Funnel, Barbara E., Phillips, G. J., editors

Plasmid Biology

AMS Press, American Society for Microbiology: Washington, DC, 2004. IX + 614 pages.
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The first of the authors is affiliated with the Department of Medical Genetics and Microbiology, University of Toronto, the second author is member of the Department of Veterinary Medicine Microbiology, Iowa State University. The list of contributors comprises 60 specialists in microbiology, genetics, molecular biology and related sciences – about one half of the authors comes from USA, the second half from Canada, Mexico, Japan and European countries. As indicated in the preface, plasmids are extra-chromosomal, autonomously replicating genetic elements found in cells of all kingdoms of life. Their presence influences, often dramatically, the biology of the organisms that they inhabit. Plasmids have played, and continue to play, indispensable roles in the development of molecular biology and in our understanding of basic biological processes that are fundamental to all organisms. There is great variety of plasmid systems in nature and the authors have devoted about half this volume to describing many in detail. The volume is arranged into six sections encompassing 29 chapters. Each chapter is concluded with a list of 100–200 or more references. Many of the references provided are review articles or a review of work of particular laboratory.

The volume opens with an essay on the historical perspective of the study of plasmids, reviewing important events and discoveries. Section subjects are as follows: plasmid replication systems, plasmid maintenance and inheritance, specific plasmid systems, virulence and antibiotic resistance plasmids, plasmid ecology and evolution, plasmids as genetic tools. Chapters include use of genomic approaches for the study of plasmid biology. A review of plasmids from bacteria, archaea, and eukaryotes is given. Detailed account is provided of the diversity of plasmid systems in the natural environment, and the development of plasmid use in the laboratory.

This multiauthored work presents a valuable source of information delineating the latest impacts of plasmid study upon the fields of bacterial pathogenesis, evolution, genome analysis, chromosome dynamics, and eukaryotic cell biology. It is aimed for pre- and postgraduate students, lecturers and professional researchers.

Jindřich Jíra

Maza de la, L. M., Pezzlo, Marie T., Shigei, Janet T., Peterson, Ellena M.

Color Atlas of Medical Bacteriology

AMS Press, American Society for Microbiology: Washington, DC, 2004. XI + 316 pages.
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The authors are affiliated with the Division of Medical Microbiology at the University of California Irvine, College of Medicine, Orange, California. As declared in the preface, with this atlas the authors have attempted to provide illustrations of typical Gram stains, colony morfologies, and biochemical reactions of the bacteria most frequently encountered in the clinical laboratory. The volume is organized in 38 chapters. Each chapter is devoted to a genus, to a group of genera or to a family of pathogenic bacteria. Examined are cocci, bacilli, actinomycetes, mycobacteria, Enterobacteriaceae, *Vibrio* spp., *Pseudomonas* spp., *Burkholderia* spp. and related genera, Gram-negative bacilli, Gram-negative diplococci, genera: *Haemophilus*, *Bordetella*, *Brucella*, *Pasteurella*, *Bartonella* and *Afipia*, *Francisella*, further on anaerobic bacteria, genera: *Campylobacter*, *Helicobacter*, *Chlamydia*, *Mycoplasma* and *Ureaplasma*, *Leptospira*, *Rickettsia* and related organisms.

Contextual parts of particular chapters provide a framework for the images – general characteristics of described bacteria, their toxigenic and pathogenic activities, and most common methods of detection and identification, specimen transport and processing. Included are lists of related species, species related phenomena, sensitivity and resistance to antimicrobial agents, and the like. Pictorial parts contain figures featuring the morphology of bacteria in Gram and miscellaneous specific stains, such as fluorescent antibody stain, auramine and Kinyoun stain of *Mycobacterium* spp., M'Fadyean stain, Giemsa and Warthin-Starry silver stains, etc. Additional information offer pictorial presentations of colony morphology on blood agar and in selective media and culture systems for isolation and differentiation. Moreover, presented are diverse test tube examinations, dye inhibition tests, reactions on strips, disk tests, candle jars, detection by immunoassay, DNA