Series: Biological Systems in Vertebrates

Series editors: Hiran M. Dutt and Douglas W. Kline: Kent State University, Ohio, USA

FUNCTIONAL MORPHOLOGY OF THE VERTEBRATE RESPIRATORY SYSTEMS

J.N. Maina: University of Witwater and Johannesburg, South Africa

978-1-57808-252-0; 2002; 192 pages incl. 6 color plates, 210×300 mm, pb; \$ 73.30

Accounts for the morphologies of vertebrate respiratory organs and attempts to explicate the basis of the common and different structural and functional designs and stratagems that have evolved for acquisition of molecular oxygen. The book has been written for a broad readership i.e. students of biology; as well as experts in the disciplines of zoology, physiology, morphology, biological microscopy, biomedical engineering, and ecology and those that work or may contemplate working on materials and aspects concerning respiration in whole organisms will find it useful.

RENAL STRUCTURE AND FUNCTION IN VERTEBRATES Hans Ditrich: University of Vienna,

Vienna, Austria

978-1-57808-305-3; 2005; 178 pages, 4 color plates, hc; \$ 105.30

This book covers the structural and functional aspects of the excretory

system in the vertebrate classes emphasising the evolutional premises and functional requirements that form the basis of special adaptations.

It provides a synopsis of the complexity and variability of vertebrate kidneys from the perspective of recent research.

MUSCULAR SYSTEM OF VERTEBRATES

Seth M. Kisia and *Daniel W. Onyango*: University of Nairobi, Kenya

978-1-57808-306-0; 2005; 126 pages, hc; \$ 61.60 [ebook 978-1-57808-587-3]

It covers topics relevant to the understanding of vertebrate musculature including evolution and development of various muscles, the various types present and their morphological organization and physiology. A useful reference material for students of zoology besides veterinary and medical students as well as scientists who wish to know the different muscles of vertebrates and their origin.



REPRODUCTION OF AMPHIBIANS

Editor:

Maria Ogielska: Zoological Institute, University of Wroctaw, Poland

978-1-57808-307-7; July 2009; 436 pages, hc; \$ 125.00

Covers amphibians belonging to three extant orders: *Caecilians, Salamanders,* and *Frogs and Toads.* The book describes gonad structure and development, gametogenesis, urogenital connections, and reproductive tracts. The text is illustrated with original schemes and photographs and focuses on anatomy, histology, cytology, and molecular mechanisms that regulate gametogenesis and reproductive cycles.

ENVIRONMENTAL BIOLOGY The Conditions of Life: Environmental Selection, Extinction, Creation,

Adaptation and Overpopulation Terry Bruce Hilleman

978-1-57808-576-7; March 2009; 391 pages, hc; \$ 79.00

Environmental biology is a study in the conditions of life; these conditions impact the life within it. The conditions of life are not limited to the present time; environmental biology has applications to any time in the history (or future) of any place on earth (or beyond). The environment sets limits on the life within it. The loss of habitat is the loss of the conditions of life; that is, loss of habitat is really loss of the conditions of existence necessary for the life within. *The loss of habitat is the primary cause of extinction*.

This book clearly identifies why habitat destruction is the primary cause of extinction, not only for today, but for all time. It establishes that the degree of habitat destruction is directly proportional to the degree of past extinction event severity. Habitat destruction creates changing, isolated environments, which seem to be a component of both destructive and creative evolutionary change.

ENVIRONMENTAL MICROBIOLOGY

Principles and Applications Patrick K. Jjemba: University of Cincinnati, Ohio, USA

978-1-57808-348-0; 2004; 384 pages, pb; \$ 53.80

This book was written for an audience that has a basic understanding of microbiology. Often microbiologists tend to overzealously focus on bacteria, inadvertently ignoring other microbes (i.e., algae, fungi, protozoa, and viruses). This discrepancy is redressed herein.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF URODELA

David M. Sever (ed.): Saint Mary's College, Notre Dame, Indiana, USA

978-1-57808-285-8; 2003; 624 pages, hc; \$ 141.10 [ebook 978-1-57808-645-0]

A full panoply of topics is covered, from morphology of gametes and reproductive systems to considerations of behavior and life history, all placed in a phylogenetic context.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF CETACEA Whales, Dolphins and Porpoises

Debra L. Miller (ed.): The University of Georgia, Tifton, Georgia, USA

978-1-57808-360-2; 2007; 450 pages, hc; \$ 132.20 [eBook 978-1-57808-558-3]

