

Preface

There have been very significant advances in many areas of phycology since the last edition nearly 20 years ago. In particular, the advances in our understanding of the endosymbiotic origin of algal plastids, and molecular aspects and genetics, stand out. The wealth of new literature alone in all the areas has warranted adding two new co-authors, Catriona Hurd, who focuses on water motion and seaweed physiological ecology, especially in the southern hemisphere, and Kai Bischof, who is well known for his research on photobiology and stress physiology. Hence, the previous edition's chapter on "Temperature and salinity" has been expanded to include other environmental stressors such as UV radiation, ocean acidification, oxidative stress responses and the interactions between stressors.

Seaweed Ecology and Physiology is a textbook for senior undergraduates and a reference book for researchers. The rapid growth of knowledge in this field is both exciting and daunting. Our goal was to select papers that help put together a coherent story on a wide variety of ecological and physiological aspects. This book provides an entry to the literature, not a systematic literature review. With two of our co-authors having experience in the tropics and the temperate southern hemisphere, we have tried to avoid the typical temperate northern hemisphere bias.

The previous large introductory chapter on morphology, life histories, and morphogenesis has been divided into two chapters because of the many advances in these areas. We have included an encapsulation of algal structure and life histories, but we still expect that students using this book will have learned

these subjects in more detail or will be learning about them concurrently in a general phycology course. The chapter on mariculture has been expanded because of the continuing increased interest in aquaculture, multi-trophic aquaculture and biomitigation, and algal biotechnology.

Finally, we have invited six renowned phycologists to give their personal perspectives on currently active areas of research. These essays are included as six boxes in the most appropriate chapters. We hope that this book has been greatly enhanced by the personal stories of how these essayists became interested in their research topics and how their career path sometimes took unexpected/unplanned turns.

Many colleagues contributed to this book in a variety of ways. Various chapters of the book have been critically read by Ricardo Scrosati, Mike Hawkes, Richard Taylor, Dave Schiel, Christine Maggs, Svenja Heesch, Christopher Hepburn, Giselle Walker, Patrick Martone, Chuck Amsler, Ivan Gómez, Dieter Hanelt, Christian Wiencke, Alwyn Rees, Morten Pedersen, Matt Bracken, John Berges, Britta Eklund, Murray Brown, Charles Yarish, Wendy Nelson and Thierry Chopin. We thank Mike Guiry for checking the taxonomy using AlgaeBase.

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