

Animal Behavior An Evolutionary Approach John Alcock

The third edition of this successful textbook looks again at the influence of natural selection on behavior - an animal's struggle to survive by exploiting resources, avoiding predators, and maximizing reproductive success. In this edition, new examples are introduced throughout, many illustrated with full color photographs. In addition, important new topics are added including the latest techniques of comparative analysis, the theory and application of DNA fingerprinting techniques, extensive new discussion on brood parasite/host coevolution, the latest ideas on sexual selection in relation to disease resistance, and a new section on the intentionality of communication. Written in the lucid style for which these two authors are renowned, the text is enhanced by boxed sections illustrating important concepts and new marginal notes that guide the reader through the text. This book will be essential reading for students taking courses in behavioral ecology. The leading introductory text from the two most prominent workers in the field. Second colour in the text. New section of four colour plates. Boxed sections to illustrate difficult and important points. New larger format with marginal notes to guide the reader through the text. Selected further reading at the end of each chapter.

Since the last edition of this definitive textbook was published in 2013, much has happened in the field of animal behavior. In this fourth edition, Lee Alan Dugatkin draws on cutting-edge new work not only to update and expand on the studies presented, but also to reinforce the previous editions' focus on ultimate and proximate causation, as well as the book's unique emphasis on natural selection, learning, and cultural transmission. The result is a state-of-the-art textbook on animal behavior that explains underlying concepts in a way that is both scientifically rigorous and accessible to students. Each chapter in the book provides a sound theoretical and conceptual basis upon which the empirical studies rest. A completely new feature in this edition are the Cognitive Connection boxes in Chapters 2–17, designed to dig deep into the importance of the cognitive underpinnings to many types of behaviors. Each box focuses on a specific issue related to cognition and the particular topic covered in that chapter. As Principles of Animal Behavior makes clear, the tapestry of animal behavior is created from weaving all of these components into a beautiful whole. With Dugatkin's exquisitely illustrated, comprehensive, and up-to-date fourth edition, we are able to admire that beauty anew.

Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780878932252 .

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This up-to-date review examines key areas of animal behaviour, including communication, cognition, conflict, cooperation, sexual selection and behavioural variation. Various tests are covered, including recent empirical examples.

?This textbook presents all basic principles of animal behaviour in a clear and concise manner and illustrates them with up-to-date examples. Emphasis is placed on behavioural biology as an integrative discipline of organismic biology, focusing on the adaptive value of behaviours that facilitate resource access, predator avoidance and reproductive success and underlie parental care, all within a comprehensive presentation of social complexity. This new textbook provides a rich resource for students (and teachers) from a wide range of life science disciplines.

Ask anyone who has owned a pet and they'll assure you that, yes, animals have personalities. And science is beginning to agree. Researchers have demonstrated that both domesticated and nondomesticated animals—from invertebrates to monkeys and apes—behave in consistently different ways, meeting the criteria for what many define as personality. But why the differences, and how are personalities shaped by genes and environment? How did they evolve? The essays in Animal Personalities reveal that there is much to learn from our furred and feathered friends. The study of animal personality is one of the fastest-growing areas of research in behavioral and evolutionary biology. Here Claudio Carere and Dario Maestriperi, along with a host of scholars from fields as diverse as ecology, genetics, endocrinology, neuroscience, and psychology, provide a comprehensive overview of the current research on animal personality. Grouped into thematic sections, chapters approach the topic with empirical and theoretical material and show that to fully understand why personality exists, we must consider the evolutionary processes that give rise to personality, the ecological correlates of personality differences, and the physiological mechanisms underlying personality variation.

With unique personal insight, experience, and hard science, Animals in Translations is the definitive, groundbreaking work on animal behavior and psychology. Temple Grandin's professional training as an animal scientist and her history as a person with autism have given her a perspective like that of no other expert in the field of animal science. Grandin and coauthor Catherine Johnson present their powerful theory that autistic people can often think the way animals think—putting autistic people in the perfect position to translate “animal talk.” Exploring animal pain, fear, aggression, love, friendship, communication, learning, and even animal genius, Grandin is a faithful guide into their world. Animals in Translation reveals that animals are much smarter than anyone ever imagined, and Grandin, standing at the intersection of autism and animals, offers unparalleled observations

and extraordinary ideas about both.

