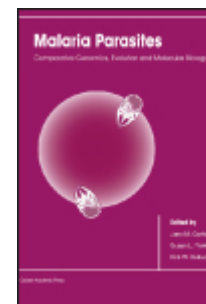


Malaria Parasites

Comparative Genomics, Evolution and Molecular Biology



Edited by: Jane M. Carlton, Susan L. Perkins and Kirk W. Deitsch

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Since the publication of the first two *Plasmodium* genome sequences in 2002, numerous other parasite genomes have been sequenced. These include the genomes of several more *Plasmodium* species as well as those of other apicomplexans, including species of *Toxoplasma*, *Cryptosporidium*, *Babesia*, and *Eimeria*. This wealth of genome sequence data has provided researchers with a powerful new tool, comparative genomics, which has revolutionised research in this area. In this book, expert authors from around the world comprehensively review the current advances in *Plasmodium* comparative genomics, highlighting the fascinating new insights into parasite evolution and molecular biology that have ensued. Topics include: *Plasmodium* taxonomy and phylogeny; the apicomplexan genomic landscape; the 'art' of sequencing *Plasmodium* genomes; diversity of *Plasmodium falciparum* and *Plasmodium vivax* genomes; *Plasmodium* functional genomics; *Plasmodium* experimental genetic crosses; *P. falciparum* epigenetic modification and transcriptional regulation; *Plasmodium* invasion of host red blood cells; protein export and trafficking by malaria parasites; *Plasmodium*-mosquito vector interactions; and a practical guide to many of the revolutionary new techniques and molecular tools for *Plasmodium* research. The book is essential reading for every researcher working with malaria parasites and related organisms, from the PhD student to the experienced scientist, and is a recommended text for all parasitologists.

Chapter 1. The Diversity of *Plasmodium* and Other Haemosporidians: The Intersection of Taxonomy, Phylogenetics and Genomics. *Ellen S. Martinsen and Susan L. Perkins*

Chapter 2. The Apicomplexan Genomic Landscape - The Evolutionary Context of *Plasmodium*. *Jeremy DeBarry, Segun Fatumo and Jessica C. Kissinger*

Chapter 3. *Plasmodium* Genomics and the Art of Sequencing Malaria Parasite Genomes. *Jane M. Carlton, Steven A. Sullivan and Karine G. Le Roch*

Chapter 4. Genome Diversity and Applications in Genetic Studies of the Human Malaria Parasites *Plasmodium falciparum* and *Plasmodium vivax*. *Sittiporn Pattaradilokrat, Jianbing Mu, Philip Awadalla, and Xin-zhuan Su*

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