

# Read Book Ecological Morphology Integrative Organismal Biology Free Download Pdf

**Ecological Morphology** Ecomorphology of fishes **Feeding Lizards in an Evolutionary Tree** **Primate Locomotion** **The International Encyclopedia of Primatology, 3 Volume Set** **Macroevolutionary Theory on Macroecological Patterns** Phylogenies and the Comparative Method in Animal Behavior Adaptation Feeding in Vertebrates *The Origin and Evolution of Larval Forms* **Lizard Ecology** **The Neuroethology of Birdsong** *Evolutionary History of Bats* *Reconstructing Behavior in the Primate Fossil Record* Coral Reef Fishes Adaptive Speciation *The Biology of Chameleons* **Animal Athletes** *Periphyton* **Fish Locomotion** Lizard Social Behavior Developmental Genetics and Plant Evolution *Convergent Evolution* **Small Carnivores** **The Nature of Diversity** The Ecology and Evolution of Inducible Defenses Morphometrics **Mammalogy** Primate Origins: Adaptations and Evolution *Biology of Termites: a Modern Synthesis* **Functional Morphology in Vertebrate Paleontology** **Evolutionary Quantitative Genetics** *Biological Invasions in Marine Ecosystems* *Fish Physiology: Fish Biomechanics* **Evolutionary Developmental Biology**

Herpetology **Ecological Assembly Rules** The Rise of Placental Mammals **Handbook of Paleoanthropology**

**Primate Locomotion** Dec 25 2022 The study of primate locomotion is a unique discipline that by its nature is interdisciplinary, drawing on and integrating research from ethology, ecology, comparative anatomy, physiology, biomechanics, paleontology, etc. When combined and focused on particular problems this diversity of approaches permits unparalleled insight into critical aspects of our evolutionary past and into a major component of the behavioral repertoire of all animals. Unfortunately, because of the structure of academia, integration of these different approaches is a rare phenomenon. For instance, papers on primate behavior tend to be published in separate specialist journals and read by subgroups of anthropologists and zoologists, thus precluding critical syntheses. In the spring of 1995 we overcame this compartmentalization by organizing a conference that brought together experts with many different perspectives on primate locomotion to address the current state of the field and to consider where we go from here. The conference, Primate Locomotion-1995, took place thirty years after the pioneering conference on the same topic that was convened by the late Warren G. Kinzey at Davis in 1965.

Phylogenies and the Comparative Method in Animal Behavior Sep 22 2022 In the last ten years, the comparative method has been revolutionized by modern statistical ways of incorporating phylogenies into the design and analysis of comparative studies. The results of this revolution are particularly important in the study of animal behavior, which has relied on interspecific comparisons to infer universal trends and evolutionary patterns. The chapters of this edited volume consider the impact of

modern phylogenetic comparative methods on the study of animal behavior and discuss the main issues that need to be considered in design and analysis of a comparative study, considers possible differences between the evolution of behavior and the evolution of morphology, and reviews how phylogenetic comparative studies have been used in certain areas of behavioral research.

**Feeding** Feb 27 2023 As the first four-legged vertebrates, called tetrapods, crept up along the shores of ancient primordial seas, feeding was among the most paramount of their concerns. Looking back into the mists of evolutionary time, fish-like ancestors can be seen transformed by natural selection and other evolutionary pressures into animals with feeding habitats as varied as an anteater and a whale. From frog to pheasant and salamander to snake, every lineage of tetrapods has evolved unique feeding anatomy and behavior. Similarities in widely divergent tetrapods vividly illustrate their shared common ancestry. At the same time, numerous differences between and among tetrapods document the power and majesty that comprises organismal evolutionary history. Feeding is a detailed survey of the varied ways that land vertebrates acquire food. The functional anatomy and the control of complex and dynamic structural components are recurrent themes of this volume. Luminaries in the discipline of feeding biology have joined forces to create a book certain to stimulate future studies of animal anatomy and behavior.

