

Population Ecology: First Principles, Second **Edition**

By John H. Vandermeer, Deborah E. Goldberg



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Ecology is capturing the popular imagination like never before, with issues such as climate change, species extinctions, and habitat destruction becoming ever more prominent. At the same time, the science of ecology has advanced dramatically, growing in mathematical and theoretical sophistication. Here, two leading experts present the fundamental quantitative principles of ecology in an accessible yet rigorous way, introducing students to the most basic of all ecological subjects, the structure and dynamics of populations.

John Vandermeer and Deborah Goldberg show that populations are more than simply collections of individuals. Complex variables such as distribution and territory for expanding groups come into play when mathematical models are applied. Vandermeer and Goldberg build these models from the ground up, from first principles, using a broad range of empirical examples, from animals and viruses to plants and humans. They address a host of exciting topics along the way, including age-structured populations, spatially distributed populations, and metapopulations.

This second edition of *Population Ecology* is fully updated and expanded, with additional exercises in virtually every chapter, making it the most up-to-date and comprehensive textbook of its kind.

- Provides an accessible mathematical foundation for the latest advances in ecology
- Features numerous exercises and examples throughout
- Introduces students to the key literature in the field
- The essential textbook for advanced undergraduates and graduate students
- An online illustration package is available to professors

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Editorial Review

Review

Praise for first edition: "Superbly crafted."--Choice

Praise for first edition: "Vandermeer and Goldberg do an admirable job of explaining the ecological meaning and assumptions behind all of the mathematical results presented. They include many figures that illustrate their points clearly and these are accompanied with detailed verbal explanations."--Helen M. Regan, *Ecology*

"As population ecology continues to grow and develop as a discipline, this book will serve as a useful text for undergraduate courses in population ecology or quantitative techniques, and will also serve as a handy resource for professionals."--Tyler M. Harms, *Journal of Wildlife Management*

About the Author

John H. Vandermeer is the Asa Gray Distinguished University Professor of Ecology and Evolutionary Biology at the University of Michigan. Deborah E. Goldberg is the Elzada U. Clover Collegiate Professor of Ecology and Evolutionary Biology at the University of Michigan.

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