

evolution bergstrom and dugatkin

evolution bergstrom and dugatkin is a phrase that captures the influential work of Carl T. Bergstrom and Lee Alan Dugatkin in the field of evolutionary biology. Their collaborative efforts, especially through their renowned textbook "Evolution," have shaped how students, researchers, and educators understand the mechanisms and history of evolutionary change. This article will explore the background of Bergstrom and Dugatkin, discuss key concepts from their work, highlight their contributions to evolutionary theory, and examine the pedagogical approach that sets their textbook apart. Readers will also gain insight into the practical applications of evolutionary principles, current research trends, and frequently asked questions about their influential partnership. By the end, you'll have a comprehensive understanding of why "evolution bergstrom and dugatkin" remains a cornerstone in evolutionary biology education and research.

- Background of Bergstrom and Dugatkin
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Background of Bergstrom and Dugatkin

Carl T. Bergstrom is a distinguished evolutionary biologist and professor known for his research in theoretical biology, information flow, and the evolution of cooperation. He has published extensively on evolutionary dynamics, network theory, and the spread of misinformation. Lee Alan Dugatkin is a renowned evolutionary biologist and historian of science, specializing in animal behavior, cooperation, and the evolution of altruism. Dugatkin's prolific career includes numerous books and research articles that have significantly impacted evolutionary theory.

Their collaboration merges Bergstrom's analytical approach and Dugatkin's expertise in behavioral ecology. Together, they have created a comprehensive resource that addresses both the foundational principles and cutting-edge developments in evolution. The synergy between their backgrounds ensures a broad, nuanced treatment of evolutionary biology that appeals to a wide audience, from students to seasoned researchers.

The Evolution Textbook: An Overview

"Evolution" by Bergstrom and Dugatkin is a widely adopted textbook in undergraduate and graduate courses worldwide. The book stands out for its clarity, depth, and up-to-date coverage of evolutionary concepts. It integrates molecular, organismal, and ecological perspectives, providing readers with a holistic view of evolutionary processes.

The textbook is structured to guide readers from the basics, such as genetic variation and natural selection, to advanced topics like coevolution, speciation, and evolutionary medicine. Its accessibility and logical progression make complex concepts understandable, while extensive visual aids and summaries reinforce learning.

Unique Features of the Textbook

- Comprehensive coverage of classical and contemporary evolutionary theory
- In-depth case studies and examples from diverse taxa
- Rich illustrations and diagrams to enhance understanding
- Integrated discussion of molecular and ecological evolution
- Critical thinking questions and exercises in each chapter

Core Concepts in Evolution According to Bergstrom and Dugatkin

A central theme in "evolution bergstrom and dugatkin" is the dynamic interplay between genetic variation, natural selection, and the environment. Their work elucidates how these forces drive the adaptation and diversification of life on Earth. The authors emphasize the importance of viewing evolution as a process shaped by both microevolutionary changes within populations and macroevolutionary patterns over geological timescales.

Genetic Variation and Mutation

The textbook details the sources of genetic variation, including mutations, genetic recombination, and gene flow. Bergstrom and Dugatkin explain how random mutations introduce novel traits, which may be favored or disfavored by selection, thereby fueling evolutionary change. They provide examples from bacteria to vertebrates, illustrating the universality of these mechanisms.

Natural Selection and Adaptation

Natural selection is presented as the primary driver of adaptation. The authors discuss how differential survival and reproduction lead to changes in allele frequencies, shaping populations over time. They explore various modes of selection—directional, stabilizing, and disruptive—and provide real-world examples, such as antibiotic resistance and the evolution of mimicry in insects.

Speciation and Macroevolution

The process of speciation—how new species arise—is a focal point in their coverage. Bergstrom and Dugatkin describe mechanisms such as allopatric, sympatric, and parapatric speciation, supported by case studies from plants and animals. They also delve into macroevolutionary patterns, including adaptive radiations and mass extinctions, revealing the broad scope of evolutionary change.