**Mammalogy** Dec 01 2020 "Newly revised and extensively updated, the fifth edition of Mammalogy explains and clarifies the subject of mammalian biology as a unified whole, taking care to discuss the latest and most fascinating discoveries in the field. In recent years we witnessed significant changes in the taxonomy of mammals. The authors kept pace with such

changes and revised each chapter to reflect the most current data and statistics available. New pedagogical elements, including chapter outlines, lists of key morphological characteristics, and further reading sections, help readers grasp the most important concepts and explore additional content on their own." --Book Jacket.

**Lizards in an Evolutionary Tree** Jan 26 2023 "In a book both beautifully illustrated and deeply informative, Jonathan Losos, a leader in evolutionary ecology, celebrates and analyzes the diversity of the natural world that the fascinating anoline lizards epitomize. Readers who are drawn to nature by its beauty or its intellectual challenges—or both—will find his book rewarding."—Douglas J. Futuyma, State University of New York, Stony Brook "This book is destined to become a classic. It is scholarly, informative, stimulating, and highly readable, and will inspire a generation of students."—Peter R. Grant, author of *How and Why Species Multiply: The Radiation of Darwin's Finches* "Anoline lizards experienced a spectacular adaptive radiation in the dynamic landscape of the Caribbean islands. The radiation has extended over a long period of time and has featured separate radiations on the larger islands. Losos, the leading active student of these lizards, presents an integrated and synthetic overview, summarizing the enormous and multidimensional research literature. This engaging book makes a wonderful example of an adaptive radiation accessible to all, and the lavish illustrations, especially the photographs, make the anoles come alive in one's mind."—David Wake, University of California, Berkeley "This magnificent book is a celebration and synthesis of one of the most eventful adaptive radiations known. With disarming prose and personal narrative Jonathan Losos shows how an obsession, beginning at age ten, became a methodology and a research plan that, together with studies by

colleagues and predecessors, culminated in many of the principles we now regard as true about the origins and maintenance of biodiversity. This work combines rigorous analysis and glorious natural history in a unique volume that stands with books by the Grants on Darwin's finches among the most informed and engaging accounts ever written on the evolution of a group of organisms in nature."—Dolph Schluter, author of *The Ecology of Adaptive Radiation*

**Fish Locomotion** Aug 09 2021 Fish accomplish most of their basic behaviors by swimming. Swimming is fundamental in a vast majority of fish species for avoiding predation, feeding, finding food, mating, migrating and finding optimal physical environments. Fish exhibit a wide variety of swimming patterns and behaviors. This treatise looks at fish swimming from the behavioral and

Morphometrics Jan 02 2021 This book offers a thorough and up-to-date treatment of the use of morphometric procedures in a wide variety of contexts. As one of the most dynamic and popular fields on the contemporary biological scene, morphometrics is gaining notice among researchers and students as a necessary complement to molecular studies in the understanding and maintenance of biodiversity. This is the first reference to meet that growing need.

Herpetology Mar 24 2020 This third edition, now fully revised and updated by two of Dr. Zug's colleagues, provides herpetology students and amateur reptile and amphibian keepers with the latest taxonomy and species developments from around the world. Herpetology is a rapidly evolving field, which has contributed to new discoveries in many conceptual areas of biology. The authors build on this progress by updating all chapters with new literature, graphics, and discussions—many of which have changed our thinking. With a new emphasis

placed on conservation issues, Herpetology continues to broaden the global coverage from earlier editions, recognizing the burgeoning reptile and amphibian research programs and the plight of many species in all countries and all biomes. New information on the remarkable advances in behavioral, physiological, and phylo-geographical data provide students with the current research they need to advance their education and better prepare their future in herpetology. \* The latest taxonomy data \* End-of-chapter discussions for classroom use \* 90% new photographs, now all in full color for an enhanced visual representation \* Most recent information on the exciting and developing herpetological communities in Australia, Europe, Asia, South and North Americas \* New emphasis on conservation issues surrounding herpetology

**Lizard Ecology** May 18 2022 Originally published in 2006, this book was the first critical review of the effects of lizard foraging modes in 30 years.

