La Ra C Volution Et L Esclavage A La Guadeloupe 1

We live in a world surrounded by remarkable cultural achievements of human kind. Almost every day we hear of new innovations in technology, in medicine and in the arts which remind us that humans are capable of remarkable creativity. But what is human creativity? The modern world provides a tiny fraction of cultural diversity and the evidence for human creativity, far more can be seen by looking back into prehistory. The book examines how our understanding of human creativity can be extended by exploring this phenomenon during human evolution and prehistory. The book offers unique perspectives on the nature of human creativity from archaeologists who are concerned with long term patterns of cultural change and have access to quite different types of human behaviour than that which exists today. It asks whether humans are the only creative species, or whether our extinct relatives such as Homo habilis and the Neanderthals also displayed creative thinking. It explores what we can learn about the nature of human creativity from cultural developments during prehistory, such as changes in the manner in which the dead were buried, monuments constructed, and the natural world exploited. In doing so, new light is thrown on these cultural developments and the behaviour of our prehistoric ancestors. By examining the nature of creativity during human evolution and prehistory these archaeologists, supported by contributions from psychology, computer science and social anthropology, show that human creativity is a far more diverse and complex phenomena than simply flashes of genius by isolated individuals. Indeed they show that unless perspectives from prehistory are taken into account, our understanding of human creativity will be limited and incomplete.

Evolution of Nervous Systems, Second Edition is a unique, major reference which offers the gold standard for those interested both in evolution and nervous systems. All biology only makes sense when seen in the light of evolution, and this is especially true for the nervous system. All animals have nervous systems that mediate their behaviors, many of them species specific, yet these nervous systems all evolved from the simple nervous system of a common ancestor. To understand these nervous systems, we need to know how they vary and how this variation emerged in evolution. In the first edition of this important reference work, over 100 distinguished neuroscientists assembled the current state-of-the-art knowledge on how nervous systems have evolved throughout the animal kingdom. This second edition remains rich in detail and broad in scope, outlining the changes in brain and nervous system organization that occurred from the first invertebrates and vertebrates, to present day fishes, reptiles, birds, mammals, and especially primates, including humans. The book also includes wholly new content, fully updating the chapters in the previous edition and offering brand new content on current developments in the field. Each of the volumes has been carefully restructured to offer expanded coverage of non-mammalian taxa, mammals, primates, and the human nervous system. The basic principles of brain evolution are discussed, as are mechanisms of change. The reader can select from chapters on highly specific topics or those that provide an overview of current thinking and approaches, making this an indispensable work for students and researchers alike. Presents a broad range of topics, ranging from genetic control of development in invertebrates, to human cognition, offering a one-stop resource for the evolution of nervous systems throughout the animal kingdom

Incorporates the expertise of over 100 outstanding investigators who provide their conclusions in the context of the latest experimental results Presents areas of disagreement and consensus views that provide a holistic view of the subjects under discussion

The Neotropical area is a main setting of the earliest experiences of domestication ofplants, and evolutionary processes guided by humans, which continue being active inthe area. Studies comprised in this Research Topic show a general panorama aboutsimilarities and particularities of processes of domestication for different plant groupsand regions, some of them illustrate how the domestication processes originated anddiffused, how landscape domestication has operated and continues being practicedand others discuss some of the main challenges for designing policies for biosafetyand conservation of plant genetic resources. It is an attempt to identify main topicsfor research on evolution under domestication, and opportunities that researcherscan find in the Neotropics to understand how and why these processes occurredin the past and present.

These volumes discuss evolutionary biology through the lense of population genetics.

Genetics and Evolution of Infectious Diseases

A Study in Late Palaeozoic Plate Tectonics

Human Gene Evolution

Creativity in Human Evolution and Prehistory

Crustal Architecture and Evolution of the Himalaya-Karakoram-Tibet Orogen

Southern and Central Mexico: Basement Framework, Tectonic Evolution, and Provenance of Mesozoic–Cenozoic Basins

The book focuses on geological history as the critical factor in determining the present biodiversity and landscapes of Amazonia. The different driving mechanisms for landscape evolution are explored by reviewing the history of the Amazonian Craton, the associated sedimentary basins, and the role of mountain uplift and climate change. This book provdes an insight into the Meso- and Cenozoic record of Amazonia that was characterized by fluvial and long-lived lake systems and a highly diverse flora and fauna. This fauna includes giants such as the ca. 12 m long caiman Purussaurus, but also a varied fish fauna and fragile molluscs, whilst fossil pollen and spores form relics of ancestral swamps and rainforests. Finally, a review the molecular datasets of the modern Amazonian rainforest and aquatic ecosystem, discussing the possible relations between the origin of Amazonian species diversity and the palaeogeographic, palaeoclimatic and palaeoenvironmental evolution of northern South America. The multidisciplinary approach in evaluating the history of Amazonia has resulted in a comprehensive volume that provides novel insights into the evolution of this region.

