

Interactions in the Marine Benthos

Global Patterns and Processes

This book synthesises the marine component of the Aquatic Biodiversity and Ecosystems Conference (ABEC) 2015 which was held to assess scientific progress over the past 25 years. It provides a comprehensive and global review of work since the 1992 Systematics Association publication of *Plant–Animal Interactions in the Marine Benthos*. Taking a regional and, where appropriate, habitat perspective, it considers patterns and processes shaping marine biodiversity and ecosystem functioning around the world. The volume analyses abiotic and biotic interactions and the factors determining distribution patterns, community structure and ecosystem functioning of marine systems. It explores how phylogeography and biogeographic processes influence assemblage composition and, hence, community structure and how this is shaped by environmental factors and biological interactions. This book is ideal for researchers, advanced undergraduate and postgraduate students and academics studying marine ecosystems. It would be of interest for conservation practitioners managing marine habitats and ecosystems.

STEPHEN J. HAWKINS is Emeritus Professor of Natural Sciences at the University of Southampton and Lankester Research Fellow at the Marine Biological Association of the United Kingdom. He has worked on coastal biodiversity and ecosystems for over 40 years.

KATRIN BOHN is a marine ecology specialist at Natural England, specialising in condition assessments of marine protected areas, rocky shore monitoring and the ecology of invasive non-native species. Previously, she held research posts at the universities of Portsmouth and Southampton.

LOUISE B. FIRTH is a Lecturer in marine ecology at the University of Plymouth, whose research interests include community dynamics and global climate change in both natural and artificial environments.

GRAY A. WILLIAMS is the Director of The Swire Institute of Marine Science at The University of Hong Kong, and his research is focussed on the ecology of shores in South-East Asia.

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SERIES EDITOR

DAVID J. GOWER

Department of Life Sciences, The Natural History Museum, London, UK

The Systematics Association promotes all aspects of systematic biology by organising conferences and workshops on key themes in systematics, running annual lecture series, publishing books and a newsletter, and awarding grants in support of systematics research. Membership of the association is open globally to professionals and amateurs with an interest in any branch of biology, including palaeobiology. Members are entitled to attend conferences at discounted rates, to apply for grants and to receive the newsletter and mailed information; they also receive a generous discount on the purchase of all volumes produced by the association.

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Interactions in the Marine Benthos

Global Patterns and Processes

EDITED BY

STEPHEN J. HAWKINS

The Marine Biological Association and the University of Southampton

KATRIN BOHN

Natural England

LOUISE B. FIRTH

University of Plymouth

GRAY A. WILLIAMS

The University of Hong Kong



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Contents

<i>Preface</i>	page ix
<i>List of Contributors</i>	x
Chapter 1 Introduction	1
<i>Louise B. Firth, Katrin Bohn, Gray A. Williams and Stephen J. Hawkins</i>	
Chapter 2 The Intertidal Zone of the North-East Atlantic Region: Pattern and Process	7
<i>Stephen J. Hawkins, Kathryn E. Pack, Louise B. Firth, Nova Mieszkowska, Ally J. Evans, Gustavo M. Martins, Per Åberg, Leoni C. Adams, Francisco Arenas, Diana M. Boaventura, Katrin Bohn, C. Debora G. Borges, João J. Castro, Ross A. Coleman, Tasman P. Crowe, Teresa Cruz, Mark S. Davies, Graham Epstein, João Faria, João G. Ferreira, Natalie J. Frost, John N. Griffin, ME Hanley, Roger J. H. Herbert, Kieran Hyder, Mark P. Johnson, Fernando P. Lima, Patricia Masterson-Algar, Pippa J. Moore, Paula S. Moschella, Gillian M. Notman, Federica G. Pannacciulli, Pedro A. Ribeiro, Antonio M. Santos, Ana C. F. Silva, Martin W. Skov, Heather Sugden, Maria Vale, Kringpaka Wangkulangkul, Edward J. G. Wort, Richard C. Thompson, Richard G. Hartnoll, Michael T. Burrows and Stuart R. Jenkins</i>	
Chapter 3 The Ecology of Rocky Subtidal Habitats of the North-East Atlantic	47
<i>Keith Hiscock, Hartvig Christie and Trine Bekkby</i>	
Chapter 4 Rocky Intertidal Shores of the North-West Atlantic Ocean	61
<i>Steven R. Dudgeon and Peter S. Petraitis</i>	
Chapter 5 Subtidal Rocky Shores of the North-West Atlantic Ocean: The Complex Ecology of a Simple Ecosystem	90
<i>Ladd E. Johnson, Kathleen A. MacGregor, Carla A. Narvaez and Thew S. Suskiewicz</i>	
Chapter 6 Shallow Water Muddy Sands of the North-West Atlantic Ocean: Latitudinal Patterns in Interactions and Processes	128
<i>Sarah A. Woodin, Susan S. Bell, Jon Grant, Paul V. R. Snelgrove and David S. Wethey</i>	