*Fish Physiology: Fish Biomechanics* May 26 2020 The first in two decades to exclusively integrate physiological and biomechanical studies of fish locomotion, feeding and breathing, making this book both comprehensive and unique. *Fish Physiology: Fish Biomechanics* reviews and integrates recent developments in research on fish biomechanics, with particular emphasis on experimental results derived from the application of innovative new technologies to this area of research, such as high-speed video, sonomicrometry and digital imaging of flow fields. The collective chapters, written by leaders in the field, provide a multidisciplinary view and synthesis of the latest information on feeding mechanics, breathing mechanics, sensory systems, stability and maneuverability, skeletal systems, muscle structure and performance, and hydrodynamics of steady and burst swimming, including riverine passage of migratory

species. Book presents concepts in biomechanics, a rapidly expanding area of research First volume in over twenty years on this subject Multi-author volume with contributions by leaders in the field Clear explanations of basic biomechanical principles used in fish research Well illustrated with summary figures and explanatory color diagrams

**The Nature of Diversity** Mar 04 2021 All living things on earth—from individual species to entire ecosystems—have evolved through time, and evolution is the acknowledged framework of modern biology. Yet many areas of biology have moved from a focus on evolution to much narrower perspectives. Daniel R. Brooks and Deborah A. McLennan argue that it is impossible to comprehend the nature of life on earth unless evolution—the history of organisms—is restored to a central position in research. They demonstrate how the phylogenetic approach can be integrated with ecological and behavioral studies to produce a richer and more complete picture of evolution. Clearly setting out the conceptual, methodological, and empirical foundations of their research program, Brooks and McLennan show how scientists can use it to unravel the evolutionary history of virtually any characteristic of any living thing, from behaviors to ecosystems. They illustrate and test their approach with examples drawn from a wide variety of species and habitats. *The Nature of Diversity* provides a powerful new tool for understanding, documenting, and preserving the world's biodiversity. It is an essential book for biologists working in evolution, ecology, behavior, conservation, and systematics. The argument in *The Nature of Diversity* greatly expands upon and refines the arguments made in the authors' previous book *Phylogeny, Ecology, and Behavior*.

**The Neuroethology of Birdsong** Apr 17 2022 Vocal signals are

central for social communication across a wide range of vertebrate species; consequently, it is critical to understand the mechanisms underlying the learning, control, and evolution of vocal communication. Songbirds are at the forefront of research into such neural mechanisms. Indeed, songbirds provide a particularly important model system for this endeavor because of the many parallels between birdsong and human speech. Specifically, (1) songbirds are one of the few vertebrate species that, like humans, learn their vocal signals during development, (2) the processes of song learning and control in songbirds shares many parallels with the process of speech acquisition in humans, and (3) there exist deep homologies between the circuits for the learning, control, and processing of vocal signals across songbirds and humans. In addition, because of the diversity of songbirds and song learning strategies, songbirds offer a powerful model system to use the comparative method to reveal mechanisms underlying the evolution of song learning and production. Taken together, research on songbirds can not only reveal general principles underlying vertebrate vocal communication but can also provide insight into potential mechanisms underlying the learning, control, and processing of speech. This volume will cover a range of topics in birdsong spanning multiple level of analysis. Chapters will be authored by the world's leading experts on birdsong and will provide comprehensive reviews of the processes underlying song learning, of the neural circuits for song learning and control as well as for the extraction and processing of song information, of the selection pressures underlying song evolution, and of genetic and molecular mechanisms underlying the learning and evolution of song. The primary goals of this volume are to provide comprehensive, integrative, and comparative perspectives on birdsong and to underscore the importance of



birdsong to biomedical research, evolutionary biology, and behavioral, systems, and computational neuroscience. The target audience of this volume will be graduate students, postdoctoral fellows, and established academics and neuroscientists who are interested in mechanisms of communication from an integrative and comparative perspective. The volume is intended to function as a high-profile and contemporary reference on current work related to the learning, control, processing, and evolution of birdsong. This volume will have broad appeal to comparative and sensory biologists, neurophysiologists, and behavioral, systems, and cognitive neuroscientists who attend meetings such as the Society for Neuroscience, the International Society for Neuroethology, and the Society for Integrative and Comparative Biology. Because of the relevance of birdsong research to understanding human speech, it is likely that the volume will also be of interest to speech researchers and clinicians researching communication, motor, and sensory processing disorders.