A presentation of all aspects of neural crest cell origins (embryological and evolutionary) development and evolution; neural crest cell behavior (migration) and anomalies (neurocristopathies and birth defects) that arise from defective neural crest development. The treatment of development will include discussions of cellular, molecular and genetic aspects of the differentiation and morphogenesis of neural crest cells and structures derived from neural crest cells. The origins of the neural crest in embryology will be discussed using the recent information on the molecular basis of the specification of the neural crest. Also presented are the advances in our understanding of the evolution of jaws from studies on lampreys and of the neural crest from studies on ascidians and amphioxus.

"The objective of this volume is to examine the Cenozoic tectonic and magmatic evolution from the arc to the retroarc of a distinctive end-member of the Andean accretionary orogen between 35°S and 39°S. The evolution of the Andes in this region provides an outstanding case study of an orogen where periods of contraction and extension, crustal shortening and normal faulting, and differences in retroarc volcanism reflect a tectonic regime that alternates in space and time. Structural, magmatic, and paleogeographic patterns correlate strongly with the dynamics of the subduction zone. The region includes the Neuquen basin which is one of the most prolific of the Central Andes. The tectonic setting is important in understanding hydrocarbon systems of the sub-Andean basin and the potential for ore deposits in the cordillera. The book is fundamental for researchers working on tectonics and magmatism in Andean type systems as well as those involved in exploration."--Publisher's website.

This volume comprises 17 contributions that address the architecture and geodynamic evolution of the Himalaya–Karakoram–Tibet (HKT) system, covering wide aspects, from the active seismicity of the present day to the remnants of the Proterozoic orogen. The articles investigate the HKT system at different scales, blending field research with laboratory studies. The role of various lithospheric components and their inheritance in the geodynamic and magmatic evolution of the HKT system through time, and their links to global geological events, are studied in the field. The laboratory research focuses on the (sub-)micrometre scale, detailing micro-structural geology, crystal chemistry, geochronology, and the study of circulating fluids, their preservation (trapped in fluid inclusions) and their evolution, distribution, migration and interaction with the solid host. An orogen over 2000 km long can be understood only if the processes at the nanometre and micrometre scales are taken into account. The contributions in this volume successfully combine these scales to enhance our understanding of the HKT system.

Dynamic Magma Evolution

The Evolution of Insect Mating Systems

Proceedings of the 2020 Annual Conference on Experimental and Applied Mechanics

Understanding C4 Evolution and Function

Evolution of Nervous Systems

Ecology and Evolution of Cancer

Speech is the principal supporting medium of language. In this book Pierre-Yves Oudeyer considers how spoken language first emerged. He presents an original and integrated view of the interactions between self-organization and natural selection, reformulates questions about the origins ofspeech, and puts forward what at first sight appears to be a startling proposal - that speech can be spontaneously generated by the coupling of evolutionarily simple neural structures connecting perception and production. He explores this hypothesis by constructing a computational system to modelthe effects of linking auditory and vocal motor neural nets. He shows that a population of agents which used holistic and unarticulated vocalizations at the outset are inexorably led to a state in which their vocalizations have become discrete, combinatorial, and categorized in the same way by allgroup members. Furthermore, the simple syntactic rules that have emerged to regulate the combinations of sounds exhibit the fundamental properties of modern human speech systems.This original and fascinating account will interest all those interested in the evolution of speech.

This study focuses on the Atlantic Forest tree rats of the genus Phyllomys (Rodentia: Echimyidae), one of the most poorly understood mammal genera inhabiting the coastal rain forests Brazil, the most threatened lowland tropical forest in the world. The author summarizes their distribution, ecology and evolution, using a combination of morphological and molecular analyses, describes two new species, and provides the first systematic revision of the genus, which was originally described in 1839.