Pedagogical Innovations in Teaching Evolution

One of the hallmarks of "evolution bergstrom and dugatkin" is its innovative approach to education. The authors employ active learning strategies, encouraging students to engage with material through critical thinking and problem-solving. Their textbook offers a balance between detailed explanations and opportunities for independent exploration, catering to diverse learning styles.

Case Studies and Problem Sets

Each chapter features case studies that apply evolutionary principles to real-world scenarios. These cases range from the evolution of resistance in pathogens to the origins of social behaviors in animals. Problem sets challenge students to analyze data, formulate hypotheses, and draw conclusions, reinforcing key concepts.

Visual and Interactive Learning Tools

Bergstrom and Dugatkin's use of diagrams, charts, and interactive figures aids comprehension. These visual elements make abstract ideas tangible and help learners see connections between evolutionary processes. The textbook also incorporates online resources, such as quizzes and simulations, to support active engagement.

Real-World Applications of Their Evolutionary Framework

The principles in "evolution bergstrom and dugatkin" extend beyond academic theory, offering practical insights for medicine, agriculture, conservation, and technology. Understanding evolutionary dynamics is crucial for addressing global challenges, from emerging diseases to biodiversity loss.

- **Evolutionary Medicine:** Applying evolutionary principles to understand antibiotic resistance, cancer progression, and disease ecology.
- **Agricultural Innovations:** Utilizing evolutionary strategies to breed resilient crops and manage pest populations.
- **Conservation Biology:** Informing strategies for species preservation and ecosystem management.
- **Biotechnology:** Harnessing evolutionary processes in genetic engineering and synthetic biology.

Current Trends and Research Influenced by Bergstrom and Dugatkin

The work of Bergstrom and Dugatkin continues to shape the direction of evolutionary research. Their textbook is frequently cited in studies examining cooperation, social evolution, and evolutionary game theory. They have inspired investigations into the evolution of communication, the spread of misinformation, and the role of networks in biological and social systems.

Recent advancements in genomics, computational biology, and experimental evolution are deeply informed by the frameworks established in "evolution bergstrom and dugatkin." Researchers draw on their integrated approach to tackle complex questions, such as the origins of multicellularity, the evolution of social behaviors, and the impact of human activity on evolutionary trajectories.

Frequently Asked Questions

This section addresses common inquiries about "evolution bergstrom and dugatkin," providing clarity on their work, textbook, and impact on evolutionary biology.

Q: Who are Bergstrom and Dugatkin?

A: Carl T. Bergstrom is a professor specializing in evolutionary biology and information flow, while Lee Alan Dugatkin is an evolutionary biologist focused on animal behavior and cooperation. Together, they have authored a leading textbook on evolution.

Q: What is the main focus of the "Evolution" textbook by Bergstrom and Dugatkin?

A: The textbook provides comprehensive coverage of evolutionary theory, integrating genetic, ecological, and behavioral perspectives. It is designed for undergraduate and graduate students, as well as researchers.

Q: What makes the Bergstrom and Dugatkin textbook unique?

A: The textbook stands out for its clarity, use of real-world examples, visual aids, and active learning strategies. It bridges classical evolutionary theory with modern research and applications.

Q: How does the textbook address the concept of natural selection?

A: Bergstrom and Dugatkin explain natural selection through detailed examples, visual diagrams, and case studies, illustrating how it drives adaptation and diversification across species.

Q: What are some real-world applications of the principles in "evolution bergstrom and dugatkin"?

A: The principles apply to evolutionary medicine, agriculture, conservation, and biotechnology, helping solve issues like antibiotic resistance and species preservation.

Q: Is the textbook suitable for beginners in evolutionary biology?

A: Yes, the textbook is structured to guide readers from foundational concepts to advanced topics, making it accessible to beginners while also serving advanced learners.

Q: Has "evolution bergstrom and dugatkin" influenced current evolutionary research?

A: Yes, their integrated approach and frameworks have inspired research in genomics, social evolution, network theory, and the evolution of cooperation.

Q: Are there online resources associated with the Bergstrom and Dugatkin textbook?

A: The textbook includes access to online materials such as quizzes, interactive figures, and supplementary readings to support student learning.

Q: What topics are covered in the Bergstrom and Dugatkin evolution textbook?

