

Preface

This monograph introduces the biologically suave reader to the unseen but vibrant ecology of bacterial viruses, also known as phages, whose numbers potentially exceed those of all other organisms combined. Our focus is on phage population dynamics and community interactions (Part I) as well as various aspects of phage evolutionary biology (Part II). Also included are introductions to the phage ecology of a range of environments (Part III), as well as the mathematical modeling of phage (and bacteria) population growth and community interactions (Part IV). In short, this monograph provides a much-needed snapshot of phage ecology as reflected by the interests of the authors involved, and as seen especially from the perspective of the individual phage.

This book, along with my personal research interests, reflects my position at Ohio State University, which is on a regional campus in the town of Mansfield, Ohio. At OSU–Mansfield I lack access to fellow microbiologists, graduate students, and even upper-level undergraduates. Instead, I'm surrounded by a number of fabulous liberal-arts faculty who tend to publish without doing laboratory research (gasp!) in such disciplines as English and History and who otherwise write books for a living. My isolation, as well as my graduate and postdoctoral experience, led me early on to reach out to fellow phage ecologists by a then new-fangled medium called the World Wide Web. My web site on the subject, found at www.phage.org, was originally assembled, in 1996, as a catharsis following my mother's death. It took much time for the site to hit, but it was reviewed in *Science*, in 2000, mere weeks before my tenure packet was due. Its renown and/or my experience with it has resulted in a number of opportunities, most notably my contribution to the editing of *The Bacteriophages*, 2nd edition (Rich Calendar as main editor, Oxford University Press, 2006).

It was during the final stages of line-editing *The Bacteriophages* that I received an email from Mike Wilson, who is one of the editors of the series *Advances in Molecular and Cellular Microbiology*, published by Cambridge University Press. My guess is that Mike somehow came upon the idea of phage ecology, decided that it would make a nice contribution to the series, typed "phage ecology" into Google, and, *voilà*, found me. He then invited me to write and submit a proposal, which of course I did, and, amazingly, it was accepted with minimal revision.

In addition to Mike Wilson, I want to thank my main mentors from graduate school: Harris Bernstein, Richard Michod, Stephen Zegura, and John Spizizen, all of whom were there, supporting me through my transition into a phage ecologist. Thank you to John Riedl, who, as my first Dean-Director at Ohio State University Mansfield, took a chance on me – apparently impressed especially by the writing in my teaching statement! John also put up with me while I created, against his best instincts, a web-based virtual community: the Bacteriophage Ecology Group.

Thank you to Hans-Wolfgang Ackermann, Richard Calendar, Elizabeth Kutter, and Ryland Young, who as members of the phage community were there and very supportive of both me and the field at various key moments in my career. Thank you to James Bull for his ongoing interest in my research and almost-from-the-beginning support of this project. An enormous thank you to Steven McQuinn for his ongoing phage artistic efforts and, especially, for producing the cover illustration for this volume. Thank you goes also to Bruce Levin, whose theoretical work with phages inspired much of mine.

Thank you to Cameron Thomas (now Thomas-Abedon), who raises my children, in her spare time does my laboratory research, and otherwise has been extremely supportive of my endeavors during the writing and editing of this book. Thank you, especially, for putting up with me while I suffered and complained through a month-plus devoted to indexing this volume; such dedication is above and beyond the call of duty!

To all of my various authors, who rose to the occasion both in writing their chapters and in putting up with my sometimes heavy editing, an enormous thanks. Thank you also to a number of individuals who have anonymously read and commented on various chapters of this book, and to Hugh Brazier for his sometimes heroic efforts copy-editing this volume. Finally, I would like to dedicate this volume to Gisela Mosig (1930–2003), whose interests were broad, and working knowledge even broader, but who ultimately was driven by the inspirational goal of understanding phages as organisms.