Pearson Evolution And Community Ecology Chapter 5

Ecological Comparisons of Sedimentary Shores
Principles, Concepts, and Assumptions
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A Symposium of the Society for the Study of Amphibians and Reptiles and the Herpetologists' League, August 1977
Tropical Forest Community Ecology
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Molecular Evolution and Adaptive Radiation
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Adaptation, Diversity, Ecology
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Speciation and Patterns of Diversity
Eco-evolutionary Dynamics
The Science Behind the Stories
The causes and consequences of microbial community structure
Elements of Ecology
Proceedings of the Workshop Management of Southern Forests for Nongame Birds, January, 24-26, 1978, Atlanta, Georgia
Ecology
Ecology and Evolution of Communities
A Mechanistic Perspective
Environment
From Interactions to Ecosystems
The Role of Biotic Interactions
Randomization, Bootstrap and Monte Carlo Methods in Biology, Second Edition
The Theory of Evolution
Invading Ecological Networks
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Ecological Niches and Geographic Distributions (MPB-49)
The Ecology of Bird Communities
Encyclopedia of Ecology

DEANDRE MCKEE

Ecological Comparisons of Sedimentary Shores Princeton University Press
Known for its evolution theme and strong coverage of the relevance of ecology to everyday life and the human impact on ecosystems, the thoroughly revised Eighth Edition features refined quantitative exercises, a restructured chapter on life history, a thoroughly revised species interactions unit including a chapter introducing the subject, and a new chapter on species interactions. To emphasize the dynamic and experimental nature of ecology, each chapter draws upon current research in the various fields of ecology while providing accessible examples that help students understand species natural history, specific ecosystems, the process of science, and ecological patterns at both an evolutionary and demographic scale. To engage students in using and interpreting data, a wide variety of Quantifying Ecology boxes walk through step-by-step examples of equations and statistical techniques. The enhanced companion website (www.ecologyplace.com) features new MapMaster™ interactive map activities for exploring ecosystems, physical environments, and populations at regional and global scales, along with popular GRAPHit!, and QUANTIFYit! exercises that help students further master and apply math skills, and a new Pearson eText.
Principles, Concepts, and Assumptions CRC Press
A comprehensive framework for understanding species coexistence Coexistence is the central concept in community ecology, but an understanding of this concept requires that we study the actual mechanisms of species interactions. Coexistence in Ecology examines the major features of these mechanisms for species that coexist at different positions in complex food webs and derives empirical tests from model predictions. Mark McPeek explores the various challenges species face by systematically building a model food web, beginning with an ecosystem devoid of life and then adding one species at a time. With the introduction of each new species, he evaluates the properties it must possess to invade a community and quantifies the changes in the abundances of other species that result from a successful invasion. McPeek continues this process until he achieves a multi-trophic level food web with many species coexisting at each trophic level, from omnivores, mutualists, and pathogens to herbivores, carnivores, and basic plants. He then describes the observational and experimental empirical studies that can test the theoretical predictions resulting from the model analyses.