A: Topics include genetic variation, natural selection, speciation, macroevolution, evolutionary medicine, cooperation, and the impact of human activity on evolution.

Q: Why is "evolution bergstrom and dugatkin" considered a cornerstone in evolutionary biology?

A: Its comprehensive, accessible, and up-to-date coverage of evolutionary principles, combined with innovative teaching strategies, makes it a foundational resource in the field.

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Evolution, Bergstrom and Dugatkin: Unraveling the Dynamics of Evolutionary Biology

Introduction:

Are you fascinated by the intricate dance of natural selection, adaptation, and the ever-changing tapestry of life? Then delve into the world of evolutionary biology as explored by Carl Bergstrom and Lee Dugatkin. This comprehensive guide dives into their significant contributions, explaining their key concepts in an accessible way. We'll explore their perspectives on game theory, the evolution of cooperation, and how their work shapes our understanding of the evolutionary process. Get ready to unravel the complexities of evolution through the lens of these influential figures.

H2: Carl Bergstrom and Lee Dugatkin: A Collaborative Force in Evolutionary Biology

Carl Bergstrom and Lee Dugatkin are prominent figures in the field of evolutionary biology, renowned for their collaborative efforts in popularizing and advancing the understanding of evolutionary principles. Bergstrom, a professor of biology at the University of Washington, is particularly recognized for his expertise in the application of mathematical models to biological problems. Dugatkin, a professor of biology at the University of Louisville, specializes in the behavioral ecology of animals, focusing on the evolution of cooperation and social behavior. Their combined expertise has resulted in significant contributions to the field, particularly through their widely acclaimed textbook, "Evolution."

H2: Key Concepts Explained: The Evolutionary Lens of Bergstrom and Dugatkin

Their work shines a light on several key concepts, helping readers grasp the intricacies of evolution.

H3: Game Theory and Evolutionary Dynamics

Bergstrom and Dugatkin effectively integrate game theory into their explanations of evolutionary processes. Game theory provides a framework for understanding how the strategies of interacting organisms influence their evolutionary success. They showcase how seemingly irrational behaviors can be evolutionarily stable strategies, highlighting the importance of considering the context and payoffs of different actions in the evolutionary landscape. This application moves beyond simple individual selection, exploring the impact of kin selection and group selection.

H3: The Evolution of Cooperation: A Central Theme

A recurring and crucial theme in their work is the evolution of cooperation. Cooperation, seemingly paradoxical in a world driven by individual competition, is explained through mechanisms like kin selection (helping relatives), reciprocal altruism (favoring those who have helped you in the past), and group selection (groups with cooperative members outcompeting others). They delve into the conditions that favor the evolution of cooperation, dispelling the misconception that cooperation automatically undermines individual fitness.

H3: The Power of Mathematical Modeling

Bergstrom's background heavily influences their approach. They utilize mathematical models to illustrate evolutionary processes, allowing for a precise and rigorous exploration of complex dynamics. These models help clarify the conditions under which certain evolutionary outcomes are more likely, providing a quantitative framework for understanding the qualitative aspects of evolution. This approach makes their explanations more robust and avoids oversimplification.

H2: The Impact of Bergstrom and Dugatkin's Work

Their combined research and the clarity of their writing have significantly impacted the field. Their textbook, "Evolution," is widely adopted, making complex evolutionary concepts accessible to a broader audience. Their work has helped to bridge the gap between theoretical models and empirical observations, promoting a more holistic understanding of evolution. Beyond their textbook, they've published numerous research papers and articles, furthering our understanding of specific evolutionary questions. Their dedication to clear communication makes challenging concepts digestible for both students and experts alike.

H2: Beyond the Textbook: Exploring Further Research

The influence of Bergstrom and Dugatkin extends beyond their collaborative efforts. Individually, both have made substantial contributions to different aspects of evolutionary biology. Bergstrom's work on infectious disease dynamics and the evolution of virulence provides vital insights into public health issues. Dugatkin's research on animal behavior continues to shed light on the complex social interactions found in various species. Exploring their individual publications provides a richer, more nuanced picture of their collective impact on the field.

