Functional Anatomy Of The Vertebrates An Evolutionary Perspective

VertebratesComparative Vertebrate MorphologyVertebratesA Laboratory Manual for Comparative Vertebrate AnatomyCranial NervesThe Teeth of Non-Mammalian VertebratesStudyguide for Functional Anatomy of the Vertebrates by GrandeComparative Anatomy and Phylogeny of Primate Muscles and Human EvolutionThe Skeleton RevealedFeedingComparative Vertebrate NeuroanatomyEvolution of Vertebrate DesignMuscles of VertebratesFunctional Chordate AnatomyAnatomy of DolphinsFunctional Anatomy of the VertebratesComparative Anatomy of the VertebratesFeeding in VertebratesComparative Physiology of the Vertebrate Digestive SystemSensory Evolution on the ThresholdVertebratesVertebrate DissectionBrains Through TimeFunctional Anatomy of the VertebratesFunctional Anatomy of the Vertebrates + Invertebrate ZoologyThe Mouse Nervous SystemAirway Chemoreceptors in VertebratesComparative Anatomy of VertebratesComparative Anatomy And DevelopmentThe Dissection of VertebratesVertebrate PhotoreceptorsComparative Vertebrate AnatomyThe Comparative Structure and Function of MuscleComparative AnatomyThe Dissection of VertebratesAn Atlas on the Comparative Anatomy of the Retinae of VertebratesFunctional Anatomy of the VertebratesStructure and Function of Domestic AnimalsHyman's Comparative Vertebrate AnatomyFunctional Morphology in Vertebrate Paleontology

Vertebrates

Comparative Vertebrate Morphology

Hearts and Heart-Like Organs, Volume 1: Comparative Anatomy and Development focuses on the complexities of the heart and heart-like organs in various species, from the invertebrates and the lower vertebrates to humans. More specifically, it investigates the hearts of worms and mollusks, urochordates and cephalochordates, fishes, amphibians, reptiles, birds, mammals, and humans. Organized into 11 chapters, this volume begins with an overview of myogenic hearts and their origin, the circulatory system of the annelids, and the nervous control and pharmacology of mollusk hearts. It then discusses the phyletic relationships and circulation systems of primitive chordates, cardiovascular function in the lower vertebrates, fine structure of the heart and heart-like organs in cyclostomes, and fine structure as well as impulse propagation and ultrastructure of lymph hearts in amphibians and reptiles. It also explains the neural control of the avian heart, functional and nonfunctional determinants of mammalian cardiac anatomy, postnatal development of the heart, and anatomy of the mammalian heart. The book concludes with a chapter on the anatomy of the human pericardium and heart. This book is a valuable resource for biological and biomedical researchers concerned with the anatomy and physiology of the heart.

Vertebrates

Comparative Vertebrate Neuroanatomy Evolution and Adaptation Second Edition Ann B. Butler and William Hodos

The Second Edition of this landmark text presents a broad survey ofcomparative vertebrate neuroanatomy at the introductory level,representing a unique contribution to the field of evolutionaryneurobiology. It has been extensively revised and updated, withsubstantially improved figures and diagrams that are usedgenerously throughout the text. Through analysis of the variationin brain structure and function between major groups ofvertebrates, readers can gain insight into the evolutionary historyof the nervous system. The text is divided into threesections: * Introduction to evolution and variation, including a survey ofcell structure, embryological development, and anatomicalorganization of the central nervous system; phylogeny and diversityof brain structures; and an overview of various theories of brainevolution * Systematic, comprehensive survey of comparative neuroanatomyacross all major groups of vertebrates * Overview of vertebrate brain evolution, which integrates thecomplete text, highlights diversity and common themes, broadensperspective by a comparison with brain structure and evolution ofinvertebrate brains, and considers recent data and theories of theevolutionary origin of the brain in the earliest vertebrates,including a recently proposed model of the origin of the brain inthe earliest vertebrates that has received strong support fromnewly discovered fossil evidence Ample material drawn from the latest research has been integratedinto the text and highlighted in special feature boxes, includingrecent views on homology, cranial nerve organization and evolution,the relatively large and elaborate brains of birds in correlationwith their complex cognitive abilities, and the current debate onforebrain evolution across reptiles, birds, and mammals. Comparative Vertebrate Neuroanatomy is geared to upper-levelundergraduate and graduate students in neuroanatomy, but anyoneinterested in the anatomy of the nervous system and how itcorresponds to

the way that animals function in the world will findthis text fascinating.