Ziegler (geology, U. of Basel, Switzerland) provides an overview of the late Palaeozoic evolution of North America, Europe, the Arctic and North Africa in a plate tectonics framework. The late Palaeozoic evolution of Laurussia is illustrated by a set of ten interpretive palaeotectonic palaeogeograph

Presents the principles of human gene evolution in a concise and easy to understand fashion. Uses examples of how evolutionary processes have molded present day genes, drawn from the evolution of humans and other primates, as well as from more primitive organisms. With increasing attention in this expanding area, this review forms a timely publication of our current knowledge of this important field. Structure and function in the human genome The evolution of gene structure Mutational mechanisms in evolution

Primate Adaptation and Evolution

Evolution and Systematics of the Atlantic Tree Rats, Genus Phyllomys (Rodentia, Echimyidae), With Description of Two New Species

Theory of Gene Frequencies

Ocean Island Volcanoes: Genesis, Evolution and Impact

Evolution of Land and Life in Oman: an 800 Million Year Story

The subduction zone volatile cycle is key to understanding the petrogenesis, transport, storage and eruption of arc magmas. Volatiles control the flux of slab components into the mantle wedge, are responsible for melt generation through lowering the solidi of mantle materials and influence the crystallizing phase assemblages in the overriding crust. Further, the rates and extents of degassing during magma storage and decompression affect magma rheology, ultimately control eruption style and have consequences for the environmental impact of explosive arc volcanism. This book highlights recent progress in constraining the role of volatiles in magmatic processes. Individual book sections are devoted to tracing volatiles from the subducting slab to the overriding crust, their role in subvolcanic processes and eruption triggering, as well as magmatic-hydrothermal systems and volcanic degassing. For the first time, all aspects of the overarching theme of volatile cycling are covered in detail within a single volume.

Contributors from a range of disciplines consider the disconnect between human evolutionary studies and the rest of evolutionary biology. The study of human evolution often seems to rely on scenarios and received wisdom rather than theory and methodology, with each new fossil or molecular analysis interpreted as supporting evidence for the presumed lineage of human ancestry. We might wonder why we should pursue new inquiries if we already know the story. Is paleoanthropology an evolutionary science? Are analyses of human evolution biological? In this volume, contributors from disciplines that range from paleoanthropology to philosophy of science consider the disconnect between human evolutionary studies and the rest of evolutionary biology. All of the contributors reflect on their own research and its disciplinary context, considering how their fields of inquiry can move forward in new ways. The goal is to encourage a more multifaceted intellectual environment for the understanding of human evolution. Topics discussed include paleoanthropology's history of procedural idiosyncrasies; the role of mind and society in our evolutionary past; humans as large mammals rather than a special case; genomic analyses; computational approaches to phylogenetic reconstruction; descriptive morphology versus morphometrics; and integrating insights from archaeology into the interpretation of human fossils. Contributors Markus Bastir, Fred L. Bookstein, Claudine Cohen, Richard G. Delisle, Robin Dennell, Rob DeSalle, John de Vos, Emma M. Finestone, Huw S. Groucutt, Gabriele A. Macho, Fabrizzio Mc Manus, Apurva Narechania, Michael D. Petraglia, Thomas W. Plummer, J.W. F. Reumer, Jeff Rosenfeld, Jeffrey H. Schwartz, Dietrich Stout, Ian Tattersall, Alan R. Templeton, Michael Tessler, Peter J. Waddell, Martine Zilversmit

More and more data indicate that evolution has resulted in lineages consisting of mosaics of genes derived from different ancestors. It is therefore becoming increasingly clear that the tree is an inadequate metaphor of evolutionary change. In this book, Arnold promotes the 'web-of-life' metaphor as a more appropriate representation of evolutionary change in all lifeforms.

The immune systems of human and non-human primates have diverged over time, such that some species differ considerably in their susceptibility, symptoms, and survival of particular infectious diseases. Variation in primate immunity is such that major human pathogens - such as immunodeficiency viruses, herpesviruses and malaria-inducing species of Plasmodium - elicit striking differences in immune response between closely related species and within primate populations. These differences in immunity are the outcome of complex evolutionary processes that include interactions between the host, its pathogens and symbiont/commensal organisms. The success of some pathogens in establishing persistent infections in humans and other primates has been determined not just by the molecular evolution of the pathogen and its interactions with the host, but also by the evolution of primate behavior and ecology, microflora, immune factors and the evolution of other biological systems. To explore how interactions between primates and their pathogens have shaped their mutual molecular evolution, Primates, Pathogens and Evolution brings together research that explores comparative primate immune function, the emergence of major and neglected primate diseases, primate-microorganism molecular interactions, and related topics. This book will be of interest to anyone curious as to why infectious diseases manifest differently in humans and their closest relatives. It will be of particular interest to scholars specializing in human and non-human primate evolution, epidemiology and immunology, and disease ecology. Primates, Pathogens and Evolution offers an overview and discussion of current findings on differences in the molecular mechanics of primate immune response, as well as on pathogen-mediated primate evolution and human and non-human primate health.