Chapter 7 | Biodiversity and Interactions on the Intertidal Rocky Shores of Argentina (South-West Atlantic) 164

Maria Gabriela Palomo, Maria Bagur, Sofia Calla, Maria Cecilia Dalton, Sabrina Andrea Soria and Stephen J. Hawkins

Chapter 8 | Species Interactions and Regime Shifts in Intertidal and Subtidal Rocky Reefs of the Mediterranean Sea 190

Lisandro Benedetti-Cecchi, Laura Airoidi, Fabio Bulleri, Simonetta Fraschetti and Antonio Terlizzi

Chapter 9 | The Restructuring of Levant Reefs by Aliens, Ocean Warming and Overfishing: Implications for Species Interactions and Ecosystem Functions 214

Gil Rilov, Ohad Peleg and Tamar Guy-Haim

Chapter 10 | North-East Pacific: Interactions on Intertidal Hard Substrata and Alteration by Human Impacts 237

Phillip B. Fenberg and Bruce A. Menge

Chapter 11 | The North-East Pacific: Interactions on Subtidal Hard Substrata 260

Eliza C. Heery and Kenneth P. Sebens

Chapter 12 | Consumer–Resource Interactions on an Environmental Mosaic: The Role of Top-Down and Bottom-Up Forcing of Ecological Interactions along the Rocky Shores of the Temperate South-Eastern Pacific 307

Moisés A. Aguilera, Bernardo R. Broitman, Julio A. Vásquez and Patricio A. Camus

Chapter 13 | Where Three Oceans Meet: State of the Art and Developments in Southern African Coastal Marine Biology 333

Christopher D. McQuaid and Laura K. Blamey

Chapter 14 | Rocky Shores of Mainland China, Taiwan and Hong Kong: Past, Present and Future 360

Gray A. Williams, Benny K. K. Chan and Yun-Wei Dong

Chapter 15	Biogeographic Comparisons of Pattern and Process on Intertidal Rocky Reefs of New Zealand and South-Eastern Australia	391
<i>David R. Schiel, A. J. Underwood and M. Gee Chapman</i>		
Chapter 16	The Past and Future Ecologies of Australasian Kelp Forests	414
<i>Sean D. Connell, Adriana Vergés, Ivan Nagelkerken, Bayden D. Russell, Nick Shears, Thomas Wernberg and Melinda A. Coleman</i>		
Chapter 17	Kropotkin's Garden: Facilitation in Mangrove Ecosystems	431
<i>Mark Huxham, Uta Berger, Martin W. Skov and Wayne P. Sousa</i>		
Chapter 18	Biofilms in Intertidal Habitats	448
<i>Hanna Schuster, Mark S. Davies, Stephen J. Hawkins, Paula S. Moschella, Richard J. Murphy, Richard C. Thompson and A. J. Underwood</i>		
Chapter 19	Interactions in the Deep Sea	474
<i>A. Louise Allcock and Mark P. Johnson</i>		
Chapter 20	Overview and Synthesis	488
<i>Stephen J. Hawkins, Katrin Bohn, Anaëlle J. Lemasson, Gray A. Williams, David R. Schiel, Stuart R. Jenkins and Louise B. Firth</i>		
<i>Index</i>		506
<i>Colour plates can be found between pages 250 and 251</i>		

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[More Information](#)

Preface

This volume stems from a workshop at the Aquatic Biodiversity and Ecosystems Conference (ABEC) held in Liverpool in August/September 2015. The meeting was a 25-year anniversary follow-up to the seminal Systematics Association 'Plant–Animal Interactions in the Marine Benthos' conference hosted by the University of Liverpool in 1990 (largely organised by Stephen J. Hawkins and Gray A. Williams; published in the Systematics Association series edited by David M. John, Stephen J. Hawkins and James H. Price). The 1990 conference was a one-off meeting that focussed on biotic interactions between benthic marine organisms, whereas the ABEC meeting broadened this to include freshwater systems.