A Laboratory Manual for Comparative Vertebrate Anatomy

The Mouse Nervous System provides a comprehensive account of the central nervous system of the mouse. The book is aimed at molecular biologists who need a book that introduces them to the anatomy of the mouse brain and spinal cord, but also takes them into the relevant details of development and organization of the area they have chosen to study. The Mouse Nervous System offers a wealth of new information for experienced anatomists who work on mice. The book serves as a valuable resource for researchers and graduate students in neuroscience. * Visualization of brain white matter anatomy via 3D diffusion tensor imaging contrasts enhances relationship of anatomy to function * Systematic consideration of the anatomy and connections of all regions of brain and spinal cord by the authors of the most cited rodent brain atlases * A major section (12 chapters) on functional systems related to motor control, sensation, and behavioral and emotional states, * Full segmentation of 170120+ brain regions more clearly defines structure boundaries than previous point-and-annotate anatomical labeling, and connectivity is mapped in a way not provided by traditional atlasesA detailed analysis of gene expression during development of the forebrain by Luis Puelles, the leading researcher in this area. * Full coverage of the role of gene expression during development, and the new field of genetic neuroantomy using site-specific recombinases * Examples of the use of mouse models in the study of neurological illness

Cranial Nerves

The Teeth of Non-Mammalian Vertebrates

This book challenges the assumption that morphological data are inherently unsuitable for phylogeny reconstruction, argues that both molecular and morphological phylogenies should play a major role in systematics, and provides the most comprehensive review of the comparative anatomy, homologies and evolution of the head, neck, pectoral and upper limb muscles of primates. Chapters 1 and 2 provide an introduction to the main aims and methodology of the book. Chapters 3 and 4 and Appendices I and II present the data obtained from dissections of the head, neck, pectoral and upper limb muscles of representative members of all the major primate groups including modern humans, and compare these data with the information available in the literature. Appendices I and II provide detailed textual (attachments, innervation, function, variations and synonyms) and visual (high quality photographs) information about each muscle for the primate taxa included in the cladistic study of Chapter 3, thus providing the first comprehensive and up to date overview of the comparative anatomy of the head, neck, pectoral and upper limb muscles of primates. The most parsimonious tree obtained from the cladistic analysis of 166 head, neck, pectoral and upper limb muscle characters in 18 primate genera, and in representatives of the Scandentia, Dermoptera and Rodentia, is fully congruent with the evolutionary molecular tree of Primates, thus supporting the idea that muscle characters are particularly useful to infer phylogenies. The combined anatomical materials provided in this book point out that modern humans have fewer head,

neck, pectoral and upper limb muscles than most other living primates, but are consistent with the proposal that facial and vocal communication and specialized thumb movements have probably played an important role in recent human evolution. This book will be of interest to primatologists, comparative anatomists, functional morphologists, zoologists, physical anthropologists, and systematicians, as well as to medical students, physicians and researchers interested in understanding the origin, evolution, homology and variations of the muscles of modern humans. Contains 132 color plates.

Studyguide for Functional Anatomy of the Vertebrates by Grande

Come along—let's take a voyage through the boneyard.

Comparative Anatomy and Phylogeny of Primate Muscles and Human Evolution

The Skeleton Revealed

Feeding

Looks at how fossil vertebrates moved, fed and reproduced.