Rethinking Human Evolution

Evolution of an Andean Margin

Plant Systematics and Evolution

Evolution and the Genetics of Populations, Volume 2

Self-organization in the Evolution of Speech

From Field Observations to Mechanisms

This volume brings together diverse contributions from leading archaeologists and paleoanthropologists, covering various spatial and temporal periods to distinguish convergent evolution from cultural transmission in order to see if we can discover ancient human populations. With a focus on lithic technology, the book analyzes ancient materials and cultures to systematically explore the theoretical and physical aspects of culture, convergence, and populations in human evolution and prehistory. The book will be of interest to academics, students and researchers in archaeology, paleoanthropology, genetics, and paleontology. The book begins by addressing early prehistory, discussing the convergent evolution of behaviors and the diverse ecological conditions driving the success of different evolutionary paths. Chapters discuss these topics and technology in the context of the Lower Paleolithic/Earlier Stone age and Middle Paleolithic/Middle Stone Age. The book then moves towards a focus on the prehistory of our species over the last 40,000 years. Topics covered include the human evolutionary and dispersal consequences of the Middle-Upper Paleolithic Transition in Western Eurasia. Readers will also learn about the cultural convergences, and divergences, that occurred during the Terminal Pleistocene and Holocene, such as the budding of human societies in the Americas. The book concludes by integrating these various perspectives and theories, and explores different methods of analysis to link technological developments and cultural convergence.

This book takes readers on a fascinating journey to discover the story of land and ancient life evolution in Oman since at least 800 million years ago. Oman is well known for its marvelous geology. What tectonics affected this part of the world and what organisms lived there? How did the climate and life develop? Did life forms become more complex and varied or become extinct and disappear forever? The book thoroughly reconstructs this land and ancient life evolution and offers readers an understanding on how land, climate and life have proceeded and developed in Oman through the millions of years.

Ecology and Evolution of Cancer is a timely work outlining ideas that not only represent a substantial and original contribution to the fields of evolution, ecology, and cancer, but also goes beyond by connecting the interfaces of these disciplines. This work engages the expertise of a multidisciplinary research team to collate and review the latest knowledge and developments in this exciting research field. The evolutionary perspective of cancer has gained significant international recognition and interest, which is fully understandable given that somatic cellular selection and evolution are elegant explanations for carcinogenesis. Cancer is now generally accepted to be an evolutionary and ecological process with complex interactions between tumor cells and their environment sharing many similarities with organismal evolution. As a critical contribution to this field of research the book is important and relevant for the applications of evolutionary biology to understand the origin of cancers, to control neoplastic progression, and to prevent therapeutic failures. Covers all aspects of the evolution of cancer, appealing to researchers seeking to understand its origins and effects of treatments on its progression, as well as to lecturers in evolutionary medicine Functions as both an introduction to cancer and evolution and a review of the current research on this burgeoning, exciting field, presented by an international group of leading editors and contributors Improves understanding of the origin and the evolution of cancer, aiding efforts to determine how this disease interferes with biotic interactions that govern ecosystems Highlights research that intends to apply evolutionary principles to help predict emergence and metastatic progression with the aim of improving therapies

This fascinating and revealing book charts the life of one of the greatest living archaeologists. Stanley South has been a leading figure not only in historical but also in anthropological archaeology. His personal perseverance in field of archaeology has also been an inspiration to new and upcoming archaeologists and anthropologists. This is his memoir, played out among some of the most important debates and movements in archaeology since the 1960s.