Conclusion:

Carl Bergstrom and Lee Dugatkin have significantly advanced our understanding of evolutionary biology. Their contributions, through collaborative research and effective communication, have made complex concepts accessible and engaging. By integrating game theory, focusing on the evolution of cooperation, and utilizing mathematical modeling, they've provided a powerful and comprehensive framework for understanding the driving forces behind the diversity of life on Earth. Their work continues to inspire and educate future generations of biologists and anyone fascinated by the mysteries of evolution.

FAQs:

1. What is the main focus of Bergstrom and Dugatkin's collaborative work? Their main focus is on providing a clear and comprehensive understanding of evolutionary biology, utilizing game theory, mathematical modeling, and real-world examples.
2. How does game theory contribute to their understanding of evolution? Game theory helps them analyze the strategic interactions between organisms and predict evolutionary outcomes based on the payoffs of different behaviors.
3. What role does the evolution of cooperation play in their research? It's a central theme, exploring how cooperation can evolve even in seemingly competitive environments through mechanisms like kin selection and reciprocal altruism.
4. Where can I find more information about their individual research? You can find their individual research publications on academic databases such as Google Scholar, PubMed, and ResearchGate.
5. How does their work differ from other approaches to evolutionary biology? While building on established evolutionary theory, their work emphasizes clarity, accessibility, and the effective integration of mathematical modeling with empirical observations.

evolution bergstrom and dugatkin: Evolution Carl T. Bergstrom, Lee Alan Dugatkin, 2016-02-25 Evolution presents foundational concepts through a contemporary framework of population genetics and phylogenetics that is enriched by current research and stunning art. In every chapter, new critical thinking questions and expanded end-of-chapter problems emphasizing data interpretation reinforce the Second Edition's focus on helping students think like evolutionary biologists.

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evolution bergstrom and dugatkin: Calling Bullshit Carl T. Bergstrom, Jevin D. West, 2021-04-20 Bullshit isn't what it used to be. Now, two science professors give us the tools to dismantle misinformation and think clearly in a world of fake news and bad data. "A modern classic . . . a straight-talking survival guide to the mean streets of a dying democracy and a global pandemic."—Wired Misinformation, disinformation, and fake news abound and it's increasingly difficult to know what's true. Our media environment has become hyperpartisan. Science is conducted by press release. Startup culture elevates bullshit to high art. We are fairly well equipped to spot the sort of old-school bullshit that is based in fancy rhetoric and weasel words, but most of us

don't feel qualified to challenge the avalanche of new-school bullshit presented in the language of math, science, or statistics. In *Calling Bullshit*, Professors Carl Bergstrom and Jevin West give us a set of powerful tools to cut through the most intimidating data. You don't need a lot of technical expertise to call out problems with data. Are the numbers or results too good or too dramatic to be true? Is the claim comparing like with like? Is it confirming your personal bias? Drawing on a deep well of expertise in statistics and computational biology, Bergstrom and West exuberantly unpack examples of selection bias and muddled data visualization, distinguish between correlation and causation, and examine the susceptibility of science to modern bullshit. We have always needed people who call bullshit when necessary, whether within a circle of friends, a community of scholars, or the citizenry of a nation. Now that bullshit has evolved, we need to relearn the art of skepticism.

evolution bergstrom and dugatkin: *Evolution* Carl T. Bergstrom, Lee Alan Dugatkin, 2018-12 Bergstrom and Dugatkin's highly regarded text now offers an expanded InQuizitive course. InQuizitive provides adaptive learning activities for students. Its unique coaching pedagogy helps them learn important concepts and develop critical thinking skills. In addition, the text focuses on getting students to think like evolutionary biologists, with critical thinking questions throughout every chapter and expanded end-of-chapter problems emphasizing data interpretation.

evolution bergstrom and dugatkin: *Evolution (Second Edition, Media Update)* Carl T. Bergstrom, Lee Alan Dugatkin, 2018

evolution bergstrom and dugatkin: *Extinction and Evolution* Niles Eldredge, 2014 Eldredge's groundbreaking work is now accepted as the definitive statement of how life as we know it evolved on Earth. This book chronicles how Eldredge made his discoveries and traces the history of life through the lenses of paleontology, geology, ecology, anthropology, biology, genetics, zoology, mammalogy, herpetology, entomology and botany. While rigorously accurate, the text is accessible, engaging and free of jargon.