Comparative Vertebrate Neuroanatomy

This book provides students and researchers with reviews of biological questions related to the evolution of feeding by vertebrates in aquatic and terrestrial environments. Based on

recent technical developments and novel conceptual approaches, the book covers functional questions on trophic behavior in nearly all vertebrate groups including jawless fishes. The book describes mechanisms and theories for understanding the relationships between feeding structure and feeding behavior. Finally, the book demonstrates the importance of adopting an integrative approach to the trophic system in order to understand evolutionary mechanisms across the biodiversity of vertebrates.

Evolution of Vertebrate Design

This book introduces students to the groups of vertebrates and explores the anatomical evolution of vertebrates within the context of the functional interrelationships of organs and the changing environments to which vertebrates have adapted. The text contains all of the material taught in classic comparative anatomy courses, but integrates this material with current research in functional anatomy. This integration adds a new dimension to our understanding of structure and helps students understand the evolution of vertebrates.

Muscles of Vertebrates

The Dissection of Vertebrates covers several vertebrates commonly used in providing a transitional sequence in morphology. With illustrations on seven vertebrates – lamprey, shark, perch, mudpuppy, frog, cat, pigeon – this is the first book of its kind to include high-quality, digitally rendered illustrations. This book received the Award of Excellence in an Illustrated Medical Book from the Association of Medical Illustrators. It is organized by individual organism to facilitate classroom presentation. This illustrated,

full-color primary dissection manual is ideal for use by students or practitioners working with vertebrate anatomy. This book is also recommended for researchers in vertebrate and functional morphology and comparative anatomy. The result of this exceptional work offers the most comprehensive treatment than has ever before been available. * Received the Award of Excellence in an Illustrated Medical Book from the Association of Medical Illustrators * Expertly rendered award-winning illustrations accompany the detailed, clear dissection direction * Organized by individual organism to facilitate classroom presentation * Offers coverage of a wide range of vertebrates * Full-color, strong pedagogical aids in a convenient lay-flat presentation

Functional Chordate Anatomy

"Much is conserved in vertebrate evolution, but significant changes in the nervous system occurred at the origin of vertebrates and in most of the major vertebrate lineages. This book examines these innovations and relates them to evolutionary changes in other organ systems, animal behavior, and ecological conditions at the time. The resulting perspective clarifies what makes the major vertebrate lineages unique and helps explain their varying degrees of ecological success. One of the book's major conclusions is that vertebrate nervous systems are more diverse than commonly assumed, at least among neurobiologists. Examples of important innovations include not only the emergence of novel brain regions, such as the cerebellum and neocortex, but also major changes in neuronal circuitry and functional organization. A second major conclusion is that many of the apparent similarities in vertebrate nervous systems resulted from convergent evolution, rather than

inheritance from a common ancestor. For example, brain size and complexity increased numerous times, in many vertebrate lineages. In conjunction with these changes, olfactory inputs to the telencephalic pallium were reduced in several different lineages, and this reduction was associated with the emergence of pallial regions that process non-olfactory sensory inputs. These conclusions cast doubt on the widely held assumption that all vertebrate nervous systems are built according to a single, common plan. Instead, the book encourages readers to view both species similarities and differences as fundamental to a comprehensive understanding of nervous systems. Evolution; Phylogeny; Neuroscience; Neurobiology; Neuroanatomy; Functional Morphology; Paleoecology; Homology; Endocast; Brain"--

Anatomy of Dolphins

"This atlas covers basic as well as novel information on the retinae of various representative vertebrates including fish, amphibians, reptiles, birds, and mammals.The book consists of over 200 illustrations with brief descriptions pointing out special f"

Functional Anatomy of the Vertebrates

As the first four-legged vertebrates, called tetrapods, crept up along the shores of ancient primordial seas, feeding was among the most paramount of their concerns. Looking back into the mists of evolutionary time, fish-like ancestors can be seen transformed by natural selection and other evolutionary pressures into animals with feeding habitats as varied as an anteater and a whale. From frog to pheasant and salamander to snake, every lineage of tetrapods has evolved unique

feeding anatomy and behavior. Similarities in widely divergent tetrapods vividly illustrate their shared common ancestry. At the same time, numerous differences between and among tetrapods document the power and majesty that comprises organismal evolutionary history. Feeding is a detailed survey of the varied ways that land vertebrates acquire food. The functional anatomy and the control of complex and dynamic structural components are recurrent themes of this volume. Luminaries in the discipline of feeding biology have joined forces to create a book certain to stimulate future studies of animal anatomy and behavior.

