
Preface to the First Edition

My purpose in writing this book is to fill a need that I perceive exists for beginning researchers in plant population ecology. The book is intended for senior undergraduates with a background in plant ecology, and, in particular, for graduate students planning research in the topic. In addition, I hope that more experienced researchers will find the material covered in the book to be of use too.

The need for this book became apparent the first time that I taught a graduate course in plant population ecology. While Silvertown and Lovett-Doust's (1993; with a new edition due out as I write) book provides an excellent introduction to the basic theory and concepts important to the topic, I felt that there was little available to assist the student actually conduct research in the laboratory/field portion of the course. A number of books discuss basic ecological methodology (e.g. Krebs 1999) and the approach to research in ecology (Ford 2000), but these are not specific enough. I use the inquiry approach in my course and so was also dissatisfied with the 'cook book' approach to learning new methods provided by some other textbooks. I want students to think for themselves, critically evaluate the problem that they are addressing, and determine the most suitable approach. Indeed, the variation and vagaries of the environment preclude the use of many standard methods in field ecology. Hence, this book.

If this book has a message it is this: think carefully about the problem that you are about to tackle. Develop a research plan, outline hypotheses, objectives and the experimental approach to address them. And, most importantly, consider the statistical tests that you will use before starting field or greenhouse work.

This book will provide you with an assessment of the methodology used in current plant popula-

tion ecology. Many of the methods used by other researchers will have to be adapted to your own situation. I provide the sources for standard methods, but many of these too may have to be adapted. Always be aware of the limitations of the methods that you do use.

Time to get started on the two-year journey that writing this book represents was provided by a sabbatical leave from Southern Illinois University. Cathy Kennedy, Libby John, and Mike Hutchings helped immensely in getting the initial outline and direction for the book off the ground. A grateful thanks to Libby John who wrote Chapter 4, taking on a task that would daunt and put off most of us number-challenged ecologists. Thanks to the many colleagues who critically read the following chapters, in whole or part, including Eric Adams (Chapter 1), Sara Baer (Chapter 5), Mark Basinger (Chapter 3), Greg Cheplick (Chapters 1 and 3), John Connolly (Chapter 5), Stephen Ebbs (Chapter 6), Joe Ely (Chapters 1 and 6), Danny Gustafson (Chapters 1 and 5), Rod Hunt (Chapter 6), Libby John (Chapters 1, 2, 3, and 5), Alan Knapp (Chapter 6), Marilyn Mathis (Chapters 2 and 3), Glenn Matlack (Chapter 5), Eric Menges (Chapter 8), Paige Mettler (Chapters 1 and 2), Chris Peterson (Chapter 2), Malcolm Press (Chapter 6), Mark Rees (Chapters 1, 2, 3, 5, 7, and 8), Ken Thompson (Chapter 6), Jake Weiner (Chapter 1), and Andrew Wood (Chapter 6). The text is much better for the time and care that they put into correcting my mistakes and misconceptions. Tim Seastedt and Brian Beckage provided access to manuscripts in advance of publication, and Miguel Franco, Mike Hutchings, Brian McCarthy, Rodney Mauricio, and Dan Nickrent kindly provided some of the photographs. Thanks also to Cathy Kennedy, Esther Browning, Jonathan Crowe,

and John Grandidge at Oxford University Press for their help in moving the book along through to publication. The inspiration to tackle problems in plant population ecology derives from my interactions with many friends and colleagues through the years, not the least of all the group of students, post-docs, and researchers that debated the contrasting virtues of population versus community ecology in

the 'Bangor School' of John Harper and Peter Greig-Smith during the late 1980s.

—Finally, thanks to my wife Lisa, and our two children Lacey and Dylan for their patience, support, and love.

Carbondale, Illinois, September 2001