
Preface

The importance of microbial ecology has grown exponentially since the publication of the first edition of this book. The field continues to address some of the most pressing questions in science and the most serious environmental problems facing society today. As the field has forged ahead over the past decade, this book needed to be revised to avoid being left behind. It will be easy to see the differences between the first edition and the present one, starting with the order of the chapters. Very few of the paragraphs, tables, and illustrations have not been tightened, drastically altered, or just replaced with something better and up to date.

As with the first edition, this book targets students interested in learning some of the basics about microbes in natural environments and the processes they carry out. The emphasis is on biogeochemical and ecological processes, because the things that microbes do are what makes microbial ecology such an important field today. The book takes examples from all habitats, both terrestrial and aquatic, ranging from the deep biosphere to the open ocean. All microbes and viruses are covered. Readers will gain an appreciation for the diversity of the microbial world and of the questions being explored by microbial ecologists working on different microbes and processes in different habitats. In spite of this diversity, I hope readers will see the principles that microbes in aquatic and terrestrial environments have in common. Even if the focus is on one microbe or virus in one habitat, our understanding is immeasurably enriched by considering other microbes and viruses in several habitats.

Additional material for the book can be found at www.oup.co.uk/companion/kirchman. The material includes all of the figures, color versions of some of the figures (indicated in the figure caption), and things potentially useful if the book is adapted for a course. I welcome suggestions, comments, and feedback (kirchman@udel.edu).

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A large part of this book was written while I was on sabbatical at the Institut de Ciències del Mar, Barcelona.

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