Comparative Anatomy of the Vertebrates

The Vertebrata is one of the most speciose groups of animals, comprising more than 58,000 living species. This book provides a detailed account on the comparative anatomy, development, homologies and evolution of the head, neck, pectoral and forelimb muscles of vertebrates. It includes hundreds of illustrations, as well as numerous tables showing the homologies between the muscles of all the major extant vertebrate taxa, including lampreys, elasmobranchs, hagfish, coelacanths, dipnoans, actinistians, teleosts, halecomorphs, ginglymodians, chondrosteans, caecilians, anurans, urodeles, turtles, lepidosaurs, crocodylians, birds, and mammals such as monotremes, rodents, tree-shrews, flying lemurs and primates, including modern humans. It also provides a list of more than a thousand synonyms that have been used by other authors to designate these muscles in the literature. Importantly, it also reviews data obtained in the fields of evolutionary developmental biology, molecular biology and embryology, and explains how this data helps to understand the evolution and homologies of vertebrate

muscles. The book will useful to students, teachers, and researchers working in fields such as functional morphology, ecomorphology, evolutionary developmental biology, zoology, molecular biology, evolution, and phylogeny. As the book includes crucial information about the anatomy, development, homologies, evolution and muscular abnormalities of our own species, Homo sapiens, it will also be helpful to physicians and medical students.

Feeding in Vertebrates

This book discusses the structural and functional characteristics of the digestive system and how these vary among vertebrates.

Comparative Physiology of the Vertebrate Digestive System

The Evolution of Vertebrate Design is a solid introduction to vertebrate evolution, paleontology, vertebrate biology, and functional, comparative anatomy. Its lucid style also makes it ideal for general readers intrigued by fossil history. Clearly drawn diagrams illustrate biomechanical explanations of the evolution of fins, jaws, joints, and body shapes among vertebrates. A glossary of terms is included. "A luminous text is matched by lucid drawings rationally placed. . . . A great teaching monograph, the book will charm lay readers of fossil history. For virtually every college & public collection."—Scitech Book News

Sensory Evolution on the Threshold

The book provides a comprehensive and up-to-date account

of the information available on the morphological, physiological and evolutionary aspects of specialized cells distributed within the epithelia of the airways in the vertebrates. A lot of work has been done on the cell and molecular biology of these cells which are regarded as as oxygen recep

Vertebrates

"Comparative Anatomy of Vertebrates is written bearing in mind that the modern trends of studies on the chordates have changed drastically from the classical study of one or two commonly available representative types to a detailed comparative account of organs and organ systems present in all available extant forms." "The book provides an introduction to structure-function concept at the level of organs and organ systems, which is fundamental to the understanding of synthesis of comparative anatomy. The book is divided into twelve chapters. The first chapter deals with characteristics of chordates, followed by integumentry system, skeletal system, muscular system, digestive system, respiratory system, circulatory system, excretory system, reproductive system, nervous system, receptor system and lastly endocrine system."--BOOK JACKET.