Synthesizing decades of theoretical research in community ecology, Coexistence in Ecology offers new perspectives on how to develop an empirical program of study rooted in the natural histories of species and the mechanisms by which they actually interact with one another.
Environment Princeton University Press
Proposes new ways of managing ecological invasions by implementing an open adaptive network framework for ecosystem transformation.
Effects of the Origin and Evolution of Life on Planet Earth Elsevier
In recent years, scientists have realized that evolution can occur on timescales much shorter than the 'long lapse of ages' emphasized by Darwin - in fact, evolutionary change is occurring all around us all the time. This work provides an authoritative and accessible introduction to eco-evolutionary dynamics, a cutting-edge new field that seeks to unify evolution and ecology into a common conceptual framework focusing on rapid and dynamic environmental and evolutionary change.
A Symposium of the Society for the Study of Amphibians and Reptiles and the Herpetologists' League, August 1977 Frontiers Media SA
Historically, tropical ecology has been a science often content with descriptive and demographic approaches, which is understandable given the difficulty of studying these ecosystems and the need for basic demographic information. Nonetheless, over the last several years, tropical ecologists have begun to test more sophisticated ecological theory and are now beginning to address a broad array of questions that are of particular importance to tropical systems, and ecology in general. Why are there are so many species in tropical forests and what mechanisms are responsible for the maintenance of that vast species diversity? What factors control species coexistence? Are there common patterns of species abundance and distribution across broad geographic scales? What is the role of trophic interactions in these complex ecosystems? How can these fragile ecosystems be conserved? Containing contributions from some of the world’s leading tropical ecologists, Tropical Forest Community Ecology provides a summary of the key issues in the discipline of tropical ecology: Includes contributions from some of the world’s leading tropical ecologists Covers patterns of species distribution, the maintenance of species diversity, the community ecology of tropical animals, forest regeneration and conservation of tropical ecosystems
Tropical Forest Community Ecology Benjamin Cummings
This best-selling majors ecology book continues to present ecology as a series of problems for readers to critically analyze. No other text presents analytical, quantitative, and statistical ecological information in an equally accessible style. Reflecting the way ecologists actually practice, the book emphasizes the role of experiments in testing ecological ideas and discusses many contemporary and controversial problems related to distribution and abundance. Throughout the book, Krebs thoroughly explains the application of mathematical concepts in ecology while reinforcing these concepts with research references, examples, and interesting end-of-chapter review questions. Thoroughly updated with new examples and references, the book now features a new full-color design and is accompanied by an art CD-ROM for instructors. The field package also includes The Ecology Action Guide, a guide that encourages readers to be environmentally responsible citizens, and a subscription to The Ecology Place (www.ecologyplace.com), a web site and CD-ROM that enables users to become virtual field ecologists by performing experiments such as estimating the number of mice on an imaginary island or restoring prairie land in Iowa. For college instructors and students.
The Evolution, Ecology, and Diversity of the Cicindelids CABI
Fifteen distinguished scientists discuss the effects of life—past and present—on planet Earth.
Benjamin-Cummings Publishing Company
The causes and consequences of differences in microbial community structure, defined here as the relative proportions of rare and abundant organisms within a community, are poorly understood. Articles in “The Causes and Consequences of Microbial Community Structure”, use empirical or modeling approaches as well as literature reviews to enrich our mechanistic understanding of the controls over the relationship between community structure and ecosystem processes. Specifically, authors address the role of trait distributions and tradeoffs, species-species interactions, evolutionary dynamics, community assembly processes and physical controls in affecting ‘who’s there’ and ‘what they are doing.’
Conceptual Issues and the Evidence Benjamin Cummings
Representing the state of the art in evolutionary paleobiology, this book provides a much-needed overview of this rapidly changing field. An influx of ideas and techniques both from other areas of biology and from within paleobiology itself have resulted in numerous recent advances, including increased recognition of the relationships between ecological and evolutionary theory, renewed vigor in the study of ecological communities over geologic timescales, increased understanding of biogeographical patterns, and new mathematical approaches to studying the form and structure of plants and animals. Contributors to this volume—a veritable who's who of eminent researchers—present the results of original research and new theoretical developments, and provide directions for future studies. Individually wide ranging, these papers all share a debt to the work of James W. Valentine, one of the founders of modern evolutionary paleobiology. This volume's unified approach to the study of life on earth will be a major contribution to paleobiology, evolution, and ecology.
The Pearson CSAT Manual 2011 University of Chicago Press
Known for its evolution theme and strong coverage of the relevance of ecology to everyday life and the human impact on ecosystems, the thoroughly revised Eighth Edition features expanded quantitative exercises, a restructured chapter on life history, a thoroughly revised species interactions unit including a chapter introducing the subject, and a new chapter on species interactions. To emphasize the dynamic and experimental nature of ecology, each chapter draws upon current research in the various fields of ecology while providing accessible examples that help you understand species natural history, specific ecosystems, the process of science, and ecological patterns at both an evolutionary and demographic scale. To engage you in using and interpreting data, a wide variety of Quantifying Ecology boxes walk through step-by-step examples of equations and statistical techniques.
Molecular Evolution and Adaptive Radiation CRC Press
Environment: The Science Behind the Stories provides students with a concrete and engaging framework for understanding and applying the scientific process to environmental concerns. Through its case studies, real-life stories, emphasis on scientific literacy and data analysis, Third Canadian Edition encourages students to evaluate information critically both in the text and its online resource, MasteringEnvironmentalScience. KEY TOPICS: An Introduction to Environmental Science; Matter, Energy, and the Physical Environment; Environmental Systems and Ecosystem Ecology; Evolution, Biodiversity, and Population Ecology; Species Interactions and Community Ecology; Human Population; Soil Resources=; Agriculture, Food, and Biotechnology; Conservation of Species and Habitats; Forests and Forest Management;