There are over 80 species of cetaceans composed of porpoises, dolphins and whales. This volume represents the latest of published and previously unpublished information regarding cetacean reproductive biology and phylogeny.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF ANNELIDA

Editors:

Greg Rouse: South Australian Museum, Adelaide, Australia

Fredrik Pleijel: Museum National d'Historie Naturelle, Paris, Cedex, France

978-1-57808-313-8; 2006; 698 pages, incl. 12 color illustrations, hc; \$ 151.20 [ebook 978-1-57808-658-0]

This volume documents annelid reproduction in the context of their phylogenetic relationships. It presents an introduction and overview to the current systematics of annelids and provides reviews to broad aspects of reproduction across Annelida.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF

GYMNOPHIONA (CAECILIANS) Jean-Marie Exbrayat (ed.): Catholic University of Lyon, France

978-1-57808-312-1; 2006; 408 pages, hc; \$ 121.00 [eBook 978-1-57808-551-4]

In recent years, some new works have been published on their

systematics, using both the classical methods as well as immunology and molecular biology. New data have also been obtained on the biology, life history, reproductive biology, endocrinology and embryonic development of several species. These fascinating aspects along with other important ones on gymnophionan studies are ably reviewed in this book.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF CHONDRICHTHYES

Sharks, Batoids, and Chimaeras William C. Hamlett (ed.): Indiana University, Notre Dame, Indiana, USA

978-1-57808-314-5; 2005; 576 pages, hc; \$ 133.80 [ebook 978-1-57808-656-6]

Deals with ideas concerning the development, reproductive morphology, function and phylogeny of chondrichthyan fishes.

"..this volume will be an indispensable reference to both general biologists and specialists."

- The Quarterly Review of Biology Vol. 82, No. 1, March 2007

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF ANURA

Barrie G.M. Jamieson (ed.): University of Queensland, Brisbane, Australia

978-1-57808-288-9; 2003; 462 pages, hc; \$ 129.90 [ebook 978-1-57808-659-7]

Topics treated are: anuran phylogeny, classification and reproductive modes; gross anatomy of the reproductive system; oogenesis; endocrinology of reproduction; spermatogenesis and the mature spermatozoon; breeding glands; internal fertilization and sperm storage, parental care; general development; and molecular development.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF BIRDS

Barrie G.M. Jamieson (ed.): University of Queensland, St. Lucia, Queensland, Australia

Part A: Phylogeny, Morphology, Hormones and Fertilization

978-1-57808-386-2; 2006; 600 pages, hc; \$ 133.80 [ebook 978-1-57808-590-3]

Part B: Sexual Selection, Behavior, Conservation, Embryology and Genetics

978-1-57808-444-9; 2007; 516 pages, hc; \$ 117.60 [ebook 978-1-57808-591-0]

"So comprehensive is the range of topics covered that any avian biologist interested in reproduction will find these reviews extremely useful. ... should be on every ornithologist's bookshelves."

— **IBIS**, Vol. 150, Issue 1, January 2008

"These volumes deserve to become really useful textbooks for undergraduate and graduate students."

- The Quarterly Review of Biology, Vol. 82, December 2007

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF FISHES (AGNATHANS AND BONY FISHES)

Editor:

Barrie G.M. Jamieson: School of Integrative Biology, University of Queensland, St. Lucia, Australia

Volume 8, Part A: Phylogeny Reproductive System Viviparity Spermatozoa

978-1-57808-580-4; March 2009; 802 pages + 53 col. figs., hc; \$ 145.00 [ebook 978-1-57808-568-2]

Phylogeny and Classification; The Ovary, Folliculogenesis, and Oogenesis in Teleosts; Modifications in Ovarian and Testicular Morphology Associated with Viviparity in Teleosts; The Testis and Spermatogenesis in Teleosts; Male Reproductive System: Spermatic Duct and Accessory Organs of the Testis; Ultrastructure of Spermatozoa in Agnathans; Ultrastructure of Spermatozoa: Euteleostomi (=Osteichthyes): Cladistia; Ultrastructure of Spermatozoa: Chondrostei; Ultrastructure of Spermatozoa: Neopterygii: Holostei through Osteoglossomorpha; Ultrastructure of Spermatozoa: Elopomorpha and Clupeomorpha; Ultrastructure of Spermatozoa: Ostariophysi; Ultrastructure of Spermatozoa: Euteleostei: Argentiformes, Esociformes, Salmoniformes and Osmeriformes; Neoteleostei: Stenopterygii, Cyclosquamata, Scopelomorpha and Paracanthopterygii; Ultrastructure of Spermatozoa: Acanthopterygii: Mugilomorpha and Atherinomorpha; Ultrastructure of Spermatozoa: Acanthopterygii Continued: Percomorpha; Ultrastructure of Spermatozoa: Sarcopterygii; Sperm Modifications Related to Insemination, with Examples from the Ostariophysi