Vertebrate Dissection

VERTEBRATE DISSECTION, Ninth Edition, provides exceptionally thorough and student-tested descriptions of dissection procedures and the steps needed to find all structures. It encourages and facilitates active and self-directed learning by the students so that instructors can teach more effectively and efficiently. The manual emphasizes

dissection procedures that preserve as many structures as possible for later review of the entire specimens. This approach is an excellent preparation for students who will subsequently take anatomy courses in the health and animal sciences. Moreover, this manual places the observed material into an evolutionary and functional context. Students will understand the biological role, physiology, and embryonic development of each organ system and its parts, and how the various organ systems have evolved over time and in different animals. Organized by organ systems, this text brings the anatomy alive for students by interspersing narrative text throughout and explaining how the shape and structure of an organ relates to its function, and how evolutionary processes have transformed the form and function of organs. Additionally, the authors introduce a new feature, Anatomy in Action boxes, which contain interesting supplemental material that provides a broader context. Some of these boxes relate to functional anatomy, some make comparisons between different animals, and some address general biological questions that may include comparisons to the anatomy and biology of human beings.

Brains Through Time

The purpose of this book, now in its third edition, is to introduce the morphology of vertebrates in a context that emphasizes a comparison of structire and of the function of structural units. The comparative method involves the analysis of the history of structure in both developmental and evolutionary frameworks. The nature of adaptation is the key to this analysis. Adaptation of a species to its environment, as revealed by its structure, function, and reproductive success, is the product of mutation and natural selection–the process

of evolution. The evolution of structure and function, then, is the theme of this book which presents, system by system, the evolution of structure and function of vertebrates. Each chapter presents the major evolutionary trends of an organ system, with instructions for laboratory exploration of these trends included so the student can integrate concept with example.

Functional Anatomy of the Vertebrates

Ranging from crocodiles and penguins to seals and whales, this synthesis explores the function and evolution of sensory systems in animals whose ancestors lived on land. It explores the dramatic transformation of smell, taste, sight, hearing, and balance that occurred as lineages of reptiles, birds, and mammals returned to aquatic environments.

Functional Anatomy of the Vertebrates + Invertebrate Zoology

The Mouse Nervous System

The Comparative Structure and Function of Muscle is based upon a series of lectures given at the University of Lancaster over the last seven years, and it follows a natural division into structure, electrophysiology and excitation and mechanical activity. Within each section, an attempt is made to cover all muscle types in as wide a range of animals as the literature will allow. This book comprises 10 chapters, with the first one focusing on the fine structure of skeletal muscle. The following chapters then discuss the fine structure of cardiac and visceral muscle; the innervation of muscle; the ionic basis

of the resting potential; the action potential and the activation of muscle; electrical activity and electrochemistry of invertebrate skeletal muscle; electrical activity of invertebrate and vertebrate cardiac muscle; the electrical activity and electrochemistry of visceral muscle; the mechanics of muscle; and excitation-contraction coupling and relaxation. This book will be of interest to practitioners in the fields of anatomy and the health sciences.

Airway Chemoreceptors in Vertebrates

Comparative Anatomy of Vertebrates

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: 9780030223693 .

Comparative Anatomy And Development

This book provides a series of comprehensive views on various important aspects of vertebrate photoreceptors. The vertebrate retina is a tissue that provides unique experimental advantages to neuroscientists. Photoreceptor neurons are abundant in this tissue and they are readily identifiable and easily isolated. These features make them an outstanding model for studying neuronal mechanisms of signal transduction, adaptation, synaptic transmission, development, differentiation, diseases and regeneration. Thanks to recent

advances in genetic analysis, it also is possible to link biochemical and physiological investigations to understand the molecular mechanisms of vertebrate photoreceptors within a functioning retina in a living animal. Photoreceptors are the most deeply studied sensory receptor cells, but readers will find that many important questions remain. We still do not know how photoreceptors, visual pigments and their signaling pathways evolved, how they were generated and how they are maintained. This book will make clear what is known and what is not known. The chapters are selected from fields of studies that have contributed to a broad understanding of the birth, development, structure, function and death of photoreceptor neurons. The underlying common word in all of the chapters that is used to describe these mechanisms is “molecule”. Only with this word can we understand how these highly specific neurons function and survive. It is challenging for even the foremost researchers to cover all aspects of the subject. Understanding photoreceptors from several different points of view that share a molecular perspective will provide readers with a useful interdisciplinary perspective.