Freshwater Systems and Water Resources; Marine and Coastal Systems and Fisheries; Atmospheric Science and Air Pollution; Global Climate Change; Fossil Fuels: Energy Use and Impacts; Energy Alternatives; Mineral Resources and Mining; Managing Our Waste; Environmental Health and Hazards; Environmental Ethics and Economics: Values and Choices; Environmental Policy: Decision-Making and Problem-Solving; Strategies for Sustainability MARKET: Appropriate for Introduction to Environmental Science/Studies courses.

Mammalogy Princeton University Press

The earliest sites at Olduvai Gorge in Tanzania are among the best documented and most important for studies of human evolution. This book investigates the behavior of hominids at Olduvai using data of stone tools and animal bones, as well as the results of work in taphonomy (how animals become fossils), the behavior of mammals, and a wide range of ecological theory and data. By illustrating the ways in which modern and prehistoric evidence is used in making interpretations, the author guides the reader through the geological, ecological, and archeological areas involved in the study of humans.Based on his study of the Olduvai excavations, animal life, and stone tools, the author carefully examines conventional views and proposals about the early Olduvai sites. First, the evidence of site geology, tool cut marks, and other clues to the formation of the Olduvai sites are explored. On this basis, the large mammal communities in which early hominids lived are investigated, using methods which compare sites produced mainly by hominids with others made by carnivores. Questions about hominid hunting, scavenging, and the importance of eating meat are then scrutinized. The leading alternative positions on each issue are discussed, providing a basis for understanding some of the most contentious debates in paleo-anthropology today.The dominant interpretive model for the artifact and bone accumulations at Olduvai and other Plio-Pleistocene sites has been that they represent home bases, social foci similar to the campsites of hunter-gatherers. Based on paleo-ecological evidence and ecological models, the author critically analyzes the home base interpretation and proposes alternative views. A new view of the Olduvai sites - that they represent stone caches where hominids processed carcasses for food - is shown to have important implications for our understanding of hominid social behavior and evolution.

Adaptation, Diversity, Ecology Evolution and Ecology of the Organism

Bringing together the viewpoints of leading ecologists concerned with the processes that generate patterns of diversity, and evolutionary biologists who focus on mechanisms of speciation, this book opens up discussion in order to broaden understanding of how speciation affects patterns of biological diversity, especially the uneven distribution of diversity across time, space and taxa studied by macroecologists. The contributors discuss questions such as: Are species equivalent units, providing meaningful measures of diversity? To what extent do mechanisms of speciation affect the functional nature and distribution of species diversity? How can speciation rates be measured using molecular phylogenies or data from the fossil record? What are the factors that explain variation in rates? Written for graduate students and academic researchers, the book promotes a more complete understanding of the interaction between mechanisms and rates of speciation and these patterns in biological diversity.