*Convergent Evolution* May 06 2021 This volume presents a series of case studies, at different levels of inclusivity, of how organisms exhibit functional convergence as a key evolutionary mechanism resulting in responses to similar environmental constraints in mechanically similar ways. The contributors to this volume have selected and documented cases of convergent evolution of form and function that are perceived to be driven by environmental abiotic and/or biotic challenges that fall within their areas of expertise. Collectively these chapters explore this phenomenon across a broad phylogenetic spectrum. The sequence of chapters follows the organizational principle of increasing phylogenetic inclusivity, rather than the clustering of chapters by perceived similarity of the phenotypic features or biomechanical challenges being considered. This is done to

maintain focus on the evolutionary phenomenon that is the primary subject matter of the book, thereby providing a basis for discussion among the readership about what is necessary and sufficient to justify the recognition of functional convergence. All chapters stress the need for integrative approaches for the elucidation of both pattern and process as they relate to convergence at various taxonomic levels.

*The Biology of Chameleons* Nov 12 2021 They change color depending on their mood. They possess uniquely adapted hands and feet distinct from other tetrapods. They feature independently movable eyes. This comprehensive volume delves into these fascinating details and thorough research about one of the most charismatic families of reptiles—Chameleoniae.

Written for professional herpetologists, scholars, researchers, and students, this book takes readers on a voyage across time to discover everything that is known about chameleon biology: anatomy, physiology, adaptations, ecology, behavior, biogeography, phylogeny, classification, and conservation. A description of the natural history of chameleons is given, along with the fossil record and typical characteristics of each genus. The state of chameleons in the modern world is also depicted, complete with new information on the most serious threats to these remarkable reptiles.

**Ecological Morphology** Apr 29 2023 Ecological morphology examines the relation between an animal's anatomy and physiology—its form and function—and how the animal has evolved in and can inhabit a particular environment. Within the past few years, research in this relatively new area has exploded. Ecological Morphology is a synthesis of major concepts and a demonstration of the ways in which this integrative approach can yield rich and surprising results. Through this interdisciplinary study, scientists have been able to understand,

for instance, how bat wing design affects habitat use and bat diet; how the size of a predator affects its ability to capture and eat certain prey; and how certain mosquitoes have evolved physiologically and morphologically to tolerate salt-water habitats. Ecological Morphology also covers the history of the field, the role of the comparative method in studying adaptation, and the use of data from modern organisms for understanding the ecology of fossil communities. This book provides an overview of the achievements and potential of ecological morphology for all biologists and students interested in the way animal design, ecology, and evolution interact.

*Periphyton* Sep 10 2021 The first comprehensive monograph on periphyton, this book contains contributions by scientists from around the globe. Multi-disciplinary in nature, it covers both basic and applied aspects of periphyton, and is applicable worldwide in natural, extensive and intensive managed systems. Periphyton, as described in this book, refers to the entire complex of attached aquatic biota on submerged substrates, including associated non-attached organisms and detritus. Thus the periphyton community comprises bacteria, fungi, protozoa, algae, zooplankton and other invertebrates. Periphyton is important for various reasons: as a major contributor to carbon fixation and nutrient cycling in aquatic ecosystems; as an important source of food in aquatic systems; as an indicator of environmental change. It can also be managed to improve water quality in lakes and reservoirs; it can greatly increase aquaculture production; it can be used in waste water treatment. The book provides an international review of periphyton ecology, exploitation and management. The ecology part focuses on periphyton structure and function in natural systems. The exploitation part covers its nutritive qualities and utilization by organisms, particularly in aquaculture. The final

part consider the use of periphyton for increasing aquatic production and its effects on water quality and animal health in culture systems. This book will help scientists and entrepreneurs further understand the ecology and production of aquatic systems and venture into new and promising areas.