The Dissection of Vertebrates

Vertebrate Photoreceptors

Cranial nerves are involved in head and neck function, and processes such as eating, speech and facial expression. This clinically oriented survey of cranial nerve anatomy and function was written for students of medicine, dentistry and speech therapy, but will also be useful for postgraduate physicians and GPs, and specialists in head and neck

healthcare (surgeons, dentists, speech therapists etc.). After an introductory section surveying cranial nerve organisation and tricky basics such as ganglia, nuclei and brain stem pathways, the nerves are considered in functional groups: (1) for chewing and facial sensation; (2) for pharynx and larynx, swallowing and phonation; (3) autonomic components, taste and smell; (4) vision and eye movements; and (5) hearing and balance. In each chapter, the main anatomical features of each nerve are followed by clinical aspects and details of clinical testing. Simple line diagrams accompany the text. Detailed anatomy is not given.

Comparative Vertebrate Anatomy

The Anatomy of Dolphins: Insights into Body Structure and Function is a precise, detailed, fully illustrated, descriptive, and functionally oriented text on the anatomy and morphology of dolphins. It focuses on a number of delphinid species, with keynotes on important dolphin-like genera, such as the harbor porpoise. It also serves as a useful complement for expanding trends and emphases in molecular biology and genetics. The authors share their life-long expertise on marine mammals in various disciplines. Written as a team rather than being prepared as a collection of separate contributions, the result is a uniform and comprehensive style, giving each of the different topics appropriate space. Many color figures, which use the authors' access to wide collections of unique dolphin and whale material, round out this exceptional offering to the field. Includes high-quality illustrations, drawings, halftone artwork, photographic documentations, microphotos, and tables detailing dolphin anatomy, function, and morphology Facilitates education and training of students of all basic research and applied sciences

dedicated to marine biology and the medical care of marine mammals Brings together the current knowledge and information on this topic, including those in obscure past or non-English publications, or scattered in short chapters in volumes Covers a number of delphinid species and serves as a useful complement for expanding trends in molecular biology and genetics

The Comparative Structure and Function of Muscle

The Teeth of Non-Mammalian Vertebrates is the first comprehensive publication devoted to the teeth and dentitions of living fishes, amphibians and reptiles. The book presents a comprehensive survey of the amazing variety of tooth forms among non-mammalian vertebrates, based on descriptions of approximately 400 species belonging to about 160 families. The text is lavishly illustrated with more than 600 high-quality color and monochrome photographs of specimens gathered from top museums and research workers from around the world, supplemented by radiographs and micro-CT images. This stimulating work discusses the functional morphology of feeding, the attachment of teeth, and the relationship of tooth form to function, with each chapter accompanied by a comprehensive, up-to-date reference list. Following the descriptions of the teeth and dentitions in each class, four chapters review current topics with considerable research activity: tooth development; tooth replacement; and the structure, formation and evolution of the dental hard tissues. This timely book, authored by internationally recognized teachers and researchers in the field, also reflects the resurgence of interest in the dentitions of non-mammalian vertebrates as experimental systems to

help understand genetic changes in evolution of teeth and jaws. Features more than 600 images, including numerous high-quality photographs from internationally-recognized researchers and world class collections Offers guidance on tooth morphology for classification and evolution of vertebrates Provides detailed coverage of the dentition of all living groups of non-mammalian vertebrates

Comparative Anatomy

This one-semester text is designed for an upper-level majors course. Vertebrates features a unique emphasis on function and evolution of vertebrates, complete anatomical detail, and excellent pedagogy. Vertebrate groups are organized phylogenetically, and their systems discussed within such a context. Morphology is foremost, but the author has developed and integrated an understanding of function and evolution into the discussion of anatomy of the various systems.