The aims of ABEC 2015 were to revisit some of the themes of the Plant–Animal Interactions meeting, broaden to other environmental and trophic interactions and review scientific advances in the field after 25 years. The 2015 meeting was therefore designed for aquatic scientists (both marine and freshwater) with a focus on evolution, interactions and long-term change – particularly how these shape patterns of biodiversity and the relationships between biodiversity and ecosystem functioning. The scope was deliberately broad, encompassing natural and highly modified habitats in both marine and freshwater aquatic systems. Ecology and evolutionary biology were the key focus, but the meeting also catered for an interdisciplinary approach to studying and managing aquatic ecosystems, especially with the aim of unravelling local- and regional-scale impacts from global climate-driven change. A workshop was convened at the end of the conference to provide the main platform for this volume, taking a regional and habitat-based view of interactions – both abiotic and biotic – and their role in shaping patterns in intertidal and shallow water systems around the world (see Chapter 1 for details), as well as selected habitats and special systems.

The ABEC conference was once again hosted by the University of Liverpool between 30 August

and 4 September 2015 and was jointly supported by the universities of Plymouth and Southampton. The organising committee reflected the breadth of the meeting, being led by Louise B. Firth (University of Plymouth) and including Stephen J. Hawkins, Hanna Schuster, Katrin Bohn (University of Southampton), Antony M. Knights (University of Plymouth), Leonie Robinson (University of Liverpool), Nessa O'Connor (Queen's University Belfast), Ian Donohue (Trinity College Dublin), Martin Genner (University of Bristol), Gray A. Williams (The University of Hong Kong), Iwan Jones (Queen Mary University of London) and Chris Frid (Griffith University). Over 300 delegates attended the conference, coming from over 40 countries and representing all continents. The meeting also marked 40 years of Steve Hawkins commencing work on limpet–algal interactions at the University of Liverpool as an undergraduate in 1975 and so provided an opportune time to reconvene in Liverpool.

The conference was supported by the Systematics Association (who also supported the production of this volume), the British Ecological Society, the British Phycological Society, Elsevier, the Fisheries Society of the British Isles, the Freshwater Biological Association, Garland Science, the Irish Environmental Protection Agency, the Marine Biological Association of the United Kingdom, the MARS Network, the National Oceanographic Centre, Oxford University Press, PDMS Isle of Man, the Royal Society Publishing, the Scottish Association of Marine Science, Taylor & Francis and the universities of Liverpool, Plymouth and Southampton. Assembly of this volume was much helped by Anaëlle Lemasson and in the latter stages of indexing and proofs by Leoni Adams. We also thank CUP for superb copy editing (Abigail Neale) and support throughout the editorial process – and much patience, especially Annie Toynbee.

**Louise B. Firth, Katrin Bohn,
Gray A. Williams and Stephen J. Hawkins**

Contributors

Per Åberg

Department of Marine Sciences, University of Gothenburg

Leoni C. Adams

Ocean and Earth Science, University of Southampton and the Marine Biological Association of the United Kingdom

Moisés A. Aguilera

Department of Marine Biology, Catholic University of the North and Marine Ecology, Centre for Advanced Studies in Arid Zones

Laura Airoidi

Department of Experimental Evolutionary Biology and Inter-Departmental Research Centre for Environmental Science, University of Bologna

A. Louise Allcock

Ryan Institute, National University of Ireland Galway

Francisco Arenas

Interdisciplinary Centre of Marine and Environmental Research (CIIMAR)

Maria Bagur

Research and Education Group on Environmental Issues, Las Brusquitas Biological Station and the Argentine Museum of Natural Sciences Bernardino Rivadavia, National Scientific and Technical Research Council (CONICET)

Trine Bekkby

Norwegian Institute for Water Research

Susan S. Bell

Department of Integrative Biology, University of South Florida

Lisandro Benedetti-Cecchi

Department of Biology, University of Pisa

Uta Berger

Institute of Forest Growth and Computer Sciences, Dresden University of Technology

Laura K. Blamey

Department of Biological Sciences, University of Cape Town, and Department of Environment, University of Seychelles

Diana M. Boaventura

João de Deus School of Education and Marine and Environmental Sciences Centre, University of Lisbon

Katrin Bohn

Natural England and Ocean and Earth Science, University of Southampton

C. Debora G. Borges

Interdisciplinary Centre of Marine and Environmental Research of the University of Porto (CIIMAR-UP)

