

PREFACE

Developmental biology unravels the mechanisms that transform a fertilized egg into a highly differentiated adult. Traditionally this subject was taught under the discipline of embryology which, however, dealt solely with the development of embryo. In the recent past, developmental biology has become an expanding subject, as a result of progress derived from molecular, cellular, genetic and biophysical approaches. Thus, true to the statement of the German scientist Wilhelm Roux, developmental biology has constituted the common basis of all other biological disciplines and plays the crucial role in relating genotype to phenotype.

This book, written on the basic idea of covering the entire gamut of animal development, integrates the molecular, cellular and organismal approaches to developmental biology. Gene activity during cell differentiation, molecular mechanisms underlying cell behaviour during morphogenesis occurring in the chequered ontogeny of an organism find widespread mention through out this book. In writing this book, I have drawn upon my long experience in teaching Developmental Biology at the masters level in the University of Madras. Special emphasis is given to the current concepts in developmental biology in explaining developmental events of both embryonic and post embryonic stages. Some of the chapters like experimental embryology include techniques on *in vitro* fertilization and cryopreservation in human and other mammalian embryos in order to highlight the relevance of human embryology to fertility studies. However, the inclusion and the treatment of different chapters are in accordance with the common syllabus prescribed for graduate and post graduate studies in Developmental Biology for Life Science students. It will be therefore very useful to students of life sciences as a textbook. Researchers in the field of modern biology will also find it useful for obtaining a background information in developmental biology.

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T. SUBRAMONIAM

Chennai

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