**Macroevolutionary Theory on Macroecological Patterns** Oct 23 2022 Table of contents

Ecomorphology of fishes Mar 28 2023 Ecomorphology is the comparative study of the influence of morphology on ecological relationships and the evolutionary impact of ecological factors on morphology in different life intervals, populations, species, communities, and evolutionary lineages. The book reviews early attempts at qualitative descriptions of ecomorphological patterns in fishes, especially those of the Russian school. More recent, quantitative studies are emphasised, including multivariate approaches to ecomorphological analysis, the selection of functionally important ecological and morphological variables to analyze, an experimental approach using performance tests to examine specific hypotheses derived from functional morphology, and the evolutionary interpretations of ecomorphological patterns. Six major areas of fish biology are focused on: feeding, sensory systems, locomotion, respiration, reproduction, and phylogenetic relationships. The 18 papers in the volume document: (1) how the morphology of bony fishes constrains ecological patterns and the use of resources; (2) whether ecological constraints can narrow the niche beyond the limits imposed by morphology (fundamental vs. realized niche); (3) how communities of fishes are organized with respect to ecomorphological patterns; and (4) the degree to which evolutionary pressures have produced convergent or divergent morphologies in fishes. A concluding paper summarizes ecomorphological research in fishes and points out taxa that are

underrepresented or are especially promising for future research. *Reconstructing Behavior in the Primate Fossil Record* Feb 15 2022 This volume brings together a series of papers that address the topic of reconstructing behavior in the primate fossil record. The literature devoted to reconstructing behavior in extinct species is overwhelming and very diverse. Sometimes, it seems as though behavioral reconstruction is done as an afterthought in the discussion section of papers, relegated to the status of informed speculation. But recent years have seen an explosion in studies of adaptation, functional anatomy, comparative sociobiology, and development. Powerful new comparative methods are now available on the internet. At the same time, we face a rapidly growing fossil record that offers more and more information on the morphology and paleoenvironments of extinct species. Consequently, inferences of behavior in extinct species have become better grounded in comparative studies of living species and are becoming increasingly rigorous. We offer here a series of papers that review broad issues related to reconstructing various aspects of behavior from very different types of evidence. We hope that in so doing, the reader will gain a perspective on the various types of evidence that can be brought to bear on reconstructing behavior, the strengths and weaknesses of different approaches, and, perhaps, new approaches to the topic. We define behavior as broadly as we can including life-history traits, locomotion, diet, and social behavior, giving the authors considerable freedom in choosing what, exactly, they wish to explore.

Developmental Genetics and Plant Evolution Jun 07 2021 A benchmark text, *Developmental Genetics and Plant Evolution* integrates the recent revolution in the molecular-developmental genetics of plants with mainstream evolutionary thought. It reflects the increasing cooperation between strongly genomics-

influenced researchers, with their strong grasp of technology, and evolutionary morphogenetists and sys

**Small Carnivores** Apr 05 2021 *Small Carnivores: Evolution, Ecology, Behaviour, and Conservation* This book focuses on the 232 species of the mammalian Order Carnivora with an average body mass 21.5 kg. Small carnivores inhabit virtually all of the Earth's ecosystems, adopting terrestrial, semi-fossorial, (semi-)arboreal or (semi-)aquatic lifestyles. They occupy multiple trophic levels and therefore play important roles in the regulation of ecosystems, such as natural pest control, seed dispersal and nutrient cycling. In areas where humans have extirpated large carnivores, small carnivores may become the dominant predators, which may increase their abundance ("mesopredator release") to the point that they can sometimes destabilize communities, drive local extirpations and reduce overall biodiversity. On the other hand, one third of the world's small carnivores are threatened or near threatened with extinction. This results from regionally burgeoning human populations' industrial and agricultural activities, causing habitat reduction, destruction, fragmentation and pollution. Overexploitation, persecution and the impacts of introduced predators, competitors, and pathogens have also negatively affected many small carnivore species. Although small carnivores have been intensively studied over the past decades, bibliometric studies showed that they have not received the same attention given to large carnivores. Furthermore, there is huge disparity in how research efforts on small carnivores have been distributed, with some species intensively studied and others superficially or not at all. This book aims at filling a gap in the scientific literature by elucidating the important roles of, and documenting the latest knowledge on, the world's small carnivores. p"This is a book that has been needed for decades. It

is the first compendium of recent research on a group of mammals which has received almost no attention before the early 1970s. This book covers a wide range of subdisciplines and techniques and should be considered a solid baseline for further research on this little-known group of highly interesting mammals. As our knowledge regarding how ecosystems function increases, then the valuable role of small carnivores and the necessity for their conservation should be regarded as of paramount importance. The topics covered in this book should therefore be of great interest not only to academics and wildlife researchers, but also to the interested layman."