The Role of Volatiles in the Genesis, Evolution and Eruption of Arc Magmas

Plant Viruses: Evolution and Management

In Search of the Causes of Evolution

Mobile Packet Data Services

Primates, Pathogens, and Evolution

A Tectonic and Magmatic View from the Andes to the Neuquén Basin (35 Degrees-39 Degrees S Lat)

Fracture, Fatigue, Failure and Damage Evolution, Volume 3 of the Proceedings of the 2020 SEM Annual Conference & Exposition on Experimental and Applied Mechanics, the third volume of seven from the Conference, brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on a wide range of areas, including: Novel Experimental Methods Extreme Environments Interfacial Fracture Integration of Models & Experiments Mechanics of Energy & Energetic Materials Integration of Models & Experiments In Situ Techniques for Fatigue & Fracture Microscale & Microstructural Effects on Mechanical Behavior

In the context of the evolution towards 3rd Generation (3G) mobile radio networks, packet switched data services like the General Packet Radio Service (GPRS) and the Enhanced GPRS (EGPRS) are currently being introduced into GSM and TDMA/136 systems world-wide. For network operators, equipment vendors and system integrators dimensioning rules have to be developed to plan and estimate the needed radio capacity that is needed for the predicted amount of user data. The GSM Evolution comprehensively provides the basics of GPRS and EGPRS comprising the radio interface and the system and protocol architecture will be described in detail. Besides the introduction of WCDMA and UMTS as 3rd Generation Mobile Radio Networks, the further developed GSM networks, including GPRS and EDGE capabilities will be able to provide 3G services as well. Such enhanced GSM networks will be introduced in the next few years world-wide and will stay operational beyond 2010. * Presents the basics of GPRS and EGPRS - the radio interface and system and protocol architecture * Provides an in-depth description of GPRS, EDGE and GERAN networks * Describes the evolution of GSM/GPRS networks towards GSM/EDGE Radio Access Networks (GERAN) and the GERAN standard * Highlights the modulation and coding techniques for EDGE and network architecture for GERAN * Discusses the traffic performance of GSM/GPRS and GERAN and the suitability of the performance results for radio network dimensioning Ideal for all practitioners in the area of mobile radio and networking, network operators, planners, system integrators, vendors and application developers, researchers in the area of mobile radio and networking and also electrical engineering and computer science students, content providers, technical managers, regulators and sales personnel.

Explores the complex physico-chemical processes involved in active volcanism and dynamic magmatism Understanding the magmatic processes responsible for the chemical and textural signatures of volcanic products and igneous rocks is crucial for monitoring, forecasting, and mitigating the impacts of volcanic activity. Dynamic Magma Evolution is a compilation of recent geochemical, petrological, physical, and thermodynamic studies. It combines field research, experimental results, theoretical approaches, unconventional and novel techniques, and computational modeling to present the latest developments in the field. Volume highlights include: Crystallization and degassing processes in magmatic environments Bubble and mineral nucleation and growth induced by cooling and decompression Kinetic processes during magma ascent to the surface Magma mixing, mingling, and recharge dynamics Geo-speedometer measurement of volcanic events Changes in magma rheology induced by mineral and volatile content The American Geophysical Union promotes discovery in Earth and space science for the benefit of humanity. Its publications disseminate scientific knowledge and provide resources for researchers, students, and professionals.

The book deals with the record of important Neoproterozoic to Early Palaeozoic events in southwestern Gondwana, that heralded the Cambrian explosion and the dawn of modern ecosystems. It contains a detailed account of the Neoproterozoic to Cambrian geological record in a poorly-known part of the world, which is at the same time key to understand fundamental processes at the Proterozoic-Cambrian transition. The emphasis is placed on litho-, bio-, chemostratigraphy and magmatism. The palaeoclimatic, tectonic, evolutionary radiation and extinction events and associated mineralizations will be identified and discussed. A synthesis of all data is provided at the end of the book, integrating the data from all cratons and fold belts in southwestern Gondwana. The events will be individualized, their impact discussed and correlations between different successions both within and outside Gondwana proposed. The book is organized in three sections. Section one is an introduction to the neoproterozoic and Cambrian seen as a time of upheavals, extremes and innovations. Section two comprises nineteen chapters dealing with the neoproterozoic-Cambrian events in southwestern Gondwana. Section three will provide a synthesis on every major topic, and a critical assessment of the global implications of the presented data. * The book deals with the record of important Neoproterozoic to Early Palaeozoic events in southwestern Gondwana, that heralded the Cambrian explosion and the dawn of modern ecosystems. It contains a detailed account of the Neoproterozoic to Cambrian geological record in a poorly-known part of the world, which is at the same time key to understand fundamental processes at the Proterozoic-Cambrian transition. The emphasis is placed on litho-, bio-, chemostratigraphy and magmatism.