The Dissection of Vertebrates

Detailed and concise dissection directions, updated valuable information and extraordinary illustrations make The Dissection of Vertebrates, 3rd Edition the new ideal manual for students in comparative vertebrate anatomy, as well as a superb reference for vertebrate and functional morphology, vertebrate paleontology, and advanced level vertebrate courses, such as in mammalogy, ornithology, ichthyology, and herpetology. This newly revised edition of the most comprehensive manual available continues to offer today's more visually oriented student with a manual combining pedagogically effective text with high-quality, accurate and

attractive visual references. This new edition features updated and expanded phylogenetic coverage, revisions to the illustrations and text of the lamprey, shark, perch, mudpuppy, frog, cat, pigeon, and reptile skull chapters, and new sections on amphioxus or lancelet (Branchiostoma, Cephalochodata), a sea squirt (Ciona, Urochordata), shark musculature, a gravid shark, shark embryo, cat musculature, and the sheep heart. Using the same systematic approach within a systemic framework as the first two editions, The Dissection of Vertebrates, 3rd Edition covers several animals commonly used in providing an anatomical transition sequence. Nine animals are covered: amphioxus, sea squirt, lamprey, shark, perch, mudpuppy, frog, cat, and pigeon, plus five reptile skulls, two mammal skulls, and the sheep heart. Winner of a 2020 Textbook Excellence Award (College) (Texty) from the Textbook and Academic Authors Association Seven detailed vertebrate dissections, providing a systemic approach Includes carefully developed directions for dissection Original, high-quality award-winning illustrations Clear and sharp photographs Expanded and updated features on phylogenetic coverage New sections on: amphioxus (Cephalochordata); sea squirt (Urochordata); shark musculature; gravid shark; shark embryo; cat musculature; sheep heart

An Atlas on the Comparative Anatomy of the Retinae of Vertebrates

Structure and Function of Domestic Animals provides a solid introduction to the functional anatomy of domestic animals. The author covers general principles, phenomena, and mechanisms and then supports this information by providing concrete examples, giving you a working understanding of

the biology of animals. Line drawings, tables, and text boxes provide supplemental information. The author examines the functions of animals from the basic to the complex. The pragmatic application of these principles allows for the raising and caring for animals with the appropriate regard for their welfare. He covers morphology, myology, electrophysiology, endocrinology, comparative anatomy, metabolism, cell growth and development, and reproductive mechanisms. The mechanism and phenomena described in this book will introduce you to the flexibility or plasticity of normal animal function. The author's pedagogical writing style clearly delineates normal function and abnormal function. Structure and Function of Domestic Animals explores many of the seemingly endless examples of the ways in which animals apply the fundamental principles of chemistry and physics to preserve their integrity. It gives you an insightful overview to a very broad subject.

Functional Anatomy of the Vertebrates

This full-color manual is a unique guide for students conducting the comparative study of representative vertebrate animals. It is appropriate for courses in comparative anatomy, vertebrate zoology, or any course in which the featured vertebrates are studied.

Structure and Function of Domestic Animals

Hyman's Comparative Vertebrate Anatomy

Comparative Vertebrate Morphology provides a comprehensive discussion of vertebrate morphology. The

structure-function concept at the level of organs and organ systems is fundamental to an understanding of comparative evolutionary morphology. It is upon these three interrelated aspects—structure, function, and evolution— that that contents of this volume have been organized and presented. The book opens with a discussion of general concepts on vertebrate evolution. This is followed by separate chapters on vertebrate phylogeny, skeletal components, the cranial and postcranial skeleton, muscular tissues, muscular system, and development of the integument, nervous tissues, sense organs, nervous system structure, nervous pathways, and endocrines. Subsequent chapters deal with the digestive, respiratory, circulatory, excretory and water balance, and reproductive systems. This book was designed to meet the needs of a one-semester course for students who have already had an introductory course in biology. It is assumed that the lectures will be supplemented by a laboratory with its own laboratory manual. The organization of the text allows the instructor to coordinate the laboratory and lecture portions of the course.

Functional Morphology in Vertebrate Paleontology

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