing House Pvt. Ltd.  
S-25, Green Park Extension  
Uphaar Cinema Market  
New Delhi – 110 016 (India)  
E-mail: info@ikinternational.com

ISBN 978-81-907770-6-3

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Published by Krishan Makhijani for I.K. International Publishing House Pvt. Ltd., S-25, Green Park Extension, Uphaar Cinema Market, New Delhi – 110 016 and Printed by Rekha Printers Pvt. Ltd., Okhla Industrial Area, Phase II, New Delhi – 110 020.

# Preface

Under the vast expanse of tropical waters of Bay of Bengal and Arabian Sea there lies huge resources of marine life which consist of beautiful corals, seagrasses, fish, marine mammals, marine algae etc. While common people are aware of corals, whales many of them are less informed about the presence of a group of colorful plants called seaweeds. These macromarine algae have been playing a very important role not only in our day to day lives but also in the marine ecosystem. To make the common people, students, policymakers, entrepreneurs and researchers aware about the seaweeds and their uses, I wrote my first book “Farming the Ocean: Seaweeds Cultivation and Utilization” in the year 2000 which become very popular among people from various walks of life. This book also encouraged many students to study Phycology (study of algae) and enthused some young entrepreneurs to set up seaweed businesses in India. My second book “Seaweeds of Indian coast” Sahoo *et al.* 2001 was one of the most difficult jobs where a checklist of 770 species was compiled from different parts of the Indian coast.

Then I was requested by many of my masters and research students to prepare field guide that would be helpful in identification of seaweeds. While searching the literature on marine algae field guides I could only find the monumental work by Srinivasan (1969, 1973) in *Phycologia Indica* containing 50 colorful hand drawings. While making the outline of this book I thought it would be appropriate to concentrate only on common seaweeds of India rather than all the 770 species. Hence the title of the book “Common seaweeds of India”.

This book contains original pictures taken by our group during the field trips undertaken to various parts of the Indian coast including Andaman & Nicobar Islands as well as Lakshadweep group of Islands.

I hope this book will be useful for students, researchers, teachers, nature lovers, scuba divers and people from various walks of life.

Delhi, India  
December 1, 2009

Dinabandhu Sahoo



# Acknowledgements

I am extremely grateful to my supervisor Late Professor M.R. Vijayaraghavan who guided my research career. I also thank my close Japanese friend Professor Shunji Hosaka, Chuo University, Japan for his constant encouragement. I thank Dr. I. A. Levine from University of Southern Maine, USA who is presently a visiting New Century Fulbright Scholar in my laboratory at Delhi University for his help.

This book would not have been possible without unconditional and tireless efforts of my research students Dr. Pooja Baweja, Mr. M. Arunjit Singh, Ms. Elangbam Geetanjali, Mr. Savindra Kumar and Ms. Salam Sonia Devi. At the same time I received enormous help from my other research students Gaurav Kumar, Nitin Pipralia, Arvind K. Bhardwaj, Priyanka Verma and Vivek Chopra. The contribution of my former students Dr. Nivedita, Dr. Debasish, Dr. Sunita Singh, Dr. Saswati Nayak, Ms. Mrinmala Devi, Vipin Dhama, Neetu Kushwah, Babita Kumari cannot be ignored.

I thank my wife Dr. Meenakshi Munshi, son Chaitanya Sahoo and daughter Aanchal Sahoo for their constant support.

I thank the publisher IK International for agreeing to publish this book in a timely manner.

Dinabandhu Sahoo



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# Introduction

Marine algae, popularly known as seaweeds, are one of the most beautiful groups of photosynthetic organisms which grow under the ocean's blue water. For a common man these plants are of little use and very few people know that these seaweeds are used as food, feed, fodder, fertilizer, and medicines since ancient times. The extracts from some of these seaweeds are used in ice cream, tooth paste, tomato ketchup, dentistry, microbiology, biotechnology, textile printing, chocolate, meat pressing, and several other industries. Today seaweeds and their products are a multibillion dollar industry and the demand for these products will increase in the future. Various pharmaceutical companies are now prospecting for new biomolecules from seaweeds.