This book gives an overview of Animal Behavior with an emphasis on integration of questions at both proximate and ultimate causation. The targeted audience is advanced undergraduates, graduate students, and professional scientists in other fields in need of a succinct review.

Conceptual Breakthroughs in Ethology and Animal Behavior highlights, through concise summaries, the most important discoveries and scientific revolutions in animal behavior. These are assessed for their relative impact on the field and their significance to the forward motion of the science of animal behavior. Eighty short essays capture the moment when a new concept emerged or a publication signaled a paradigm shift. How the new understanding came about is explained, and any continuing controversy or scientific conversation on the issue is highlighted. Behavior is a rich and varied field, drawing on genetics, evolution, physiology, and ecology to inform its principles, and this book embraces the wealth of knowledge that comes from the unification of these fields around the study of animals in motion. The chronological organization of the essays makes this an excellent overview of the history of animal behavior, ethology, and behavioral ecology. The work includes such topics as Darwin's role in shaping the study of animal behavior, the logic of animal contests, cognition, empathy in animals, and animal personalities. Succinct accounts of new revelations about behavior through scientific investigation and scrutiny reveal the fascinating story of this field. Similar to Dr. John Avise's Contemporary Breakthroughs in Evolutionary Genetics, the work is structured into vignettes that describe the conceptual revolution and assess the impact of the conceptual change, with a score, which ranges from 1-10, providing an assessment of the impact of the new findings on contemporary science. Features a lively, brisk writing style and brief entries to enable easy, enjoyable access to this essential information. Includes topics that cover the range of behavioral biology from mechanism to behavioral ecology. Can also be used as supplemental material for an undergraduate animal behavior course, or as the foundational text for an upper level or graduate discussion course in advanced animal behavior.

When John Alcock replaced the Bermuda grass in his suburban Arizona lawn with gravel, cacti, and fairy dusters, he was doing more than creating desert landscaping. He seeded his property with flowers to entice certain insects and even added a few cowpies to attract termites, creating a personal laboratory for ecological studies. His observations of life in his own front yard provided him with the fieldnotes for this unusual book. In a Desert Garden draws readers into the strange and fascinating world of plants and animals native to Arizona's Sonoran Desert. As Alcock studies the plants in his yard, he shares thoughts on planting, weeding, and pruning that any gardener will appreciate. And when commenting on the mating rituals of spiders and beetles or marveling at the camouflage of grasshoppers and caterpillars, he uses humor and insight to detail the lives of the insects that live in his patch of desert. Celebrating the virtues of even aphids and mosquitoes, Alcock draws the reader into the intricacies of desert life to reveal the complex interactions found in this unique ecosystem. In a Desert Garden combines meticulous science with contemplations of nature and reminds us that a world of wonder lies just outside our own doors.

Principles of Animal Behavior has long been considered the most current and engaging introduction to animal behavior. The Third Edition is now also the most comprehensive and balanced in its approach to the theoretical framework behind how biologists study behavior.

This work contains both contemporary research findings and historical experimental evidence. It includes the topic animal awareness, and there is requisite background material on genetics and other basic molecular topics.

Fish travel in schools, birds migrate in flocks, honeybees swarm, and ants build trails. How and why do these collective behaviors occur? Exploring how coordinated group patterns emerge from individual interactions, Collective Animal Behavior reveals why animals produce group behaviors and examines their evolution across a range of species. Providing a synthesis of mathematical modeling, theoretical biology, and experimental work, David Sumpter investigates how animals move and arrive together, how they transfer information, how they make decisions and synchronize their activities, and how they build collective structures. Sumpter constructs a unified appreciation of how different group-living species coordinate their behaviors and why natural selection has produced these groups. For the first time, the book combines traditional approaches to behavioral ecology with ideas about self-organization and complex systems from physics and mathematics. Sumpter offers a guide for working with key models in this area along with case studies of their application, and he shows how ideas about animal behavior can be applied to understanding human social behavior. Containing a wealth of accessible examples as well as qualitative and quantitative features, Collective Animal Behavior will interest behavioral ecologists and all scientists studying complex systems.

