

Preface

*Advanced Genetics** has been written keeping in mind requirements of postgraduate and research students, teachers and research workers of agricultural and conventional universities offering postgraduate degrees in genetics, cytogenetics, biotechnology, biosciences, botany and zoology or where genetics is taught as a field of specialisation. The book assumes that the reader has acquired knowledge of basic genetics. *Advanced Genetics* will also serve as a reference book. The author is of the opinion that there can be defined no upper limit of knowledge in genetics but this is the minimum knowledge in genetics that a student pursuing a postgraduate programme in biological sciences must acquire in modern times.

The book is divided into 31 chapters with each chapter further divided into various sections and subsections. The concepts, principles and phenomenon of genetics have been explained with the help of information in tables and figures. The text of each chapter is followed by references, questions and numerical problems (wherever required). Glossary of various advanced terms, author index and subject index are given at the end of the book which have been given special attention and the reader will find the same very useful.

Advanced Genetics covers topics at advanced level in various areas of genetics like Mendelian genetics, molecular genetics, biochemical genetics, immunogenetics, human genetics, mutagenesis and evolutionary genetics.

In light of the fact that genetics is a fast developing subject, no book of this kind can be complete in itself. Responsibility of including or not including certain topics is entirely mine. A phenomenon in genetics may sometimes be explained with the help of one or more out of several known examples. Selection of examples and style of presentation is entirely my choice.

I have consulted a large number of available books, original research papers and review articles in genetics and related subjects. My head bows with respect before all these authors.

All my colleagues in the department have been very helpful in the writing of this book. Moral support of my friend Dr. R.G. Saini, Ex-National Fellow and presently Senior Geneticist-cum-Head, Department of Genetics and Biotechnology, Punjab Agricultural University, Ludhiana was always a source of inspiration to me. I am thankful to Dr. Ashok K. Sharma, Senior Geneticist, Department of Genetics and Biotechnology, Punjab Agricultural University, Ludhiana for sparing his valuable time during library consultations. I am thankful to Ms Tripta Jhang, Ph.D. scholar of the department for providing me materials for chapter on Genomics.

My mother Smt. Apar Kaur, wife Harjit, son Jemmy, daughter-in-law Parvi, daughter Simmi and son-in-law Gurpreet were always very cooperative and showed keen interest in this project.

*This book, also available in compact Disc (CD), can be procured from the author.

Manuscript of the book was typeset and all the figures were drawn on computer with utmost devotion and efficiency by Mr. Gagandeep Singh. Without the untiring help of my nephew, Mr Sandeep Singh, M.Sc. (Entomology), compilation of subject index and author index would not have been possible. He also carefully read final proof of the manuscript.

I am thankful to M/s Narosa Publishing House Private Limited, New Delhi for bringing out this book, as usual, in excellent format and design.

GURBACHAN S. MIGLANI