

About the Book

The origin of multicellular animals and how multicellularity evolved is one of those difficult and delicate biological problems that has been pondered over for centuries. This book attempts to summarize some of the more recent results in phylogenetics and developmental biology that address the evolution of key innovations in metazoans. The book has three main sections. The first section contains five chapters that address the phylogenetic issues involving this part of the tree of life. Even though modern genome technology has made it possible to study these issues using a vast information database the elucidation of the relationships in this part of the tree of life continues to be elusive. The second section of the book addresses some of the more prominent questions concerning the developmental biology of metazoan evolution. The topics in this section focus on nervous system development, sensory organ development and developmental systems. The third section of the book focuses on the evolution of pattern and process in the incredible forms of life that we call Metazoa. The topics covered in this part of the book include the evolution of life histories, ecological associations and the evolution of biogeochemical aspects of metazoa. The book has over 40 illustrations and an up to date bibliography of over 500 references. Each chapter concludes with a set of questions for study and discussion to assist instructors and students in delving more deeply into the topics covered by the seventeen chapters in the book.

About the Editors

Rob DeSalle is a Curator in the Sackler Institute for Comparative Genomics at the American Museum of Natural History in New York City. His research interests are in invertebrate systematics and evolution. Of late he has been working on 'large tree of life' problems that use multiple sources of information to decipher the relationships of organisms. Dr. DeSalle has also branched out into bacterial evolution and systematics and has a keen interest in bioinformatic approaches to understanding phylogenetics.

Bernd Schierwater directs the Institute for Ecology and Evolution at TiHo Hannover. Placozoans and anagenetic evolution are his areas of specialization. Dr. Schierwater is a founding member of the consortium that implemented the whole genome sequencing of the Placozoan, *Trichoplax adharens* and an expert in the application of molecular approaches to understand the evolution of early metazoan animals. He has also expanded his research interests to understand the developmental basis for major evolutionary transitions of metazoans. He is the co-editor of several published volumes and journal issues with Dr. DeSalle on the methods and approaches to a molecular understanding of ecology and evolution.



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