evolution bergstrom and dugatkin: *A Cooperative Species* Samuel Bowles, Herbert Gintis, 2011-05-31 A fascinating look at the evolutionary origins of cooperation Why do humans, uniquely among animals, cooperate in large numbers to advance projects for the common good? Contrary to the conventional wisdom in biology and economics, this generous and civic-minded behavior is widespread and cannot be explained simply by far-sighted self-interest or a desire to help close genealogical kin. In *A Cooperative Species*, Samuel Bowles and Herbert Gintis—pioneers in the new experimental and evolutionary science of human behavior—show that the central issue is not why selfish people act generously, but instead how genetic and cultural evolution has produced a species in which substantial numbers make sacrifices to uphold ethical norms and to help even total strangers. The authors describe how, for thousands of generations, cooperation with fellow group members has been essential to survival. Groups that created institutions to protect the civic-minded from exploitation by the selfish flourished and prevailed in conflicts with less cooperative groups. Key to this process was the evolution of social emotions such as shame and guilt, and our capacity to internalize social norms so that acting ethically became a personal goal rather than simply a prudent way to avoid punishment. Using experimental, archaeological, genetic, and ethnographic data to calibrate models of the coevolution of genes and culture as well as prehistoric warfare and other forms of group competition, *A Cooperative Species* provides a compelling and novel account of how humans came to be moral and cooperative.

evolution bergstrom and dugatkin: *Mathematical Models of Social Evolution* Richard McElreath, Robert Boyd, 2008-09-15 Over the last several decades, mathematical models have become central to the study of social evolution, both in biology and the social sciences. But students in these disciplines often seriously lack the tools to understand them. A primer on behavioral modeling that includes both mathematics and evolutionary theory, *Mathematical Models of Social Evolution* aims to make the student and professional researcher in biology and the social sciences fully conversant in the language of the field. Teaching biological concepts from which models can be developed, Richard McElreath and Robert Boyd introduce readers to many of the typical mathematical tools that are used to analyze evolutionary models and end each chapter with a set of

problems that draw upon these techniques. Mathematical Models of Social Evolution equips behaviorists and evolutionary biologists with the mathematical knowledge to truly understand the models on which their research depends. Ultimately, McElreath and Boyd's goal is to impart the fundamental concepts that underlie modern biological understandings of the evolution of behavior so that readers will be able to more fully appreciate journal articles and scientific literature, and start building models of their own.

evolution bergstrom and dugatkin: *The Tangled Bank* Carl Zimmer, 2019-01-30 Used widely in non-majors biology classes, *The Tangled Bank* is the first textbook about evolution intended for the general reader. Zimmer, an award-winning science writer, takes readers on a fascinating journey into the latest discoveries about evolution. In the Canadian Arctic, paleontologists unearth fossils documenting the move of our ancestors from sea to land. In the outback of Australia, a zoologist tracks some of the world's deadliest snakes to decipher the 100-million-year evolution of venom molecules. In Africa, geneticists are gathering DNA to probe the origin of our species. In clear, non-technical language, Zimmer explains the central concepts essential for understanding new advances in evolution, including natural selection, genetic drift, and sexual selection. He demonstrates how vital evolution is to all branches of modern biology—from the fight against deadly antibiotic-resistant bacteria to the analysis of the human genome.