The Ecology and Evolution of Inducible Defenses Feb 03 2021

Inducible defenses--those often dramatic phenotypic shifts in prey activated by biological agents ranging from predators to pathogens--are widespread in the natural world. Yet research on the inducible defenses used by vertebrates, invertebrates, and plants in terrestrial, marine, and freshwater habitats has largely developed along independent lines. Tollrian and Harvell bring together leading researchers from all fields to review common themes and explore emerging ideas. Contributors examine organisms as different as unicellular algae and higher vertebrates, and consider defenses ranging from immune systems to protective changes in morphology, behavior, chemistry, and life history.

*Biological Invasions in Marine Ecosystems* Jun 26 2020

Biological invasions are considered to be one of the greatest threats to the integrity of most ecosystems on earth. This volume explores the current state of marine bioinvasions, which have been growing at an exponential rate over recent decades. Focusing on the ecological aspects of biological invasions, it elucidates the different stages of an invasion process, starting with uptake and transport, through inoculation, establishment

and finally integration into new ecosystems. Basic ecological concepts - all in the context of bioinvasions - are covered, such as propagule pressure, species interactions, phenotypic plasticity, and the importance of biodiversity. The authors approach bioinvasions as hazards to the integrity of natural communities, but also as a tool for better understanding fundamental ecological processes. Important aspects of managing marine bioinvasions are also discussed, as are many informative case studies from around the world.

Adaptive Speciation Dec 13 2021 First published in 2004, this book by internationally recognized leaders in the field clarifies how adaptive processes, rather than geographic isolation, can cause speciation.

Feeding in Vertebrates Jul 20 2022 This book provides students and researchers with reviews of biological questions related to the evolution of feeding by vertebrates in aquatic and terrestrial environments. Based on recent technical developments and novel conceptual approaches, the book covers functional questions on trophic behavior in nearly all vertebrate groups including jawless fishes. The book describes mechanisms and theories for understanding the relationships between feeding structure and feeding behavior. Finally, the book demonstrates the importance of adopting an integrative approach to the trophic system in order to understand evolutionary mechanisms across the biodiversity of vertebrates.

Adaptation Aug 21 2022 The study of evolutionary adaptation returns to the center stage of biology with this important volume. This innovative treatise discusses new developments in adaptation, with new methods, and new theoretical foundations, achievements, and prospects for a rich intellectual future. It is an insightful reintroduction to the themes that Darwin and his successors regarded as central to any profound understanding of



biology.

The Rise of Placental Mammals Jan 22 2020 Publisher  
description

**Animal Athletes** Oct 11 2021 The study of performance capacity (defined as the ability of an animal to conduct a key task) holds great interest at both ecological and evolutionary levels. In this book, the topic is addressed using examples from throughout the animal kingdom, identifying common themes that transcend taxonomy.

**Evolutionary Developmental Biology** Apr 24 2020 Although evolutionary developmental biology is a new field, its origins lie in the last century; the search for connections between embryonic development (ontogeny) and evolutionary change (phylogeny) has been a long one. Evolutionary developmental biology is however more than just a fusion of the fields of developmental and evolutionary biology. It forges a unification of genomic, developmental, organismal, population and natural selection approaches to evolutionary change. It is concerned with how developmental processes evolve; how evolution produces novel structures, functions and behaviours; and how development, evolution and ecology are integrated to bring about and stabilize evolutionary change. The previous edition of this title, published in 1992, defined the terms and laid out the field for evolutionary developmental biology. This field is now one of the most active and fast growing within biology and this is reflected in this second edition, which is more than twice the length of the original and brought completely up to date. There are new chapters on major transitions in animal evolution, expanded coverage of comparative embryonic development and the inclusion of recent advances in genetics and molecular biology. The book is divided into eight parts which: place evolutionary developmental biology in the historical context of