The first book-length exploration of behavioral mechanisms in evolutionary ecology, this ambitious volume illuminates long-standing questions about cause-and-effect relations between an animal's behavior and its environment. By focusing on biological mechanisms—the sum of an animal's cognitive, neural, developmental, and hormonal processes—leading researchers demonstrate how the integrated study of animal physiology, cognitive processes, and social interaction can yield an enriched understanding of behavior. With studies of species ranging from insects to primates, the contributors examine how various animals identify and use environmental resources and deal with ecological constraints, as well as the roles of learning, communication, and cognitive aspects of social interaction in behavioral evolution. Taken together, the chapters demonstrate how the study of internal mechanistic foundations of behavior in relation to their ecological and evolutionary contexts and outcomes provides valuable insight into such behaviors as predation, mating, and dispersal. Behavioral Mechanisms in Evolutionary Ecology shows how a mechanistic approach unites various levels of biological organization to provide a broader understanding of the biological bases of behavioral evolution.

Studies of animal behavior often assume that all members of a species exhibit the same behavior. Geographic Variation in Behavior shows that, on the contrary, there is substantial variation

within species across a wide range of taxa. Including work from pioneers in the field, this volume provides a balanced overview of research on behavioral characteristics that vary geographically. The authors explore the mechanisms by which behavioral differences evolve and examine related methodological issues. Taken together, the work collected here demonstrates that genetically based geographic variation may be far more widespread than previously suspected. The book also shows how variation in behavior can illuminate both behavioral evolution and general evolutionary patterns. Unique among books on behavior in its emphasis on geographic variation, this volume is a valuable new resource for students and researchers in animal behavior and evolutionary biology.

The role of parents in shaping the characters of their children, the causes of violence and crime, and the roots of personal unhappiness are central to humanity. Like so many fundamental questions about human existence, these issues all relate to behavioural development. In this lucid and accessible book, eminent biologist Professor Sir Patrick Bateson suggests that the nature/nurture dichotomy we often use to think about questions of development in both humans and animals is misleading. Instead, he argues that we should pay attention to whole systems, rather than to simple causes, when trying to understand the complexity of development. In his wide-ranging approach Bateson discusses why so much behaviour appears to be well-designed. He explores issues such as 'imprinting' and its importance to the attachment of offspring to their parents; the mutual benefits that characterise communication between parent and offspring; the importance of play in learning how to choose and control the optimal conditions in which to thrive; and the vital function of adaptability in the interplay between development and evolution. Bateson disputes the idea that a simple link can be found between genetics and behaviour. What an individual human or animal does in its life depends on the reciprocal nature of its relationships with the world about it. This knowledge also points to ways in which an animal's own behaviour can provide the variation that influences the subsequent course of evolution. This has relevance not only for our scientific approaches to the systems of development and evolution, but also on how humans change institutional rules that have become dysfunctional, or design public health measures when mismatches occur between themselves and their environments. It affects how we think about ourselves and our own capacity for change.

Game theory has revolutionized the study of animal behavior. The fundamental principle of evolutionary game theory--that the strategy adopted by one individual depends on the strategies exhibited by others--has proven a powerful tool in uncovering the forces shaping otherwise mysterious behaviors. In this volume, the first since 1982 devoted to evolutionary game theory, leading researchers describe applications of the theory to diverse types of behavior, providing an overview of recent discoveries and a synthesis of current research. The volume begins with a clear introduction to game theory and its explanatory scope. This is followed by a series of chapters on the use of game theory to understand a range of behaviors: social foraging, cooperation, animal contests, communication, reproductive skew and nepotism within groups, sibling rivalry, alternative life-histories, habitat selection, trophic-level interactions, learning, and human social behavior. In addition, the volume includes a discussion of the relations among game theory, optimality, and quantitative genetics, and an assessment of the overall utility of game theory to the study of social behavior. Presented in a manner accessible to anyone interested in animal behavior but not necessarily trained in the mathematics of game theory, the book is intended for a wide audience of undergraduates, graduate students, and professional biologists pursuing the evolutionary analysis of animal behavior.