Fracture, Fatigue, Failure and Damage Evolution , Volume 3

The GSM Evolution

8th International Workshop, GREC 2009, La Rochelle, France, July 22-23, 2009, Selected Papers

Graphics Recognition: Achievements, Challenges, and Evolution

Ciliate Biodiversity and Evolution from Morphological, Genomic and Epigenomic Views

Ecology and Evolution of Plants under Domestication in the Neotropics

Ocean island volcanoes constitute some of the most prominent and rapidly-formed features on Earth, and yet they cannot be explained by conventional plate tectonics. Although typically associated with intraplate settings (hotspots), these volcanoes also occur in different geodynamic settings (near mid-ocean ridges). The nature of ocean island magmatism is still the subject of intense debate within the geological community. Traditionally it has been linked to the presence of mantle plumes at depth (e.g. Hawaii), although the interaction with plate tectonics is also recognized to play a significant role (e.g. Azores, Galápagos). Magma compositions may range from basaltic to more differentiated, which consequently is accompanied by striking changes in the eruption style from effusive-dominated to highly explosive volcanism. Understanding how these magmas evolve and how volcanic processes act at ocean island volcanoes are key issues of modern volcanology. Moreover, the growth of ocean island volcanoes from their rise on the seafloor as seamounts, to island emergence and subsequent formation of shield volcanoes (and in some cases large caldera volcanoes) is governed by multiple interrelated changes. It is well known that competing processes model ocean island volcanoes during alternating and/or coeval periods of construction and destruction. The geological evolution of these volcanoes results from the balance among volcanism, intrusions, tectonics, subsidence/uplift, mass wasting, sedimentation, and subaerial and wave erosion. A better knowledge of the interplay between these processes is crucial to obtain a more comprehensive understanding of the evolution of such volcanoes, and to the eventual formulation of a unified model for ocean island evolution. Ocean islands are especially vulnerable to volcanic eruptions and other geological hazards on account of their typical small size, rough topography and isolation, which make risk management and evacuation difficult. Volcanic eruptions, in particular, may have a significant impact on local populations, infrastructures, economy and even on the global climate. It is therefore fundamental to monitor these volcanoes with complementary geophysical, geodetic and geochemical techniques in order to forecast future eruptions and their impacts. However, the assessment of volcanic hazards on ocean islands is challenging due to the large variety of phenomena involved (e.g. lava flows, tephra fallout, pyroclastic density currents, lahars, gas emissions). Different approaches are used to assess volcanic hazards, either based on empirical methods or sophisticated numerical models, focusing on a single phenomenon or the combination of different hazards. This Frontiers Research Topic aims to promote discussion within the scientific community, representing an important step forward in our knowledge of ocean island volcanoes in order to serve as a reference for future research.

The origins of religion and ritual in humans have been the focus of centuries of thought in archaeology, anthropology, theology, evolutionary psychology and more. Play and ritual have many aspects in common, and ritual is a key component of the early cult practices that underlie the religious systems of the first complex societies in all parts of the world. This book examines the formative cults and the roots of religious practice from the earliest times until the development of early religion in the Near East, in China, in Peru, in Mesoamerica and beyond. Here, leading prehistorians and other specialists bring a fresh approach to the early practices that underlie the faiths and religions of the world. They demonstrate the profound role of play ritual and belief systems and offer powerful new insights into the emergence of early civilization.

Evolutionary biology has witnessed breathtaking advances in recent years. Some of its most exciting insights have come from the crossover of disciplines as varied as paleontology, molecular biology, ecology, and genetics. This book brings together many of today's pioneers in evolutionary biology to describe the latest advances and explain why a cross-disciplinary and integrated approach to research questions is so essential. Contributors discuss the origins of biological diversity, mechanisms of evolutionary change at the molecular and developmental levels, morphology and behavior, and the ecology of adaptive radiations and speciation. They highlight the mutual dependence of organisms and their environments, and reveal the different strategies today's researchers are using in the field and laboratory to explore this interdependence. Peter and Rosemary Grant--renowned for their influential work on Darwin's finches in the Galápagos--provide concise introductions to each section and identify the key questions future research needs to address. In addition to the editors, the contributors are Myra Awodey, Christopher N. Balakrishnan, Rowan D. H. Barrett, May R. Berenbaum, Paul M. Brakefield, Philip J. Currie, Scott V. Edwards, Douglas J. Emlen, Joshua B. Gross, Hopi E. Hoekstra, Richard Hudson, David Jablonski, David T. Johnston, Mathieu Joron, David Kingsley, Andrew H. Knoll, Mimi A. R. Koehl, June Y. Lee, Jonathan B. Losos, Isabel Santos Magalhaes, Albert B. Phillimore, Trevor Price, Dolph Schluter, Ole Seehausen, Clifford J. Tabin, John N. Thompson, and David B. Wake.