the search for relationships between development and evolution; detail the historical background leading to evolutionary embryology; explore embryos in development and embryos in evolution; discuss the relationship between embryos, evolution, environment and ecology; discuss the dilemma for homology of the fact that development evolves; deal with the importance of understanding how embryos measure time and place both through development and evolutionarily through heterochrony and heterotrophy; and set out the principles and processes that underlie evolutionary developmental biology. With over one hundred illustrations and photographs, extensive cross-referencing between chapters and boxes for ancillary material, this latest edition will be of immense interest to graduate and advanced undergraduate students in cell, developmental and molecular biology, and in zoology, evolution, ecology and entomology; in fact anyone with an interest in this new and increasingly important and interdisciplinary field which unifies biology.

**Ecological Assembly Rules** Feb 21 2020 Considers the evidence for the existence of unifying rules controlling the formation and maintenance of ecological communities.

*The Origin and Evolution of Larval Forms* Jun 19 2022 A classic problem in evolutionary biology is the origin of larvae - how and why did they occur? Indeed, it has often been suggested that many entirely unique body plans first originated as retained larvae of ancestral organisms. But what of the larvae themselves? What developmental and evolutionary forces shape and constrain them? These questions and others are dealt with by this international team of leading zoologists and developmental biologists. Intended to contribute to a continuing dialectic, this book presents diverse opinions as well as manifold conclusions. Certain to challenge and intrigue, *The Origin and*

Evolution of Larval Forms should be a part of the library of every evolutionary and developmental biologist interested in larvae and their significance.

*Biology of Termites: a Modern Synthesis* Sep 29 2020 *Biology of Termites, a Modern Synthesis* brings together the major advances in termite biology, phylogenetics, social evolution and biogeography. In this new volume, David Bignell, Yves Roisin and Nathan Lo have brought together leading experts on termite taxonomy, behaviour, genetics, caste differentiation, physiology, microbiology, mound architecture, biogeography and control. Very strong evolutionary and developmental themes run through the individual chapters, fed by new data streams from molecular sequencing, and for the first time it is possible to compare the social organisation of termites with that of the social Hymenoptera, focusing on caste determination, population genetics, cooperative behaviour, nest hygiene and symbioses with microorganisms. New chapters have been added on termite pheromones, termites as pests of agriculture and on destructive invasive species.

*Evolutionary History of Bats* Mar 16 2022 This book explores the rich evolutionary history of bats from multiple perspectives, presenting some of the most remarkable discoveries involving fossil bats.

Primate Origins: Adaptations and Evolution Oct 31 2020 This book provides a novel focus on adaptive explanations for cranial and postcranial features and functional complexes, socioecological systems, life history patterns, etc. in early primates. It further offers a detailed rendering of the phylogenetic affinities of such basal taxa to later primate clades as well as to other early/recent mammalian orders. In addition to the strictly paleontological or systemic questions regarding Primate Origins, the editors concentrate on the adaptive

significance of primate characteristics. Thus, the book provides the broadest possible perspective on early primate phylogeny and the adaptive uniqueness of the Order Primates.

**Handbook of Paleoanthropology** Dec 21 2019 This 3-volume handbook brings together contributions by the world's leading specialists that reflect the broad spectrum of modern palaeoanthropology, thus presenting an indispensable resource for professionals and students alike. Vol. 1 reviews principles, methods, and approaches, recounting recent advances and state-of-the-art knowledge in phylogenetic analysis, palaeoecology and evolutionary theory and philosophy. Vol. 2 examines primate origins, evolution, behaviour, and adaptive variety, emphasizing integration of fossil data with contemporary knowledge of the behaviour and ecology of living primates in natural environments. Vol. 3 deals with fossil and molecular evidence for the evolution of *Homo sapiens* and its fossil relatives.