Bernardo R. Broitman

Department of Marine Ecology, Centre for Advanced Studies in Arid Zones

Fabio Bulleri

Department of Biology, University of Pisa

Michael T. Burrows

Department of Ecology, Scottish Association for Marine Science

Sofia Calla

The Argentine Museum of Natural Sciences Bernardino Rivadavia, CONICET

Patricio A. Camus

Department of Ecology, Catholic University of the Holy Conception

João J. Castro

Department of Biology and Laboratory of Marine Sciences, School of Science and Technology, University of Évora and Marine and Environmental Sciences Centre

Benny K. K. Chan

Biodiversity Research Center, Academia Sinica, Taiwan

M. Gee Chapman

Life and Environmental Sciences, University of Sydney

Hartvig Christie

Norwegian Institute for Water Research

Melinda A. Coleman

Department of Primary Industries, NSW Fisheries and Marine Sciences, Southern Cross University

Ross A. Coleman

School of Biological Sciences, University of Southampton and School of Live and Environmental Sciences, University of Sydney

Sean D. Connell

School of Biological Sciences and Environment Institute, University of Adelaide

Tasman P. Crowe

Earth Institute and School of Biology and Environmental Science, University College Dublin

Teresa Cruz

Department of Biology and Laboratory of Marine Sciences, School of Science and Technology, University of Évora and Marine and Environmental Sciences Centre

Maria Cecilia Dalton

The Argentine Museum of Natural Sciences Bernardino Rivadavia, CONICET

Mark S. Davies

Applied Sciences, University of Sunderland

Yun-Wei Dong

State Key Laboratory of Marine Environmental Science, Xiamen University

Steven R. Dudgeon

Department of Biology, California State University, Northridge

Graham Epstein

Ocean and Earth Science, University of Southampton and the Marine Biological Association of the United Kingdom

Ally J. Evans

Institute of Biological, Environmental and Rural Sciences, Aberystwyth University, Ocean and Earth Science, University of Southampton, and the Marine Biological Association of the United Kingdom

João Faria

Centre for Ecology, Evolution and Environmental Changes and Department of Biology, University of the Azores

Phillip B. Fenberg

Ocean and Earth Science, University of Southampton

João G. Ferreira

Department of Applied Environmental Science, Stockholm University, and School of Ocean Sciences, Bangor University

Louise B. Firth

School of Biological and Marine Sciences, University of Plymouth

Simonetta Fraschetti

Department of Biological and Environmental Sciences and Technologies, University of Salento

Natalie J. Frost

ABP Marine Environmental Research, Southampton

Jon Grant

Department of Oceanography, Dalhousie University

John N. Griffin

Department of Biosciences, Swansea University

Tamar Guy-Haim

GEOMAR Helmholtz Centre of Ocean Research and Marine Biology, National Institute of Oceanography, Israel Oceanographic and Limnological Research

ME Hanley

School of Biological and Marine Sciences, University of Plymouth

Richard G. Hartnoll

Port Erin Marine Laboratory and School of Environmental Sciences, University of Liverpool

Stephen J. Hawkins

Ocean and Earth Science and School of Biological Sciences, University of Southampton, Port Erin Marine Laboratory, University of Liverpool, School of Ocean Sciences, Bangor University, and the Marine Biological Association of the United Kingdom

Eliza C. Heery

Department of Biological Sciences, National University of Singapore, and Department of Biology and Friday Harbor Laboratories, University of Washington

Roger J. H. Herbert

Department of Life and Environmental Sciences, Bournemouth University

Keith Hiscock

The Marine Biological Association of the United Kingdom

Mark Huxham

School of Applied Sciences, Edinburgh Napier University

Kieran Hyder

Centre for Environment, Fisheries and Aquaculture Sciences and School of Environmental Sciences, University of East Anglia

Stuart R. Jenkins

Port Erin Marine Laboratory, University of Liverpool, and School of Ocean Sciences, Bangor University

Ladd E. Johnson

Department of Biology and Québec-Océan, Université Laval

Mark P. Johnson

Ryan Institute, National University of Ireland Galway

Anaëlle J. Lemasson

School of Biological and Marine Sciences, University of Plymouth, and the Marine Biological Association of the United Kingdom

Fernando P. Lima

Research Centre in Biodiversity and Genetic Resources, University of Porto

Kathleen A. MacGregor

Department of Biology and Québec-Océan, Université Laval

Gustavo M. Martins

Centre for Ecology, Evolution and Environmental Changes and Department of Biology, University of the Azores

