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BOOK REVIEW

G.A. Zavarzin and N.N. Kolotilova, *Environmental Microbiology*, Moscow: Universitet, 2001

The recently published book by G.A. Zavarzin and N.N. Kolotilova, *Introduction to Microbial History*, is highly recommended as a treatise for college and university students. Academician Zavarzin is well known to biologists as the author of some books on microbiology. Kolotilova, an associate professor at the Department of Microbiology, Moscow State University, is a skilled researcher with large teaching experience. The combination of good knowledge of the subject and the skill of presenting it clearly has resulted in this book, which is valuable not only for microbiologists but also for every biologist who professes a genuine interest in microbiology.

The book is divided into three parts and is supplemented with an introduction. Each part consists of chapters, whose titles clearly reflect their subject matter:

Introduction. The Subject of Microbial History

1. Key Notions
2. The Field of Microbial History
3. Ecosystem
4. Geographic Environment
5. The System of Biogeochemical Cycles

Part 1. The Cell

1. The Prokaryotic Cell as a System
2. Bioenergetic Mechanisms
3. Transport
4. The Cytoplasm and Metabolic Pathways
5. Ribosomes and Protein Synthesis
6. DNA Replication
7. Adaptation
8. Growth and Reproduction of Bacteria
9. Cultivation

Part 2. Biodiversity of Microorganisms

1. Classification
2. Physiological Systematics
3. Phylogenetic Systematics
4. The Major Groups of Eubacteria According to Ninth Edition of Bergey's Manual
5. Archaebacteria
6. Eukaryotes

Part 3. Microbial Communities

1. Microbial Community as an Integral System
2. Cooperative Interactions
3. Competition in a Microbial Community
4. General Trophic Interactions in a Microbial Community

Part 1 of the book is devoted to the biology of the prokaryotic cell, in particular, to its structural organization, energy metabolism, transport mechanisms, metabolic pathways, protein synthesis, genome, exchange of genetic information, and growth and reproduction. The cell is considered as an integral system whose functioning is provided by the coordinated interactions of its components.

Part 2, which is devoted to the biodiversity of microorganisms, describes the conventional physiological groups of microorganisms and, on the other hand, characterizes the major groups of eubacteria, archaebacteria, and eukaryotic microorganisms. The key principles of the conventional and the phylogenetic systematics of microorganisms are discussed.

Part 3 considers a microbial community as a system of diverse interacting organisms and gives a generalized account of data available in the literature and those accumulated by the authors on the cooperative and competitive interactions of microorganisms in the community. General trophic interactions in different microbial communities are discussed.

The book is well illustrated with figures, tables, and diagrams, which makes it suitable for undergraduate students. The up-to-date review of the subject and the adequate coverage of many important ecological problems make the book very useful.

For sale details, please call 939-40-36, 939-44-91, or 939-40-51 (Moscow).

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