Volume 8, Part B: Sperm Competition Hormones; Sexual Selection Reproductive Modes; Fertilization Sex Determination; Parental Care Conservation; Cryopreservation Embryology Genetics

978-1-57808-581-1; August 2009; 552 pages, hc; \$ 139.50 [ebook 978-1-57808-569-9]

Testes, Sperm, and Sperm Competition; Endocrinology of Reproduction; Pheromones and Reproduction; Copulatory Structures: Taxonomic Overview and the Potential for Sexual Selection; Sexual Selection: Signaling and Courtship; Adaptation and Evolution of Reproductive Mode in Copulating Cottoid Species; Fertilization; Sex Determination; Parental Care; Reproduction in Relation to Conservation and Exploitation of Marine Fishes; Live Preservation of Fish Gametes; Embryogenesis and Development; Molecular Genetics of Development



REPRODUCTIVE BIOLOGY OF CRUSTACEANS Case Studies of Decapod Crustaceans

Elena Mente (ed.): University of Thessaly, Greece and University of Aberdeen, UK

978-1-57808-529-3; 2008; 565 pages, hc; \$ 125.00 [ebook 978-1-57808-622-1]

Crustaceans adapt to a wide variety of habitats and ways of life. They have a complex physiological structure particularly with regard to the processes of growth (molting), metabolic regulation, and reproduction. Crustaceans are ideal as model organisms for the study of endocrine disruption and stress physiology in aquatic invertebrates. This book is an overview of the extensive research that has taken place over the recent years on issues of crustacean reproduction.

Series: Reproductive Biology of Invertebrates PROGRESS IN VITELLOGENESIS

Volume editors:

A.S. Raikhel: University of California, Riverside, USA Thomas W. Sappington: USDA-ARS, Weslaco, TX, USA (Earlier volumes published by John Wiley & Sons)

Volume XII, Part A

978-1-57808-226-1; 2002; 260 pages, hc; \$ 132.20

CONTENTS: Introduction; Yolk Proteins and their Precursors in Non-Arthropod Protostomes, with Emphasis on Nematodes: Carlos E. Winter; Insect Yolk Proteins: A Progress Report: William H. Telfer; Structural Characteristics of Insect Vitellogenins: Thomas W. Sappington et al.; The Yolk Proteins of Higher Diptera: Mary Bownes and Stephen Pathirana; Yolk Proteins of Crustacea: Marcy N. Wilder et al.; Vitellogenesis in Ticks: DeMar Taylor and Yasuo Chinzei; Vitellogen and Vitellogenin in Echinoderms: Yukio Yokota and Thomas W. Sappington

Volume XII, Part B

978-1-57808-299-5; 2005; 426 pages, hc; \$ 136.60

CONTENTS: Biosynthesis and Processing of Insect Vitellogenins: *M. Tufail* et al.; The Cell Biology of Yolk Protein Precursor Synthesis and Secretion: *Franco Giorgi* et al.; Regulation of Vitellogenin Gene Expression by Ecdysteroids: *Sheng-Fu Wang* et al.; The Regulation of Yolk Protein Gene Expression and Vitellogenesis in Higher Diptera: *Mary Bownes*; Vitellogenesis Directed by Juvenile Hormone: *Xavier Bellés*; Receptor-Mediated Endocytosis of Yolk Proteins in Insect Oocytes: *Ekaterina S. Snigirevskaya* and *Alexander S. Raikhel*; Insect Vitellogenin/Yolk Protein Receptors: *Thomas W. Sappington* and *Alexander S. Raikhel*; Accumulation of Lipids in Insect Oocytes: *Rik Van Antwerpen* et al.; Non-Vitellin Yolk Proteins: *Hatisaburo Masuda* et al.; Regulation of Yolk Protein Degradation during Insect Embryogenesis: *Yumi Yamahama* et al.; Biochemical and Ultrastructural Aspects of Vitellin Utilization During Embryogenesis: *Franco Giorgi* and *John H. Nordin*; Molecular Mechanisms of Tissue-Specific Gene Expression in Insects: *David Martin* et al.