Campbell Biology in Focus, Loose-Leaf Edition Cambridge University Press

The two volumes of John Wiens' Ecology of Bird Communities, first published in 1992, are recognised as having applications and importance beyond the study of birds to the wider study of ecology in general. The books contain a detailed synthesis of our understanding of the patterns of organisation of bird communities and of the factors that may determine them, drawing from studies from all over the world. The author, however, does more than simply review findings in bird community ecology. By emphasizing how proper logic and methods have or have not been followed and how different viewpoints have developed historically and have led to controversy, he extends the scope of these books far beyond the study of birds. Volume 1 Foundations and Patterns explores why avian community ecologists ask the questions they do and what philosophical and methodological approaches they have used to answer such questions. Most of the book is devoted to a critical evaluation of what is known about the nature and organisation of bird communities.

Preparing for the Biology AP Exam Cambridge University Press

This handbook focuses on the enormous literature applying statistical methodology and modelling to environmental and ecological processes. The 21st century statistics community has become increasingly interdisciplinary, bringing a large collection of modern tools to all areas of application in environmental processes. In addition, the environmental community has substantially increased its scope of data collection including observational data, satellite-derived data, and computer model output. The resultant impact in this latter community has been substantial; no longer are simple regression and analysis of variance methods adequate. The contribution of this handbook is to assemble a state-of-the-art view of this interface. Features: An internationally regarded editorial team. A distinguished collection of contributors. A thoroughly contemporary treatment of a substantial interdisciplinary interface. Written to engage both statisticians as well as quantitative environmental researchers. 34 chapters covering methodology, ecological processes, environmental exposure, and statistical methods in climate science.

Environmental Evolution Springer Science & Business Media

Tiger beetles are one of the most obvious and ubiquitous families of any insect taxon—some 2300 species are found on nearly all the land surfaces of the earth. Their frequently showy colors, brazen behavior, and ability to live in habitats ranging from dry, alkaline lakebeds to tropical rain forests have captured the interest of amateur and professional entomologists alike. Although tiger beetles have been widely studied, the wealth of knowledge has been synthesized only briefly in a few sources. In Tiger Beetles, David L. Pearson and Alfried P. Vogler provide for the first time a detailed integration and summary of all that is known about the family Cicindelidae. The book's early chapters cover anatomy, distribution, and natural history. Pearson and Vogler build from these basics to show the usefulness of tiger beetles for exploring questions in genetics, biogeography, ecology, behavior, and conservation. As bioindicators, the tiger beetles present in an area may allow biologists to pinpoint places with the richest diversity of animal and plant life. The use of tiger beetles as model organisms has made possible or greatly enhanced many areas of research, including molecular phylogeny, the function of acute hearing, spatial modeling, and physiology of vision.

Early Hominid Activities at Olduvai Frontiers E-books

Reflecting the expertise and perspective of five leading mammalogists, the fourth edition of Mammalogy: Adaptation, Diversity, Ecology significantly updates taxonomy, includes a new chapter on mammalian molecular phylogenetics, and highlights several recently described species. There are close to 5,500 species in the class Mammalia, including the blue whale—the largest animal that has ever lived—and the pygmy shrew, which

