



# **TOPICS IN ECOLOGICAL AND ENVIRONMENTAL MICROBIOLOGY**

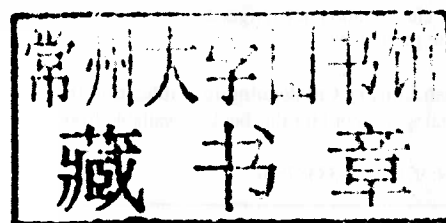
**Edited by Thomas M. Schmidt  
and Moselio Schaechter**



# Topics in Ecological and Environmental Microbiology

Edited by

Thomas M. Schmidt and Moselio Schaechter



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## Preface

The central importance that microbes occupy in nature has been a steady concern of microbiologists since the inception of microbiology. Many of those who founded this science, including Pasteur, and later Winogradsky and Beijerinck, worked extensively to elucidate the roles that bacteria play in the environment. Although this has been a continuous subject for inquiry, it was overshadowed by the intense research done on all aspects on microbial life in the laboratory, mainly with pure cultures. It is in the past few decades that we have seen a burst of interest and activity in ecological and environmental microbiology. In fact, it is now recognized that this is the only way in which we can try to understand the “planet of the microbes.”

This surge in interest in all matters ecological has been aided by the development of large assortment of techniques, some old, many novel. These have ranged from the simple use of tangential filters for gathering viral or cellular samples to sequencing a genome starting with a single microbial cell. Hardly any sort of environment seems to have escaped

attention of microbial ecologists, from the driest and coldest deserts of Antarctica to the steam emerging from fumaroles. Name any esoteric-sounding habitat, and microbial ecologists have probably already sampled it and tried to determine the complexity of its microbial communities.

Given the vibrancy of the field, a book that includes authoritative treatments of many aspects of ecological and environmental microbiology seems timely. It pleases us to present a compendium of chapters on these topics derived from the *Encyclopedia of Microbiology*, third edition. A few chapters from other sources have also been included; all were written by investigators with high standing in their fields. Where appropriate, these contributions have been updated with current references and sections on recent developments. The chapters are presented in an order we believe is convenient to the readers.

**Thomas M. Schmidt and Moselio Schaechter**  
**In Natura, Veritas**



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