

### **Microbial Ecology**

By Larry L. Barton, Diana E. Northup



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#### This book covers the ecological activities of microbes in the biosphere with an emphasis on microbial interactions within their environments and communities

In thirteen concise and timely chapters, *Microbial Ecology* presents a broad overview of this rapidly growing field, explaining the basic principles in an easyto-follow manner. Using an integrative approach, it comprehensively covers traditional issues in ecology as well as cutting-edge content at the intersection of ecology, microbiology, environmental science and engineering, and molecular biology.

Examining the microbial characteristics that enable microbes to grow in different environments, the book provides insights into relevant methodologies for characterization of microorganisms in the environment. The authors draw upon their extensive experience in teaching microbiology to address the latest hotbutton topics in the field, such as:

- Ecology of microorganisms in natural and engineered environments
- Advances in molecular-based understanding of microbial phylogeny and interactions
- Microbially driven biogeochemical processes and interactions among microbial populations and communities
- Microbial activities in extreme or unusual environments
- Ecological studies pertaining to animal, plant, and insect microbiology
- Microbial processes and interactions associated with environmental pollution

Designed for use in teaching, *Microbial Ecology* offers numerous special features to aid both students and instructors, including:

- Information boxes that highlight key microbial ecology issues
- "Microbial Spotlights" that focus on how prominent microbial ecologists became interested in microbial ecology
- Examples that illustrate the role of bacterial interaction with humans
- Exercises to promote critical thinking
- Selected reading lists
- Chapter summaries and review questions for class discussion

Various microbial interactions and community structures are presented through examples and illustrations. Also included are mini case studies that address activities of microorganisms in specific environments, as well as a glossary and key words. All these features make this an ideal textbook for graduate or upperlevel undergraduate students in biology, microbiology, ecology, or environmental science. It also serves as a highly useful reference for scientists and environmental professionals.

PowerPoint slides of figures from the book are available for download at: ftp://ftp.wiley.com/public/sci\_tech\_med/microbial\_ecology

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#### **Editorial Review**

#### From the Back Cover

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#### About the Author

**Larry L. Barton** studies the physiological activities of environmentally important microorganisms, focusing on energetics of bacterial inorganic metabolism and bacterial bioremediation. Larry has been the instructor of the course in General Microbiology for over 30 years. The author of five previous books, he was the founding editor and the initial editor-in chief of the international journal Anerobe, begun in 1995 and now published by Academic Press. Most recently, he published a college textbook on bacterial physiology.

**Diana E. Northup** investigates the microorganisms that inhabit caves throughout the world. Her research was featured on the Nova episode, "Mysterious Life of Caves." Within the Department of Biology at UNM, she gives lectures, directs undergraduate students in research, supervises a postdoctoral fellow, and, currently, she is mentoring a doctoral student in microbial ecology of a cave in southern New Mexico.

#### **Users Review**

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The knowledge that you get from Microbial Ecology is the more deep you rooting the information that hide in the words the more you get considering reading it. It does not mean that this book is hard to understand but Microbial Ecology giving you buzz feeling of reading. The copy writer conveys their point in specific way that can be understood by simply anyone who read it because the author of this guide is well-known enough. This specific book also makes your vocabulary increase well. That makes it easy to understand then can go to you, both in printed or e-book style are available. We propose you for having this Microbial Ecology instantly.

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