BIOLOGICAL ENVIRONMENTAL SCIENCE

William V. Dashek: Retired from Adult Degree Program, Mary Baldwin College, Richmond/Staunton, Virginia, USA Editor:

David E. McMillin: Division of Mathematics and Natural Sciences, Parker College, Mount Vernon, Georgia, USA

978-1-57808-536-1; March 2009; 246 pages, pb; \$ 46.00 [ebook 978-1-57808-635-1]

Biological Environmental Science is an introductory textbook for undergraduate students who desire a one semester course or, alternatively, a 'springboard course' for advanced environmental offerings. This book features timely issues such as global warming, energy, air, ground and water pollutions, population growth, species extinction and environmental policy. Unique features of this book include the use of research data and literature, copious illustrations and appendices for the scientific method.

THE DRIVING FORCES OF EVOLUTION

Genetic Processes in Populations David Wool: Tel Aviv University, Israel

978-1-57808-445-6; 2006; 362 pages, hc; \$ 66.60 [ebook 978-1-57808-567-5]

Part I: MAINLY THEORY — The Beginning; Evolution as an On-going Process; Populations at Equilibrium: The Hardy-Weinberg Law; Deviation from Equilibrium: Genetic Drift-Random Changes in Small Populations; Deviations from Equilibrium: Mutations; Deviations from Equilibrium: Migration; Deviations from Equilibrium: Non-random Mating; Deviation from Equilibrium: Selection Part II: SELECTION IN NATURE - The Theory of Natural Selection: A Historical Outline; Genetic Variation in Natural Populations; Genetic Variation in Natural Populations (continued); Evolutionary Processes in Natural Populations; Natural Selection and Adaptation; Natural Selection and Polymorphism; Classification of Selection Processes; Evolution in Asexually-reproducing Populations; Laboratory Populations as Models for Natural Selection; The Neutralist-Selectionist Controversy: 'Non-Darwinian' Evolution?; The Neutrality Hypothesis: Molecular Support - and Evidence to the Contrary; Molecular Evolution Part III: MACRO-EVOLUTION - The Concepts of 'Species' in Evolution; Formation of New Species (Speciation); Speciation, Extinction of Species and Phylogeny; Evolutionary Processes in Human Populations; Strategies in Evolution



EXPERIMENTAL ENDOCRINOLOGY AND REPRODUCTIVE BIOLOGY

Editors:

C. Haldar and *M. Singaravel:* Banaras Hindu University, Varanasi, India *S.R. Pandi-Perumal:* Mount Sinai School of Medicine, New York, USA *Daniel P. Cardinali:* University of Buenos Aires, Argentina

978-1-57808-518-7; 2008; 335 pages, hc; \$ 94.10 [ebook 978-1-57808-605-4]

This book covers various topics of endocrinology from comparative, experimental, developmental, reproductive and clinical endocrine aspects. Another important feature of this book is that more than half the chapters are described in relation to the function of melatonin and the structure of the pineal organ. These trials of this book are reasonable and timely. Melatonin physiology has been reviewed from several points of view such as antioxidant and scavenger of hydroxyl radical, circadian clock and photoperiodic gonadal response including photoreceptor system, and development of vertebrates.

COMPARATIVE CELLULAR AND MOLECULAR BIOLOGY OF TESTIS IN VERTEBRATES Trends in Endocrine, Paracrine, and

Autocrine Regulation of Structure and Functions

S.S. Guraya: Punjab Agriculture University, Ludhiana, India

978-1-57808-165-3; 2001; 100 pages, hc; \$ 55.40

This monograph provides an account of recent advances in normal and abnormal spermatogenesis, structure, and function from comparative, interdisciplinary points of view: cellular, biochemical, molecular, immunological, and endocrinological. Include diagrams and microscopic views of testicular cells from mammals and seasonal breeder vertebrates.



AIRWAY CHEMORECEPTORS IN THE VERTEBRATES Structure, Evolution and Function

Editors:

Giacomo Zaccone: Messina University, Italy *Ernest Cutz*: University of Toronto, Canada *Dirk Adriaensen*: University of Antwerp, Belgium

Colin A. Nurse: McMaster University, Hamilton, Canada

Angela Mauceri: Messina University, Italy

978-1-57808-614-6; October 2009; 464 pages, hc; \$ 135.00 [ebook 978-1-57808-613-9]

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.

