



'Edited books rarely work well, but this is a delightful exception. The chapters are well written, informative (beautifully illustrated with micrographs) and follow a logical progression ... I wholeheartedly recommend this book.'

Microbiology Today

Genomics and Evolution of Eukaryotic Microbes synthesizes the rapidly emerging fields of eukaryotic diversity and genome evolution. Eukaryotes (cells with nuclei) evolved as microbes and have existed on Earth for approximately two billion years. The tremendous diversity of eukaryotic microbes (protists) is often overlooked by those who study the macroscopic eukaryotic lineages: plants, animals, and fungi. Yet, eukaryotic microbes are of critical importance to ecosystems, human health, and our desire to understand biodiversity on Earth. By bringing together groundbreaking data from genome studies of diverse eukaryotic microbes, this book elucidates the many novelties among eukaryotic genomes and provides a single resource for otherwise widely dispersed information.

Eukaryotic microorganisms impact both our health and our environment. These organisms include some of the deadliest known pathogens such as *Plasmodium falciparum*, a causative agent of malaria, and *Entamoeba histolytica*, an agent of dysentery. Eukaryotic microbes also play a significant role in environments through their involvement in global biogeochemical cycles. Such roles are perhaps best exemplified by the coccolithophores, including the species *Emiliania huxleyi*, which can create 'blooms' in the oceans that are visible from outer space (i.e. as large as the state of Alaska). Despite the great importance and breadth of eukaryotic microbes (the vast majority of major eukaryotic lineages are microbial, with plants, animals and fungi representing just three of an estimated 60–200 major lineages), our understanding of their diversity and phylogeny is only now rapidly expanding, in part bolstered by genomic studies.

This book presents analyses and interpretations from experts in the field. Recent advances, particularly in DNA sequencing technologies, have made eukaryotic microbes more accessible to genome analyses. Unravelling the wealth of information on eukaryotic genomes will invariably revolutionize our understanding of eukaryotes, including their physiology, systematics, and ecology.

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