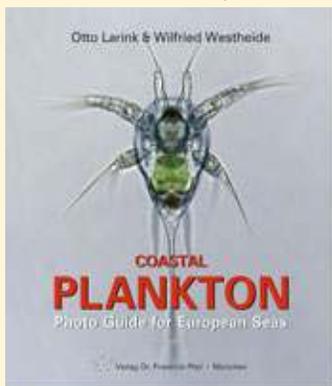


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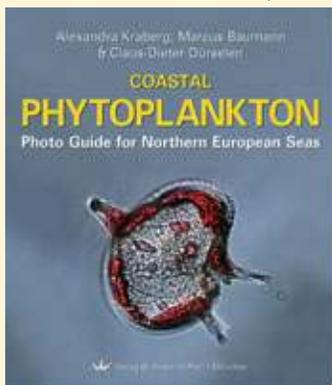
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Notes and Laboratory Protocols  
on Marine Invertebrates



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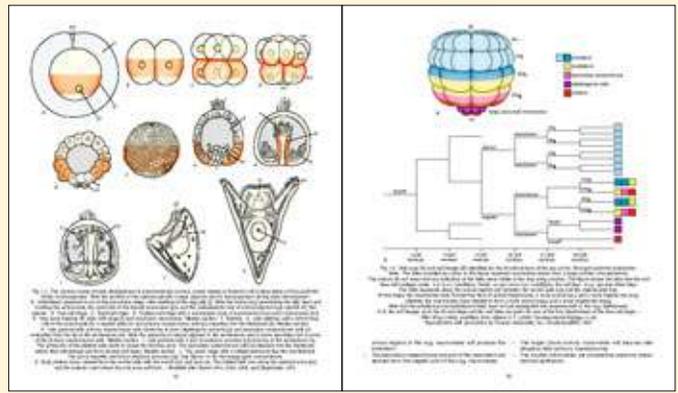
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Many of the essential problems in developmental and general biology have found their solution using marine invertebrates, and marine stations, research institutions located on the seashore, have played an eminent role by providing both technical and intellectual support. Fusion of egg and sperm cells, fusion of the two pronuclei as the essential event at fertilization, and sudden changes in egg membrane charge and ion mobility following sperm-egg fusion were observed for the first time in mussel and echinoderm eggs. Regulation, i. e. the compensation of experimental loss of cells by an embryo fragment, was studied for the first time in a sea urchin egg, and the existence of the cyclins, the proteins controlling the cell cycle and division, was detected during a student course working with clams at a marine station.

The six authors of this book have often taught student courses and summer schools on developmental biology, many of these at the Helgoland Marine Station. They have compiled widely distributed methodological information and contributed their own experience including information not yet published which they wish to pass to interested people. Nearly half of the text is a narrative describing the problems, thought and solutions of developmental biology relating to the "model" species treated in this book. The authors believe that the observations and experiments with living marine invertebrate eggs and embryos described in this book will provide inspiration to students for the study of basic processes in embryonic development.



## Contents

List of authors (p. 6)

Foreword (Gary Freeman) (p. 7)

Introduction (pp. 9-13)

Techniques (pp. 15-23)

Chapter 1. Developmental biology of the sea urchins (echinoids) (pp. 24-47)

Chapter 2. Developmental biology of sea stars (pp. 48-64)

Chapter 3. Developmental biology of the ascidians (pp. 65-96)

Chapter 4. Developmental biology of the cnidarian *Hydractinia* (pp. 97-127)

Chapter 5. Developmental biology of the Spiralia (pp. 128-169)

Chapter 6. Reproductive biology, larval settlement and metamorphosis in *Spirorbis* (Polychaeta) (pp. 170-184)

Appendix 1. Textbook references (p. 185)

Appendix 2. Scientific films (pp. 185-186)

Appendix 3. List of W and NW European Marine Stations (p. 186)

Index (pp. 187-192)