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evolution bergstrom and dugatkin: *Game Theory and Animal Behavior* Lee Alan Dugatkin, Hudson Kern Reeve, 2000-03-23 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.

evolution bergstrom and dugatkin: *Evolution* Jean-Baptiste de Panafieu, 2007 THE book on how we came to be what we are. Unprecedented in its approach, the number and diversity of the species presented and the quality and diversity of its photographs, this is spectacular, elegant, mysterious, grotesque. Skeletons of the vertebrates that inhabit the earth today carry with them the imprint of an evolutionary process that has lasted several billion years. A dual approach, scientific and aesthetic, combines stunning photographs of whole or part skeletons with a short text that illuminates chosen themes of evolution.

evolution bergstrom and dugatkin: *Exploring Biology in the Laboratory: Core Concepts* Murray P. Pendarvis, John L. Crawley, 2019-02-01 *Exploring Biology in the Laboratory: Core Concepts* is a comprehensive manual appropriate for introductory biology lab courses. This edition is

designed for courses populated by nonmajors or for majors courses where abbreviated coverage is desired. Based on the two-semester version of Exploring Biology in the Laboratory, 3e, this Core Concepts edition features a streamlined set of clearly written activities with abbreviated coverage of the biodiversity of life. These exercises emphasize the unity of all living things and the evolutionary forces that have resulted in, and continue to act on, the diversity that we see around us today.

evolution bergstrom and dugatkin: Evolution Donald R. Prothero, 2017-08-22 Donald R. Prothero's *Evolution* is an entertaining and rigorous history of the transitional forms and series found in the fossil record. Its engaging narrative of scientific discovery and well-grounded analysis has led to the book's widespread adoption in courses that teach the nature and value of fossil evidence for evolution. *Evolution* tackles systematics and cladistics, rock dating, neo-Darwinism, and macroevolution. It includes extensive coverage of the primordial soup, invertebrate transitions, the development of the backbone, the reign of the dinosaurs, and the transformation from early hominid to modern human. The book also details the many alleged "missing links" in the fossil record, including some of the most recent discoveries that flesh out the fossil timeline and the evolutionary process. In this second edition, Prothero describes new transitional fossils from various periods, vividly depicting such bizarre creatures as the *Odontochelys*, or the "turtle on the half shell"; fossil snakes with legs; and the "Frogamander," a new example of amphibian transition. Prothero's discussion of intelligent design arguments includes more historical examples and careful examination of the "experiments" and observations that are exploited by creationists seeking to undermine sound science education. With new perspectives, Prothero reframes creationism as a case study in denialism and pseudoscience rather than a field with its own intellectual dynamism. The first edition was hailed as an exemplary exploration of the fossil evidence for evolution, and this second edition will be welcome in the libraries of scholars, teachers, and general readers who stand up for sound science in this post-truth era.

evolution bergstrom and dugatkin: Principles of Development Lewis Wolpert, 1998 Developmental biology is at the core of all biology. This text emphasizes the principles and key developments in order to provide an approach and style that will appeal to students at all levels.

evolution bergstrom and dugatkin: Evolution Education Re-considered Ute Harms, Michael J. Reiss, 2019-07-16 This collection presents research-based interventions using existing knowledge to produce new pedagogies to teach evolution to learners more successfully, whether in schools or elsewhere. 'Success' here is measured as cognitive gains, as acceptance of evolution or an increased desire to continue to learn about it. Aside from introductory and concluding chapters by the editors, each chapter consists of a research-based intervention intended to enable evolution to be taught successfully; all these interventions have been researched and evaluated by the chapters' authors and the findings are presented along with discussions of the implications. The result is an important compendium of studies from around the world conducted both inside and outside of school. The volume is unique and provides an essential reference point and platform for future work for the foreseeable future.

evolution bergstrom and dugatkin: Handbook of Evolutionary Psychology Charles Crawford, Dennis L. Krebs, 2013-03-07 Evolutionary psychology is concerned with the adaptive problems early humans faced in ancestral human environments, the nature of psychological mechanisms natural selection shaped to deal with those ancient problems, and the ability of the resulting evolved psychological mechanisms to deal with the problems people face in the modern world. Evolutionary psychology is currently advancing our understanding of altruism, moral behavior, family violence, sexual aggression, warfare, aesthetics, the nature of language, and gender differences in mate choice and perception. It is helping us understand the relationship between cognitive science, developmental psychology, behavior genetics, personality, and social psychology. *Foundations of Evolutionary Psychology* provides an up-to-date review of the ideas, issues, and applications of contemporary evolutionary psychology. It is suitable for senior undergraduates, first-year graduate students, or professionals who wish to become conversant with the major issues currently shaping the emergence of this dynamic new field. It will be interesting to psychologists,

cognitive scientists, and anyone using new developments in the theory of evolution to gain new insights into human behavior.