Translated from German

Fauna and Flora of the Bay of Naples THE CEPHALOPODA

Embryology, Part I, Volume II [Final Part of Management No. 35]

Adolf Naef

978-1-57808-143-1; 2000; 486 pages, 10"×13", 37 plates, hc; \$ 155.70

This monumental volume contains systematic morphology of the external organization and of the mantle cavity, including consideration of the shell and its relationship with the soft body. It covers special descriptions of the *embryonic* forms, with particular regard to molluscan phylogeny and general principles of comparative ontogenetic studies. Includes 142 text figures and 37 plates.

AMPHIBIANS AND REPTILES OF NORTH-WEST EUROPE Their Natural History, Ecology and Conservation

Ian F. Spellerberg: Lincoln University, New Zealand

978-1-57808-259-9; 2002; 216 pages, incl. 30 col. plates, 21 × 29 cm, pb; \$ 43.70

This book provides brief account of the natural history, ecology, and conservation of amphibian and reptile species from Western Europe.

"The book will be useful to conservationists; amateur herpetologists and others... this book is sufficiently detailed to be a valuable reference work for undergraduates and research students."

— J.L. Cloudsley-Thompson, Past President and Hon. Member, British Herpetological Society

PRINCIPLES AND PRACTICES OF ANIMAL TAXONOMY, 2/ed V.C. Kapoor

978-1-57808-196-7; 2001; 246 pages, pb; \$ 54.90

CONTENTS: Introduction; Rise of Taxonomy; Newer Trends in Taxonomy; Zoological Classification; Concepts of Species; Taxonomic Collection-Identification-Description and Publication; Reference Works in Taxonomy; Zoological Nomenclature

PHYSIOLOGICAL AND ECOLOGICAL ADAPTATIONS TO FEEDING IN VERTEBRATES

J. Matthias Starck: Univ of Munich, Germany Tobias Wang: University of Aarhus, Denmark

978-1-57808-246-9; 2005; 436 pages, hc; \$ 127.70 [ebook 978-1-57808-650-4]

The book is a state-of-the-art account of our mechanistic, comparative and evolutionary understanding of how vertebrates have evolved and adapted to feed on diverse food items. The reviews cover the fields of comparative morphology, nutritional physiology, ecological physiology and molecular mechanisms of food uptake. This book is meant for professionals and students of animal physiology, evolutionary biology, ecology, veterinary science, animal nutrition and animal production.

QUANTUM GENETICS

V.V. Stcherbic and L.P. Buchatsky

978-1-57808-508-8; 2007; 174 pages, hc; \$ 76.20 [ebook 978-1-57808-601-6]

The systemic review of quantum genetics based on the theory on non-Abelian gauge fields is represented in this book. The concept of fundamental conception of atom's protonic charge is also included. Description of the biological processes is conducted in a six-dimensional space with metric tensor 4+ 2-. The properties of main biological structures DNA, RNA and proteins are discussed on the basis of equivalent charge configuration of amino acids of the genetic code. It is proved that the conformal field of amino acids is equal to quantizied gravitational field with a spin of 5/2.

This book is intended for specialists in theoretical biology, quantum theory of field, molecular biology and genetics.

TECHNIQUES FOR MOLECULAR BIOLOGY

D. Tagu and C. Moussard (ed.)

978-1-57808-361-9; 2006; 230 pages, hc; \$ 45.00

CONTENTS: Definition; Vectors and Cloning; Labelling of Nucleic Acids and Hybridization; DNA Libraries and Screening; Characterization of a Gene; Genetic Transformation of Euaryotes; Analysis of Gene Function; Polymorphism of a Genome

Mammals of Russia and Adjacent Regions: BALEEN WHALES

V.E. Sokolov and V.A. Arsen'ev

Order on our secure online shopping cart

www.scipub.net

Mammals of Russia and Adjacent Regions: JERBOAS

G.I. Shenbrot, V.E. Sokolov, V.G. Heptner and Yu.M. Koval'skaya Volume Scientific Editor: Don E. Wilson: Smithsonian Institution, Washington, DC

978-1-57808-531-6; 2008; 786 pages, hc; \$ 156.20 [ebook 978-1-57808-615-3]

Deals with the systematics and biology of forest mice and jerboas. It describes detailed morphological characteristics and includes keys for the identification of the families, genera and species. Detailed maps of distribution of species are compiled. Data on the biology is according to the set plan (population, habitat, feeding, daily and seasonal activity, behavior, reproduction, parasites and competitors, etc.). The book primarily focuses species found in Russia, Ukraine, Caucasus, Russian Central Asia and Transcaucasia. Brief coverage of species outside these regions is also included.