This book focuses on the evolution of plant viruses, their molecular classification, epidemics and management, covering topics relating to evolutionary mechanisms, viral ecology and emergence, appropriate analysis methods, and the role of evolution in taxonomy. The currently emerging virus species are increasingly becoming a threat to our way of life, both economically and physically. Plant viruses are particularly significant as they affect our food supply and are capable of rapidly spreading to new plant species. In basic research, plant viruses have become useful models to analyze the molecular biology of plant gene regulation and cell-cell communication. The small size of DNA genome of viruses possesses minimal coding capacity and replicates in the host cell nucleus with the help of host plant cellular machinery. Thus, studying virus cellular processes provides a good basis for explaining DNA replication, transcription, mRNA processing, protein expression and gene silencing in plants. A better understanding of these cellular processes will help us design antiviral strategies for plants. The book provides in-depth information on plant virus gene interactions with hosts, localization and expression and the latest advances in our understanding of plant virus evolution, their responses and crop improvement. Combining characterization of plant viruses and disease management and presenting them together makes it easy to compare all aspects of resistance, tolerance and management strategies. As such, it is a useful resource for molecular biologists and plant virologists alike.

The Changing Earth: Exploring Geology and Evolution

Amazonia: Landscape and Species Evolution

The Evolution of Artiodactyls

A Focus on South Western Gondwana

Evolution of Laurussia

Culture History and Convergent Evolution

Insects display a staggering diversity of mating and social behaviours. Studying these systems provides insights into a wide range of evolutionary and behavioural questions, such as the evolution of sex, sexual selection, sexual conflict, and parental care. This edited volume provides an authoritative update of the landmark book in the field, The Evolution of Insect Mating Systems (Thornhill and Alcock, 1983), which had such a huge impact in shaping adaptationist approaches to the study of animal behaviour and influencing the study of the evolution of reproductive behaviour far beyond the taxonomic remit of insects. This accessible new volume brings the empirical and conceptual scope of the original book fully up to date, incorporating the wealth of new knowledge and research of the last 30 years. It explores the evolution of complex forms of sex determination in insects, and the role of sexual selection in shaping the evolution of mating systems. Selection arising via male contest competition and female choice (both before and after copulation) are discussed, as are the roles of parasites and pathogens in mediating the strength of sexual selection, and the role that parental care plays in successful reproduction. The Evolution of Insect Mating Systems is suitable for both graduate students and researchers interested in insect mating systems or behaviour from an evolutionary, genetical, physiological, or ecological perspective. Due to its interdisciplinary and concept-driven approach, it will also be of relevance and use to a broad audience

This book contains refereed and improved papers presented at the 8th IAPR Workshop on Graphics Recognition (GREC 2009), held in La Rochelle, France, July 22–23, 2009. The GREC workshops provide an excellent opportunity for researchersand practitionersat all levels of experience to meet colleaguesand to share new ideas and knowledge about graphics recognition methods. Graphics recognition is a sub?eld of document image analysis that deals with graphical entities in engineering drawings, sketches, maps, architectural plans, musical scores, mathematical notation, tables, diagrams, etc. GREC 2009 continued the tradition of past workshops held in the Penn State University, USA (GREC 1995, LNCS Volume 1072, Springer Verlag, 1996); Nancy, France (GREC 1997, LNCS Volume 1389, Springer Verlag, 1998); Jaipur, India (GREC 1999, LNCS Volume 1941, Springer Verlag, 2000); Kingston, Canada (GREC 2001, LNCS Volume 2390, Springer Verlag, 2002); Barcelona, Spain (GREC 2003, LNCS Volume 3088, Springer Verlag, 2004); Hong Kong, China (GREC 2005, LNCS Volume 3926, Springer Verlag, 2006); and (GREC 2007, LNCS Volume 5046, Springer Verlag, 2008). The programof GREC 2009 was organized in a single-track 2-day workshop. It comprised several sessions dedicated to speci?c topics. For each session, there was an invited presentation describing the state of the art and stating the open questions for the session ' s topic, followed by a number of short presentations thatcontributedbyproposingsolutionstosomeofthequestionsorbypresenting results ofthe speaker ' swork. Eachsessionwas then concludedby a paneldisc- sion.