**Evolutionary Quantitative Genetics** Jul 28 2020 Evolutionary quantitative genetics (EQG) provides a formal theoretical foundation for quantitatively linking natural selection and genetic variation to the rate and expanse of adaptive evolution. It has become the dominant conceptual framework for interpreting the evolution of quantitative traits in terms of elementary forces (mutation, inheritance, selection, and drift). Despite this success, the relevance of EQG to many biological scenarios remains relatively unappreciated, with numerous fields yet to fully embrace its approach. Part of the reason for this lag is that conceptual advances in EQG have not yet been fully synthesized and made accessible to a wider academic audience. A comprehensive, accessible overview is therefore now timely, and *Evolutionary Quantitative Genetics* provides this much-needed synthesis. The central argument of the book is that an

adaptive landscape concept can be used to understand both evolutionary process within lineages and the pattern of adaptive radiations. In particular, it provides a convincing argument that models with a moving adaptive peak carry us further than any other conceptual approach yet devised. Although additive theory holds center stage, the book mentions and references departures from additivity including non-Gaussian distributions of allelic effects, dominance, epistasis, maternal effects and phenotypic plasticity. This accessible, advanced textbook is aimed principally at students (from senior undergraduate to postgraduate) as well as practising scientists in the fields of evolutionary biology, ecology, physiology, functional morphology, developmental biology, comparative biology, paleontology, and beyond who are interested in how adaptive radiations are produced by evolutionary and ecological processes.

**The International Encyclopedia of Primatology, 3 Volume Set** Nov 24 2022 The International Encyclopedia of Primatology represents the first comprehensive encyclopedic reference focusing on the behaviour, biology, ecology, evolution, genetics, and taxonomy of human and non-human primates. Represents the first comprehensive encyclopedic reference relating to primatology Features more than 450 entries covering topics ranging from the taxonomy, history, behaviour, ecology, captive management and diseases of primates to their use in research, cognition, conservation, and representations in literature Includes coverage of the basic scientific concepts that underlie each topic, along with the latest advances in the field Highly accessible to undergraduate and graduate students in primatology, anthropology, and the medical, biological and zoological sciences Essential reference for academics, researchers and commercial and conservation organizations This

work is also available as an online resource at  
[www.encyclopediaofprimatology.com](http://www.encyclopediaofprimatology.com)

**Functional Morphology in Vertebrate Paleontology** Aug 29  
2020 Looks at how fossil vertebrates moved, fed and  
reproduced.

Lizard Social Behavior Jul 08 2021 Introduction: The  
evolutionary study of social behavior and the role of lizards as  
model organisms / Stanley F. Fox, J. Kelly McCoy and Troy A.  
Baird -- Variation among individuals. Introduction / Peter  
Marler. Intra- and intersexual variation in social behavior :  
effects of ontogeny, phenotype, resources, and season / Troy A.  
Baird, Dusti K. Timanus and Chris L. Sloan. Evolution and  
maintenance of social status-signaling badges : experimental  
manipulations in lizards / Martin J. Whiting, Kenneth A. Nagy  
and Philip W. Bateman. Ecological and social contexts for the  
evolution of alternative mating strategies / Kelly R. Zamudio  
and Barry Sinervo. Social behavior and antipredatory defense in  
lizards / William E. Cooper, Jr. -- Variation among populations.  
Introduction / Gordon H. Orians.

Coral Reef Fishes Jan 14 2022 Coral Reef Fishes is the  
successor of The Ecology of Fishes on Coral Reefs. This new  
edition includes provocative reviews covering the major areas of  
reef fish ecology. Concerns about the future health of coral  
reefs, and recognition that reefs and their fishes are  
economically important components of the coastal oceans of  
many tropical nations, have led to enormous growth in research  
directed at reef fishes. This book is much more than a simple  
revision of the earlier volume; it is a companion that supports  
and extends the earlier work. The included syntheses provides  
readers with the current highlights in this exciting science. \* An  
up-to-date review of key research areas in reef fish ecology, with  
a bibliography including hundreds of citations, most from the

last decade \* Authoritative and provocative chapters written to suggest future research priorities \* Includes discussions of regulation of fish populations, dispersal or site fidelity of larval reef fishes, sensory and motor capabilities of reef fish larvae, and complexities of management of reef species and communities

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