evolution bergstrom and dugatkin: EVOLUTION 2E MED UPD EB+IQ REG CR (Second Edition, Media Update) Carl T. Bergstrom, Lee Alan Dugatkin, 2019-07-22

evolution bergstrom and dugatkin: Evolution Douglas Futuyma, 2013-07-15 Thoroughly updated with new content, figures and citations, the third edition addresses major themes in contemporary evolutionary biology - including the history of evolution, evolutionary processes, adaptation, and evolution as an explanatory framework - at levels of biological organization ranging from genomes to ecological communities.

evolution bergstrom and dugatkin: Evolution Carl Zimmer, Alison E. H. Perkins, Douglas John Emlen, 2016 Science writer Carl Zimmer and evolutionary biologist Douglas Emlen have produced a thoroughly revised new edition of their widely praised evolution textbook. Emlen, an award-winning evolutionary biologist at the University of Montana, has infused *Evolution: Making Sense of Life* with the technical rigor and conceptual depth that today's biology majors require. Zimmer, an award-winning New York Times columnist, brings compelling storytelling to the book, bringing evolutionary research to life. Students will learn the fundamental concepts of evolutionary theory, such as natural selection, genetic drift, phylogeny, and coevolution. The book also drives home the relevance of evolution for disciplines ranging from conservation biology to medicine. With riveting stories about evolutionary biologists at work everywhere from the Arctic to tropical rainforests to hospital wards, the book is a reading adventure designed to grab the imagination of students, showing them exactly why it is that evolution makes such brilliant sense of life.--

evolution bergstrom and dugatkin: Current Ornithology Volume 17 Charles F. Thompson, 2010-09-09 *Current Ornithology* publishes authoritative, up-to-date, scholarly reviews of topics selected from the full range of current research in avian biology. Topics cover the spectrum from the molecular level of organization to population biology and community ecology. The series seeks especially to review (1) fields in which an abundant recent literature will benefit from synthesis and organization, or (2) newly emerging fields that are gaining recognition as the result of recent discoveries or shifts in perspective, or (3) fields in which students of vertebrates may benefit from comparisons of birds with other classes. All chapters are invited, and authors are chosen for their leadership in the subjects under review.

evolution bergstrom and dugatkin: The SAGE Handbook of Evolutionary Psychology Todd K. Shackelford, 2021-08-04 Evolutionary psychology is an important and rapidly expanding area in the life, social, and behavioral sciences, and this Handbook represents the most comprehensive and up-to-date reference text in the field today. Over three volumes, the Handbook provides a rich overview of the most important theoretical and empirical work in the field. Chapters cover a broad range of topics, including theoretical foundations, the integration of evolutionary psychology with other life, social, and behavioral sciences, as well as with the arts and the humanities, and the increasing power of evolutionary psychology to inform applied fields, including medicine, psychiatry, law, and education. Each of the volumes has been carefully curated to have a strong thematic focus, covering: - The foundations of evolutionary psychology; - The integration of evolutionary psychology with other disciplines, and; - The applications of evolutionary psychology. The SAGE Handbook of Evolutionary Psychology is an essential resource for researchers, graduate students, and advanced undergraduate students in all areas of psychology, and in related disciplines across the life, social, and behavioral sciences.

evolution bergstrom and dugatkin: How to Tame a Fox (and Build a Dog) Lee Alan Dugatkin, Lyudmila Trut, 2019-04-14 Tucked away in Siberia, there are furry, four-legged creatures with wagging tails and floppy ears that are as docile and friendly as any lapdog. But, despite appearances, these are not dogs—they are foxes. They are the result of the most astonishing experiment in breeding ever undertaken—imagine speeding up thousands of years of evolution into a few decades. In 1959, biologists Dmitri Belyaev and Lyudmila Trut set out to do just that, by starting with a few dozen silver foxes from fox farms in the USSR and attempting to recreate the evolution of