Mammals of Russia and Adjacent Regions LAGOMORPHS

V.E. Sokolov et al. Scientific Editors: Robert S. Hoffmann & Andrew T. Smith

978-1-57808-522-4; January 2009; 410 pages, hc; \$ 119.50

This book is devoted to the description of the order Lagomorpha, which is represented by two extant families—Leporidae and Ochotonidae.

The book is aimed at mammalogists, ecologists, zoogeographers and game specialists.

Illustrations 58, table 57, bibliography of 13 papers.



MODERN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY

Nduka Okafor: Clemson University, South Carolina, USA

978-1-57808-513-2; 2007; 550 pages, pb; \$ 66.60 [ebook 978-1-57808-599-6]

This book is aimed at undergraduates and beginning graduate students in microbiology, food science and chemical engineering. Those studying pharmacy, biochemistry and general biology will also find it useful. The section on waste disposal will be of interest to civil engineering and public health students and practitioners. For the benefit of those students who may be unfamiliar with the basic biological assumptions underlying industrial microbiology, elements of biology and microbiology are introduced.

GENETICS

Principles, Concepts, and Implications *H.K. Jain*

978-1-57808-054-0; 1999; 454 pages, hc; \$ 44.20

This book attempts to trace the journey of genetics in the twentieth century. It recounts some landmark discoveries; and in doing so, draws attention to the basic concepts. The treatment has been kept simple so that, not only students of genetics and biology, but also all those who follow science, may find it of interest.

BIOPHYSICAL PROCESSES IN LIVING SYSTEMS

P.P. Saradhi (ed.)

978-1-57808-157-8; 2001; 380 pages, hc; \$ 103.00

"Twenty independent research groups share their experience in unraveling various aspects of living system through a multidisciplinary approach using biophysics along with biochemistry and molecular biology..."

> SciTech Book News, September 2001

VERTEBRATE FUNCTIONAL MORPHOLOGY Horizon of Research in the 21st Century

H.M. Dutta and J.S. Datta Munshi (eds.)

978-1-57808-098-4; 2001; 500 pages, hc; \$ 154.60

Dealing with important systems starting from lower vertebrates to mammals, this book covers topics including morphological, biochemical and molecular aspects of cartilages of the skeleton of sea lamprey, and more.

> Low stock availability

HELMINTHS OF WILDLIFE

N. Chowdhury: Punjab Agricultural University, Ludhiana, India *A. Alonso Aguirre:* Tufts University, Massachusetts, USA

978-1-57808-092-2; 2001; 534 pages, hc; \$ 132.20

This book describes the biology and evolution of endoparasitic helminths as well as medical aspects, control, and treatment both in land and marine mammals. It discusses elements of wildlife management and conservation as they relate to helminth diversity. And, based on the geographic distribution of mammals, it offers a global perspective on helminths and their diseases.

"It is certain to become an invaluable aid to all scholars of parasitology throughout the world."

> - WAAVP Newsletter Vol. 4, No. 3, May 2001

ECOLOGICAL IMPLICATIONS OF MINILIVESTOCK

Potential of Insects, Rodents, Frogs and Snails

Maurizio G. Paoletti (ed.): Università de Padova, Padova, Italy

978-1-57808-339-8; 2005; 662 pages, 10 color plates, hc; \$ 132.20 [ebook 978-1-57808-655-9]

The book describes the potential benefits of managing insects, small mammals, amphibians and snails for food. The 29 articles here describe ranching or farming of mini-livestock as sustainable and preserving of local custom, and examine the possibilities for rats and other rodents in Africa and the Amazon, snails in Europe and Africa, insects in the Middle East, Asia and South America, and earthworms just about everywhere. Includes color plates of the livestock in question and examples of current cultivation.

"This excellent book deserves a wide readership."

> Experimental Agriculture, Vol. 42, 2006

"This book is well written and informative, and takes an extra step to continue the interaction between the authors and their readers."

- Megadrilogica, Vol. 10(a), 2005

BIOCOMMUNICATION IN INSECTS

T.N. Ananthakrishnan and A. Sen (eds.)