A FINALIST FOR THE PULITZER PRIZE NAMED A BEST BOOK OF THE YEAR BY THE NEW YORK TIMES BOOK REVIEW, SMITHSONIAN, AND WALL STREET JOURNAL A major reimagining of how evolutionary forces work, revealing how mating preferences—what Darwin termed "the taste for the beautiful"—create the extraordinary range of ornament in the animal world. In the great halls of science, dogma holds that Darwin's theory of natural selection explains every branch on the tree of life: which species thrive, which wither away to extinction, and what features each evolves. But can adaptation by natural selection really account for everything we see in nature? Yale University ornithologist Richard Prum—reviving Darwin's own views—thinks not. Deep in tropical jungles around the world are birds with a dizzying array of appearances and mating displays: Club-winged Manakins who sing with their wings, Great Argus Pheasants who dazzle prospective mates with a four-foot-wide cone of feathers covered in golden 3D spheres, Red-capped Manakins who moonwalk. In thirty years of fieldwork, Prum has seen numerous display traits that seem disconnected from, if not outright contrary to, selection for individual survival. To explain this, he dusts off Darwin's long-neglected theory of sexual selection in which the act of choosing a mate for purely aesthetic reasons—for the mere pleasure of it—is an independent engine of evolutionary change. Mate choice can drive ornamental traits from the constraints of adaptive evolution, allowing them to grow ever more elaborate. It also sets the stakes for sexual conflict, in which the sexual autonomy of the female evolves in response to male sexual control. Most crucially, this framework provides important insights into the evolution of human sexuality, particularly the ways in which female preferences have changed male bodies, and even maleness itself, through evolutionary time. *The Evolution of Beauty* presents a unique scientific vision for how nature's splendor contributes to a more complete understanding of evolution and of ourselves.

Animal Play, first published in 1998, is an interdisciplinary study of play in animals and humans.

Evolutionary Behavioral Ecology presents a comprehensive treatment of the evolutionary and ecological processes shaping behavior across a wide array of organisms and a diverse set of behaviors and is suitable as a graduate-level text and as a sourcebook for professional scientists.

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This book considers research on insect acoustic behaviour from two divergent approaches to insect behaviour. The first approach involves the current rediscovery of sexual selection and involves the testing of many hypotheses concerning the relative importance of different behavioural strategies to the fitness of the individual. The other approach considers the role of specific neurones within the insect's auditory system. This book aims to integrate these aspects of evolutionary biology and neurophysiology.

Animal Behavior, Second Edition, covers the broad sweep of animal behavior from its neurological underpinnings to the importance of behavior in conservation. The authors, Michael Breed and Janice Moore, bring almost 60 years of combined experience as university professors to this textbook, much of that teaching animal behavior. An entire chapter is devoted to the vibrant new field of behavior and conservation, including topics such as social behavior and the relationship between parasites, pathogens, and behavior. Thoughtful coverage has also been given to foraging behavior, mating and parenting behavior, anti-predator behavior, and learning. This text addresses the physiological foundations of behavior in a way that is both accessible and inviting, with each chapter beginning with learning objectives

and ending with thought-provoking questions. Additionally, special terms and definitions are highlighted throughout. Animal Behavior provides a rich resource for students (and professors) from a wide range of life science disciplines. Provides a rich resource for students and professors from a wide range of life science disciplines Updated and revised chapters, with at least 50% new case studies and the addition of contemporary in-text examples Expanded and updated coverage of animal welfare topics Includes behavior and homeostatic mechanisms, behavior and conservation, and behavioral aspects of disease Available lab manual with fully developed and tested laboratory exercises Companion website includes newly developed slide sets/templates (PowerPoints) coordinated with the book

The diversity of animal signals has been widely documented, and the generality of animal signals also tantalizingly suggests that there are common mechanisms that have selected for their origin. However, while much progress has been made on some fronts, we still lack a general theory about why the diversity of signaling structures exist. Our compilation will directly address this gap by focusing on an exciting new arena of sexual selection, namely using functional approaches to understand signaling. This approach is rooted in the idea that many signals are designed to transmit important functional information that is both important for issues of male quality (and hence male competition), and female choice. The increasing use of technology in sexual selection studies has enabled researchers to test whether signaling is either constrained by, or accurately transmits information about functional capacities. Further, in animals that fight vigorously, functional capacities such as endurance or strength may make the difference between winning and losing. This volume brings together a diverse collection of researchers who are actively investigating how function and signaling are related. These researchers use both a variety of methods and taxa to study animal signaling, and we believe that this integrative view is important to open up fresh vistas for why animal signals have evolved.