Patricia Masterson-Algar

School of Healthcare Sciences, Bangor University

Christopher D. McQuaid

Department of Zoology and Entomology, Rhodes University

Bruce A. Menge

Department of Integrative Biology, Oregon State University

Nova Mieszkowska

School of Environmental Sciences, University of Liverpool, and the Marine Biological Association of the United Kingdom

Pippa J. Moore

Institute of Biological, Environmental and Rural Sciences, Aberystwyth University

Paula S. Moschella

The Mediterranean Science Commission (CIESM), Monaco

Richard J. Murphy

Australian Centre for Field Robotics (J18), The University of Sydney

Ivan Nagelkerken

School of Biological Sciences and Environment Institute, University of Adelaide

Carla A. Narvaez

Department of Biology, Villanova University

Gillian M. Notman

Department of Science, Natural Resources and Outdoor Studies, University of Cumbria

Kathryn E. Pack

Ocean and Earth Science, University of Southampton, and the Marine Biological Association of the United Kingdom

Maria Gabriela Palomo

Research and Education Group on Environmental Issues, Las Brusquitas Biological Station and the Argentine Museum of Natural Sciences Bernardino Rivadavia, CONICET

Federica G. Pannacciulli

ENEA, Marine Environment Research Centre

Ohad Peleg

Marine Biology, National Institute of Oceanography, Israel Oceanographic and Limnological Research and Marine Biology, Charney School of Marine Science, University of Haifa

Peter S. Petraitis

Department of Biology, University of Pennsylvania

Pedro A. Ribeiro

Marine and Environmental Sciences Centre, University of the Azores

Gil Rilov

Marine Biology, National Institute of Oceanography, Israel Oceanographic and Limnological Research and Marine Biology, Charney School of Marine Science, University of Haifa

Bayden D. Russell

The Swire Institute of Marine Science and the School of Biological Sciences, The University of Hong Kong

Antonio M. Santos

Research Centre in Biodiversity and Genetic Resources, University of Porto

David R. Schiel

School of Biological Sciences, University of Canterbury, New Zealand

Hanna Schuster

Cambridge Environmental Assessments, RSK ADAS and Ocean and Earth Science, University of Southampton

Kenneth P. Sebens

Department of Biology, Friday Harbor Laboratories and School of Aquatic and Fisheries Science, University of Washington

Nick Shears

School of Biological Sciences, University of Auckland

Ana C. F. Silva

Civil Engineering Research and Innovation for Sustainability, University of Lisbon, School of Biological and Marine Sciences, University of Plymouth, and the Marine Biological Association of the United Kingdom

Martin W. Skov

School of Ocean Sciences, Bangor University

Paul V. R. Snelgrove

Ocean Sciences and Biology, Memorial University of Newfoundland

Sabrina Andrea Soria

Research and Education Group on Environmental Issues, Las Brusquitas Biological Station and the Argentine Museum of Natural Sciences Bernardino Rivadavia, CONICET

Wayne P. Sousa

Department of Integrative Biology, University of California, Berkeley

Heather Sugden

School of Natural and Environmental Sciences, The Dove Marine Laboratory, Newcastle University

Thew S. Suskiewicz

Department of Biology and Québec-Océan, Université Laval

Antonio Terlizzi

Department of Biological and Environmental Sciences and Technologies, University of Salento, and Department of Life Sciences, University of Trieste and Stazione Zoologica Anton Dohrn

Richard C. Thompson

Port Erin Marine Laboratory, University of Liverpool, and School of Biological and Marine Sciences, University of Plymouth

A. J. Underwood

School of Life and Environmental Sciences, University of Sydney

Maria Vale

Centre for Ecology, Evolution and Environmental Changes and Department of Biology, University of the Azores and Ocean and Earth Science, University of Southampton

Julio A. Vásquez

Department of Marine Biology, Catholic University of the North, Marine Ecology, Center for Advanced Studies in Arid Zones and Faculty of Philosophy and Sciences, Universidad Peruana Cayetano Heredia

Adriana Vergés

Centre for Marine Science & Innovation School of Biological, Earth and Environmental Sciences, UNSW Sydney

Kringpaka Wangkulangkul

School of Ocean Sciences, Bangor University

Thomas Wernberg

UWA Oceans Institute and School of Biological Sciences, University of Western Australia

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[More Information](#)

David S. Wethey

Department of Biological Sciences, University of
South Carolina

Gray A. Williams

The Swire Institute of Marine Science and School
of Biological Sciences, The University of
Hong Kong

Sarah A. Woodin

Department of Biological Sciences, University of
South Carolina

Edward J. G. Wort

Ocean and Earth Science, University of
Southampton