BOOK REVIEW

Sherman I. W. , editor
Molecular Approaches to Malaria

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The editor is affiliated with the Department of Biology, University of California, Riverside, CA. The list of contributors implicates a group of foremost creative scientists from USA, Europe (France, Germany, Italy, UK), Australia and Thailand. It is stated in the foreword by the editor, that in 2002, thanks to the prodigious efforts of an international consortium, the genetic blueprint of the human malaria parasite, *Plasmodium falciparum*, and its vector, *Anopheles gambiae*, became available to the entire scientific community. With the sequences of these genomes (and that of *Homo sapiens*) came the power to understand this host-parasite relationship in ways, few of us could have imagined less than a decade ago. The present book has been designed to serve as a convenient and accessible resource for molecular biologists (as well as biochemists, cell biologists, chemists, pathologists, parasitologists, entomologists, and immunologists) who want to redicrect their research toward malaria and to inform and expand the research horizons of malariologists already working in the field. This volume is expected to be a prologue for the conquest of one of the world's deadiest diseases.

The volume is divided into VI. thematic sections including 27 chapters. Each chapter is structured as a scientific report provided with a list of basic and actual references. The textual part is illustrated by figures and pictorial groups. Moreover, there are 19 full-colour plates illustrating appearance of *P. falciparum* by light microscopy after staining, summarizing the structural organization of the major erythrocytic stages and gametocytes, various analytic procedures, and more.

I. section: Introduction (1.-7. chapters) offers a comprehensive treatice of the life of *Plasmodium*, the genome resource, ultrastructural organization of the blood stages, genetic manipulation, the transcriptome and proteome, and the population genetics.

II. section: Invasion and Gamete Formation (chapters 8.-10.) centres attention upon the merozoite invasion of red blood cells, the sporozoite, and gametocytes and gametes.

III. section: Growth and Metabolism (chapters 11.-20.) is concerned with glycolysis in asexual-stage of parasites, with the mitochondrion, the tubulovesicular membrane network, the apicoplast, protein kinases, proteases and hemoglobin degradation, malarial lipids, ribosomes, oxidative stress, and permeation pathways.

IV. section: Immune Evasion (chapters 21.-22.) constitutes a highlight of molecular aspects of antigenic variation and rosetting.

V. section: Protection (chapters 23.-25.) is concerned with mechanisms of antimalarial drug action and resistance, host genetic factors in resistance and susceptibility to malaria, and in progress in development of vaccine.

VI. section: Vector (chapters 26.-27.) deals with the *Anopheles gambiae* genome and the transcriptome of human malaria vectors.

Molecular Approaches to Malaria provides an exciting overview of the rapid and significant developments that have occured in malaria research. It is the single reference that will serve likewise to update teachers, investigators and public health officials on the status of malaria research.

This book is dedicated to the memory of William Trager (1910-2005). He was best known for his outstanding achievement of the in vitro cultivation of *Plasmodium falciparum*.

Jindřich Jíra