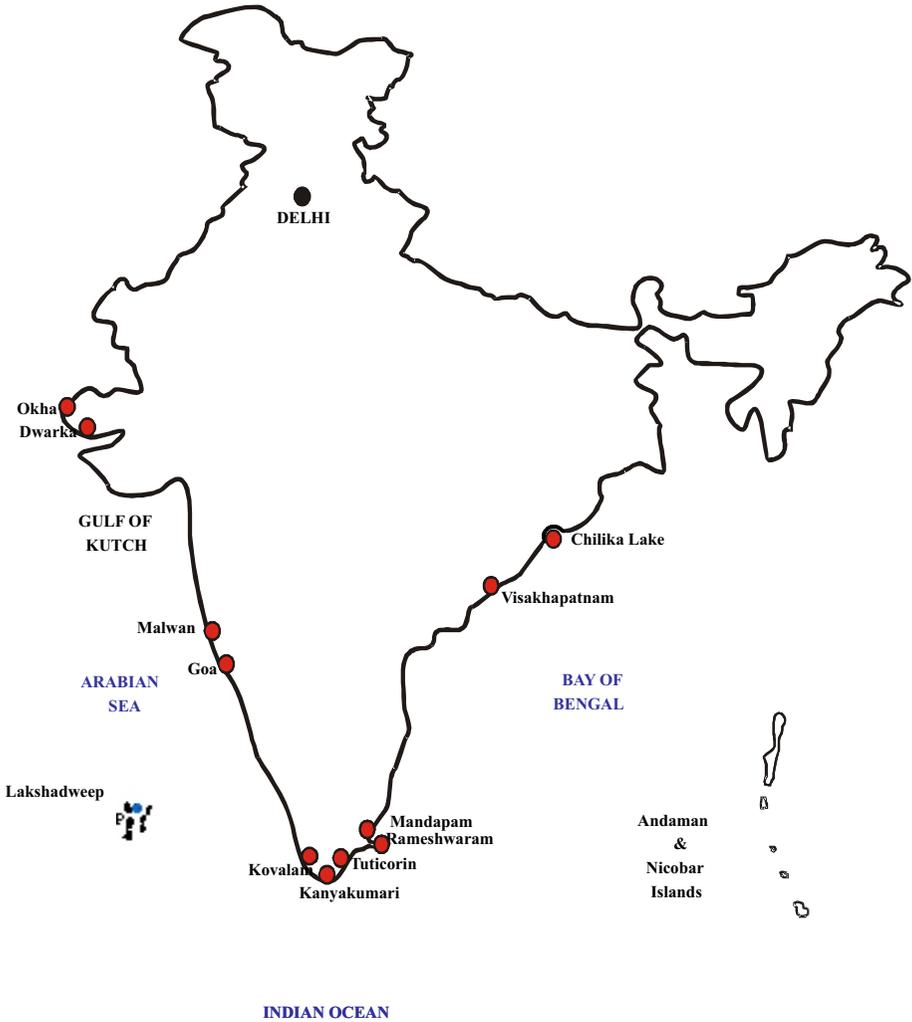
There are three main groups of seaweeds which can be identified on the basis of their color as Green (Chlorophyta), Brown (Phaeophyta), and Red (Rhodophyta) algae. The difficulty is the correct identification of these seaweeds. An interesting aspect of these enigmatic plants, while immersed in the seas or in fresh conditions these plants exhibit beautiful bright colors but when these plants die or dried up they lose their beauty, shape, size and color. Algae can be preserved on herbarium sheets where they retain a portion of their color and luster but when preserved in liquid preservatives, they lose their color. Therefore, the best way to identify these plants is in the field, *in situ*, where they retain their original characteristics while utilizing a field guide.

Seaweed field guides or manuals are available from other countries, e.g. Common Seaweeds of China (Tseng, 1984), Seaweeds of Hawaii (Magruder and Hunt, 1979), Marine Plants of the Caribbean (Littler *et al.* 1989), Seaweeds of Japan (Tokuda *et al.* 1994), The Common Marine Plants of Southern Vietnam (Isao *et al.* 2005), and Phycologica Indica (Srinivasan 1969, 1973) etc.

## **2 COMMON SEaweEDS OF INDIA**

India has a long coastline of more than 7000 km and nearly 770 species of seaweeds have been reported from the Indian marine environments (Sahoo *et al.* 2001). During the last 25 years, I have extensively travelled to many remote regions of the Indian coasts including Lakshadweep as well as Andaman & Nicobar island groups. This book examines a diversity of Indian coastal environments from the Gujarat and Lakshadweep Islands off the West Coast and the Andaman & Nicobar Island groups off India's east coast. This volume includes 113 algal species including 31 species of green, 30 species of brown, and 52 species of red seaweeds. Additionally, seaweed cultivation efforts along the Indian coastline are covered. I hope this book will be very useful to people from all walks of life.

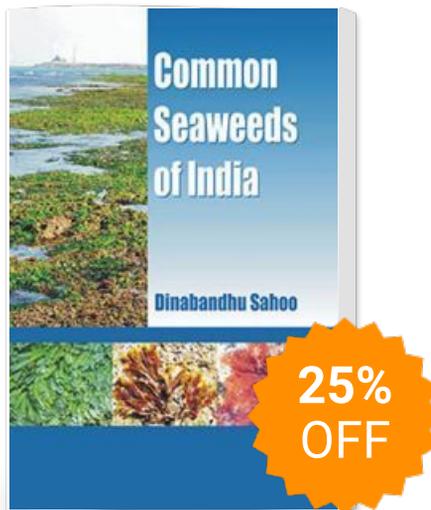
## SEA COASTS OF INDIA



Map not to scale

**Map of India Showing Important Sea Coasts**

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Publisher : **IK International**

ISBN : **9788190777063**

Author : **Dinabandhu Sahoo**

Type the URL : <https://www.kopykitab.com/product/5646>



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