3-2008

Review of *Archaea: Molecular and Cellular Biology*

Paul H. Blum
University of Nebraska-Lincoln, pblum1@unl.edu

ARCHAEA: MOLECULAR AND CELLULAR BIOLOGY. *Edited by Ricardo Cavicchioli. Washington (DC): ASM Press.* $129.95. xii + 523 p + 18 pl; ill.; index. ISBN: 1-55581-391-7. 2007.

Archaea along with bacteria comprise the two groups of prokaryotes. The discovery of the Archaea, now over 30 years ago, has blossomed into fascinating revelations about the origin of life and the discovery of unique mechanisms that penetrate diverse aspects of biology, biochemistry, and genetics. The field of archaeal biology is growing rapidly. For this reason, we can anticipate a continued need for comprehensive coverage on these organisms that promotes dissemination of relevant information.

The current volume consists of 23 short, edited chapters, ranging from DNA replication to Archaeosome vaccines. The chapters are generally broad with useful figures and tables. Considerable attention is focused on information processing, including DNA, RNA, and protein synthesis and processing. Additional emphasis is placed on general aspects of cell structure, including the unique archaeal envelope and molecular translocation across this structure. The latter third of the book contains chapters on genetic and genomic research strategies, as well as proteins of biotechnologic importance. These par-

ticular chapters will help extend the relevance of this volume into the modern microbiology classroom.

This book will benefit most researchers and, with supplementation, graduate-level microbiology educational efforts. It provides a useful expansion of other recent works on the Archaea, notably *Archaea: Evolution, Physiology, and Molecular Biology* (R Garrett and H-P Klenk. 2007. Malden (MA): Blackwell Publishing). Both are useful textbooks that expand the secondary literature and are worth having.

Paul Blum, *Beadle Center for Genetics, University of Nebraska, Lincoln, Nebraska*