In *The Triumph of Sociobiology*, John Alcock reviews the controversy that has surrounded evolutionary studies of human social behavior following the 1975 publication of E.O. Wilson's classic, *Sociobiology, The New Synthesis*. Denounced vehemently as an "ideology" that has justified social evils and inequalities, sociobiology has survived the assault. Twenty-five years after the field was named by Wilson, the approach he championed has successfully demonstrated its value in the study of animal behavior, including the behavior of our own species. Yet, misconceptions remain--to our disadvantage. In this straightforward, objective approach to the sociobiology debate, noted animal behaviorist John Alcock illuminates how sociobiologists study behavior in all species. He confronts the chief scientific and ideological objections head on, with a compelling analysis of case histories that involve such topics as sexual jealousy, beauty, gender difference, parent-offspring relations, and rape. In so doing, he shows that sociobiology provides the most satisfactory scientific analysis of social behavior available today. Alcock challenges the notion that sociobiology depends on genetic determinism while showing the shortcoming of competing approaches that rely on cultural or environmental determinism. He also presents the practical applications of sociobiology and the progress sociobiological research has made in the search for a more complete understanding of human activities. His reminder that "natural" behavior is not "moral" behavior should quiet opponents fearing misapplication of evolutionary theory to our species. The key misconceptions about this evolutionary field are dissected one by one as the author shows why sociobiologists have had so much success in explaining the puzzling and fascinating social behavior of nonhuman animals and humans alike.

Aims to show the relevance of evolutionary thinking to the range of psychological phenomena. This book applies theory to questions from various domains of psychology such as learning, cognition, perception, emotion, development, and, pathology. It is suitable as core text or supplement for introductory or upper-division psychology course.

Conservation behavior assists the investigation of species endangerment associated with managing animals impacted by anthropogenic activities. It employs a theoretical framework that examines the mechanisms, development, function, and phylogeny of behavior variation in order to develop practical tools for preventing biodiversity loss and extinction. Developed from a symposium held at the International Congress on Conservation Biology in 2011, this is the first book to offer an in-depth, logical framework that identifies three vital areas for understanding conservation behavior: anthropogenic threats to wildlife, conservation and management protocols, and indicators of anthropogenic threats. Bridging the gap between behavioral ecology and conservation biology, this volume ascertains key links between the fields, explores the theoretical foundations of these linkages, and connects them to practical wildlife management tools and concise applicable advice. Adopting a clear and structured approach throughout, this book is a vital resource for graduate students, academic researchers, and wildlife managers.

Comparative Animal Behavior meets the need for a student friendly and comprehensive text in the rapidly expanding field of animal behavior. It achieves a good balance between recent, hot research and classic studies of animal behavior, in an organized and engaging manner. *Comparative Animal Behavior* surpasses other texts in its coverage of the rapidly developing area of evolutionary psychology and differs from standard texts in its organizational approach which is designed to draw students into the material in a way that no other animal behavior textbook does. Brief, rather than extensive, discussions of history are presented throughout the text to hold students interest. The amount of material integrating psychological and biological approaches surpasses the competition. *Comparative Animal Behavior* also responds to recent shifts in research and theoretical interests by providing current information in the areas of animal learning and cognition, parasitism, and mutualism. Maier describes his book as a labor of love, that reflects a life-long interest in the subject and over thirty-five years of teaching experience.

A supplementary reader for a course in animal behavior, particularly those using John Alcock's *Animal Behavior: An Evolutionary Approach* as a core text, but also more widely applicable. Reprints 30 articles from the journal of the scientific society Sigma Xi, some of which are from issues since the 1993 first edition. Annotation copyrighted by Book News, Inc., Portland, OR

An evolutionary approach to animal behavior. The diversity of behavior. The genetics of behavior. The development of behavior. Nerve cells and behavior. The organization of behavior. The evolution of behavior: historical pathways. The evolution of adaptatioins. The evolution of communication. Finding a place to live. Adaptive feeding behavior. Coping with predators adaptively. Male and female reproductive tactics. The ecology of mating systems. Caring for offspring. The ecology of social behavior. An evolutionary approach to human behavior.

This comprehensive volume looks at a range of topics covering the habits of a variety of animals, including how macaques teach their offspring, how rats transmit avoidance behavior, how supplementary feeding of tree frogs affects their breeding behavior, and more. Studies in animal behavior can have far-reaching implications for animals and humans alike—suggesting how humans can improve conservation efforts, how we can better protect animals both in the wild and in captivity, and what can be learned about humans from animals.