wolves into dogs in real time in order to witness the process of domestication. This is the extraordinary, untold story of this remarkable undertaking. Most accounts of the natural evolution of wolves place it over a span of about 15,000 years, but within a decade, Belyaev and Trut's fox breeding experiments had resulted in puppy-like foxes with floppy ears, piebald spots, and curly tails. Along with these physical changes came genetic and behavioral changes, as well. The foxes were bred using selection criteria for tameness, and with each generation, they became increasingly interested in human companionship. Trut has been there the whole time, and has been the lead scientist on this work since Belyaev's death in 1985, and with Lee Dugatkin, biologist and science writer, she tells the story of the adventure, science, politics, and love behind it all. In *How to Tame a Fox*, Dugatkin and Trut take us inside this path-breaking experiment in the midst of the brutal winters of Siberia to reveal how scientific history is made and continues to be made today. To date, fifty-six generations of foxes have been domesticated, and we continue to learn significant lessons from them about the genetic and behavioral evolution of domesticated animals. *How to Tame a Fox* offers an incredible tale of scientists at work, while also celebrating the deep attachments that have brought humans and animals together throughout time.

evolution bergstrom and dugatkin: Evolution Science and Ethics in the Third Millennium Robert Cliquet, Dragana Avramov, 2018-01-10 The book aims to revitalise the interdisciplinary debate about evolutionary ethics and substantiate the idea that evolution science can provide a rational and robust framework for understanding morality. It also traces pathways for knowledge-based choices to be made about directions for future long-term biological evolution and cultural development in view of adaptation to the expected, probable and possible future and the ecological sustainability of our planetary environment The authors discuss ethical challenges associated with the major biosocial sources of human variation: individual variation, inter-personal variation, inter-group variation, and inter-generational variation. This book approaches the long-term challenges of the human species in a holistic way. Researchers will find an extensive discussion of the key theoretical scientific aspects of the relationship between evolution and morality. Policy makers will find information that can help them better understand from where we are coming and inspire them to make choices and take actions in a longer-term perspective. The general public will find food for thoughts.

evolution bergstrom and dugatkin: Remarkable Creatures Sean B. Carroll, 2014-10-16 National Book Award Finalist: A biologist's "thoroughly enjoyable" account of the expeditions that unearthed the history of life on our planet (Publishers Weekly). Not so long ago, most of our world was an unexplored wilderness. Our sense of its age was vague and vastly off the mark, and much of the knowledge of our own species' history was a set of fantastic myths and fairy tales. But scientists were about to embark on an amazing new era of understanding. From the New York Times-bestselling author of *The Big Picture*, this book leads us on a rousing voyage that recounts the most important discoveries in two centuries of natural history: from Darwin's trip around the world to Charles Walcott's discovery of pre-Cambrian life in the Grand Canyon; from Louis and Mary Leakey's investigation of our deepest past in East Africa to the trailblazers in modern laboratories who have located a time clock in our DNA. Filled with the same sense of adventure that spurred on these extraordinary men and women, *Remarkable Creatures* is a "stirring introduction to the wonder of evolutionary biology" (Kirkus Reviews). "Charming and enlightening." —San Francisco Chronicle "As fast-paced as a detective story." —Nature

evolution bergstrom and dugatkin: Complex Networks X Sean P. Cornelius, Clara Granell Martorell, Jesús Gómez-Gardeñes, Bruno Gonçalves, 2019-03-05 This book aims to bring together researchers and practitioners working across domains and research disciplines to measure, model, and visualize complex networks. It collects the works presented at the 10th International Conference on Complex Networks (CompleNet) in Taragona, Spain, March, 2019. With roots in physical, information and social science, the study of complex networks provides a formal set of mathematical methods, computational tools and theories to describe, prescribe and predict dynamics and behaviors of complex systems. Despite their diversity, whether the systems are made up of physical,

technological, informational, or social networks, they share many common organizing principles and thus can be studied with similar approaches. This book provides a view of the state-of-the-art in this dynamic field and covers topics such as group decision-making, brain and cellular connectivity, network controllability and resiliency, online activism, recommendation systems, and cyber security. This text will appeal to students and researchers in the field.

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