THE CHANGING EARTH: EXPLORING GEOLOGY AND EVOLUTION, Seventh Edition, is a member of a rare breed of texts written specifically for courses covering both physical and historical geology. Three interrelated themes (plate tectonics, organic evolution, and geologic time) help students understand that Earth is a complex, integrated, and continually changing system. In the new edition authors James S. Monroe and Reed Wicander integrate new content emphasizing the economic impacts of geology. Topics such as fracking, nuclear waste, and the threat of earthquakes are covered in new Geo-Impact boxes that stress real-world applications. Lauded for their clear writing style, the authors go beyond simply explaining geology and its processes; rather, they place that knowledge within the context of human experience by consistently emphasizing relevance, resources, and the environment. New Global Geoscience Watch activities help students learn how to use an extensive database of articles on geology that are updated several times a day and are available exclusively for users of this book. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Genetics and Evolution of Infectious Diseases, Second Edition, discusses the constantly evolving field of infectious diseases and their continued impact on the health of populations, especially in resource-limited areas of the world. Students in public health, biomedical professionals, clinicians, public health practitioners, and decisions-makers will find valuable information in this book that is relevant to the control and prevention of neglected and emerging worldwide diseases that are a major cause of global morbidity, disability, and mortality. Although substantial gains have been made in public health interventions for the treatment, prevention, and control of infectious diseases during the last century, in recent decades the world has witnessed a worldwide human immunodeficiency virus (HIV) pandemic, increasing antimicrobial resistance, and the emergence of many new bacterial, fungal, parasitic, and viral pathogens. The economic, social, and political burden of infectious diseases is most evident in developing countries which must confront the dual burden of death and disability due to infectious and chronic illnesses. Takes an integrated approach to infectious diseases Includes contributions from leading authorities Provides the latest developments in the field of infectious disease

The Neural Crest and Neural Crest Cells in Vertebrate Development and Evolution

Evolution Through Genetic Exchange

Neoproterozoic-Cambrian Tectonics, Global Change and Evolution

An Archaeological Evolution

Morphology, Molecules, Evolution and Phylogeny in Polychaeta and Related Taxa

Ritual, Play, and Belief in Evolution and Early Human Societies

Recently, evidence has been accumulated which shows that some of the groups formerly regarded as independent "phyla" such as Pogonophora (now recognized as Siboglinidae), Echiura, Myzostomida and perhaps Sipuncula, are most probably nothing else than greatly modified Annelida. The extreme morphological diversity found especially in Polychaeta displays the plasticity of a simple segmented organisation that basically is nothing else but a serial repetition of identical units. Thus, annelids are highly important to our understanding of fundamental questions about morphological and adaptive diversity, as well as clarifying evolutionary changes and phylogenetic relationships. The book aims to summarize our knowledge on Polychaetes polychaetes and their allies and gives an overview of recent advances gained by studies that employed conventional and modern methods plus, increasingly and importantly, the use of molecular markers and computer-assisted kinship analyses. It also reflects the state of art in polychaete sciences and presents new questions and controversies. As such it will significantly influence the direction of research on Polychaeta and their related taxa.

Artiodactyls are diverse and successful hoofed mammals, represented by nearly two hundred living species of pigs, peccaries, hippos, camels, deer, sheep, cattle, giraffes, and other even-toed ungulates. In the recent years, a tremendous amount of research has been conducted on this important order. The Evolution of Artiodactyls synthesizes this research into a single volume. The authors explore a variety of topics, including molecular phylogeny of terrestrial artiodactyls phylogenetic relationships of cetaceans to terrestrial artiodactyls, and the earliest artiodactyls—Diacodexidae, Dichobunidae, Homacodontidae, Leptochoeridae, and Raoellidae.

John Fleagle has improved on his 1988 text by reconceptualizing chapters and by bringing new findings in functional and evolutionary approaches to bear on his synthesis of comparative primate data. The Second Edition provides a foundation upon which students can develop an understanding of our primate heritage. It features up-to-date information gained through academic training, laboratory experience and field research. This beautifully illustrated volume provides a comprehensive introductory text explaining the many aspects of primate biology and human evolution. Key Features * Provides up-to-date information about many aspects of primate biology and evolution * Contains a completely new chapter on primate communities * Presents totally revised chapters on primate origins, early anthropoids, and fossil platyrrhines * Includes an updated glossary, new illustrations, and a revised Classification of Order Primates * Succeeds as the best introductory text on primate evolution because it synthesizes and allows access to primary literature

"As a model for viral evolution, this book is a gold mine." -- European Molecular Biology Organization Reports

Can We Detect Populations in Prehistory?

The Evolution of HIV

A Look into the Past