weighs little more than a penny. The functional diversity of mammals has allowed them to play critical roles in every ecosystem, whether marine, freshwater, alpine, tundra, forest, or desert. Many mammal species are critically endangered and present complex conservation and management challenges. This book touches on those challenges, which are often precipitated by overharvesting and habitat loss, as well as emerging threats, such as the impact of wind turbines and white nose syndrome on bats and chronic wasting disease on deer. Among the updates and additions to the fourth edition of Mammalogy are numerous new photos, figures, and cladograms, over 4,200 references, as well as • A completely new chapter on mammalian phylogeny and genomics• Current taxonomy—including major changes to orders, suborders, and superfamilies of bats and rodents• An explanation of the recent inclusion of whales with terrestrial even-toed ungulates• Updates on mammalian structural, functional adaptations, and fossil history• recent advances in our understanding of phylogeny, biogeography, social behavior, and ecology• A discussion of two new orders and thirteen newly recognized extant families • Reflections on the implications of climate change for mammals• Thorough examinations of several recently described species, including Durrell's vontsira (Salanoia durrelli) and the Laotian rock rat (Laonastes aenigmamus)• An explanation of mammalian biomechanics, such as that seen in lunge feeding of baleen whales• Breakout boxes on unique aspects of mammals, including the syntax of bat songs, singing mice, and why there are no green mammals (unless we count algae-covered sloths) Maintaining the accessible, readable style for which Feldhamer and his coauthors are well known, this new edition of Mammalogy is the authoritative textbook on this amazingly diverse class of vertebrates.

The Experimental Analysis of Distribution and Abundance Pearson Educacion

NOTE: This loose-leaf, three-hole punched version of the textbook gives you the flexibility to take only what you need to class and add your own notes -- all at an affordable price. For loose-leaf editions that include MyLab(tm) or Mastering(tm), several versions may exist for each title and registrations are not transferable. You may need a Course ID, provided by your instructor, to register for and use MyLab or Mastering products. For introductory biology course for science majors Focus. Practice. Engage. Built unit-by-unit, Campbell Biology in Focus achieves a balance between breadth and depth of concepts to move students away from memorization. Streamlined content enables students to prioritize essential biology content, concepts, and scientific skills that are needed to develop conceptual understanding and an ability to apply their knowledge in future courses. Every unit takes an approach to streamlining the material to best fit the needs of instructors and students, based on reviews of over 1,000 syllabi from across the country, surveys, curriculum initiatives, reviews, discussions with hundreds of biology professors, and the Vision and Change in Undergraduate Biology Education report. Maintaining the Campbell hallmark standards of accuracy, clarity, and pedagogical innovation, the 3rd Edition builds on this foundation to help students make connections across chapters, interpret real data, and synthesize their knowledge. The new edition integrates new, key scientific findings throughout and offers more than 450 videos and animations in Mastering Biology and embedded in the new Pearson eText to help students actively learn, retain tough course concepts, and successfully engage with their studies and assessments. Also available with Mastering Biology By combining trusted author content with digital tools and a flexible platform, Mastering personalizes the learning experience and improves results for each student. Integrate dynamic content and tools with Mastering Biology and enable students to practice, build skills, and apply their knowledge. Built for, and directly tied to the text, Mastering Biology enables an extension of learning, allowing students a platform to practice, learn, and apply outside of the classroom. Note: You are purchasing a standalone product; Mastering Biology does not come packaged with this content. Students, if interested in purchasing this title with Mastering Biology ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the loose-leaf version of the text and Mastering Biology search for: 0134988361 / 9780134988368 Campbell Biology in Focus, Loose-Leaf Plus Mastering Biology with Pearson eText -- Access Card Package Package consists of: 013489572X / 9780134895727 Campbell Biology in Focus, Loose-Leaf Edition 013487451X / 9780134874517 Mastering Biology with Pearson eText -- ValuePack Access Card -- for Campbell Biology in Focus

Cambridge University Press

This volume surveys advances in the study of adaptive radiation showing how molecular characters can be used to analyze the origin and pattern of diversification within a lineage in a non-circular fashion.

Plant Invasions Pearson

Randomization, Bootstrap and Monte Carlo Methods in Biology, Second Edition features new material on on bootstrap confidence intervals and significance testing, and incorporates new developments on the treatments of randomization methods for regression and analysis variation, including descriptions of applications of these methods in spreadsheet programs such as Lotus and other commercial packages. This second edition illustrates the value of modern computer intensive methods in the solution of a wide range of problems, with particular emphasis on biological applications. Examples given in the text include the controversial topic of whether there is periodicity between co-occurrences of species on islands.

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