978-1-57808-031-1; 1998; 112 pages, hc; \$ 54.90

CONTENTS: Basics of Biocommunication in Insect-Plant Interactions: Role of Chemical Signals; Plant Volatiles in Relation to Biocommunication; Pheromone Technology: Problems and Opportunities in Exploring Biocommunication Systems in Insects; Chemistry, Technology and Application of Pheromones as Components of IPM; Modality and Relevance of Biocommunication in the Biological Control of Insects; Sensillar Diversity and Insect Biocommunication; Neuroethological Approaches in Insect-Plant Interactions; Pheromone Production in Moths: Control by Intrinsic and Extrinsic Factors; The Evolution of Communication as Exemplified by the Honey-bee Queen Pheromones; Cell-to-Cell Communication.

MICROBIALS IN INSECT PEST MANAGEMENT

S. Ignacimuthu and Alok Sen (eds.)

978-1-57808-171-4; 2001; 184 pages, hc; \$ 72.80

In this volume, leading experts in the field discuss the success of different entomopathogens in various cropping systems, their effect on natural enemies, compatibility of different microbes as well as with pesticides, and their mass culture. Improvement in field performance through molecular techniques as well as the problems and suggestions for the adoption of IPM are also addressed.

"... This book will be a valuable reference work not only to the world-wide community of researchers in this field but also to any undergraduate or postgraduate students of agriculture and crop protection...."

> Biological, Agriculture and Horticulture, 2002, Vol. 20

INSECTS

Their Spermatozoa and Phylogeny Barrie G.M. Jamieson: University of Queensland, Brisbane, Australia Romano Dallai: University of Siena, Italy Bjørn A. Afzelius: Stockholm University, Stockholm, Sweden

978-1-57808-040-3; 1999; 564 pages, hc; \$ 161.30

This volume is a compilation of critical resume of all research reports on the ultrastructure of insect spermatozoa, the literature of which is large and scattered. There are more than one hundred works on the spermatozoa of the Diptera alone.

<u>A PDF version</u> of this catalog is also available on our website (www.scipub.net)

BIOLOGY, ECOLOGY, AND EVOLUTION OF GALL-INDUC-ING ARTHROPODS

A. Raman: University of Sydney, Orange, Australia Carl W. Schaefer: University of Connecticut, Storrs, USA Toni M. Withers: Forest Research, Rotorua, New Zealand

978-1-57808-262-9; 2005; 779 pages (2 vols.), hc; \$ 165.80

This work places emphasis on the biology, behavior, and evolution of the gall-inducing arthropod, principally Acarines, Hemipteroids, Coleopteroids and Hymenopteroids, and associated organisms; the dynamics of the host-plant response remain in the background. In addition to the biological and ecological information on these arthropods, each chapter also provides information on their evolution, in most instances, viewed against the evolution of their host plants.

"... this two-volume set is a great reference and portal into the world of galls."

- Environmental Entomology, 0046-225X, 2007

MAINTENANCE OF HUMAN, ANIMAL, AND PLANT PATHOGEN VECTORS

Karl Maramorosch and Farida Mahmood (eds.): Rutgers—The State University of New Jersey, New Brunswick, NJ, USA

978-1-57808-049-6; 1999; 340 pages, hc; \$ 95.20

"...it is a must for any institution dealing with or involved in research on vector-borne diseases of humans, animals, and plants."

— The Quarterly Review of Biology, Vol. 75

"This book contains a wealth of information, brought together for the first time in one volume, on the laboratory maintenance and handling of a wide range of vectors of animal and plant pathogens."

— Parasitology (2000), 121

INTEGRATED PEST MANAGEMENT OF TROPICAL PERENNIAL CROPS Dominique Mariau (ed.)

... see Plant Sciences

PHENOTYPIC PLASTICITY

Mechanisms and Consequences Editors:

Douglas Whitman: Illinois State University, Normal, IL, USA *T.N. Ananthakrishnan:* Former Director, Entomology Research Inst., Chennai, India

978-1-57808-423-4; January 2009; 904 pages, hc; \$ 135.00 [ebook 978-1-57808-630-6]

This book explores the profound importance of phenotypic plasticity as a central organizing theme for understanding biology. Chapters take a broad, integrative approach to explain how physical and biological environmental stimuli (temperature, photoperiod, nutrition, population density, predator presence, etc.), influence insect biochemical, physiological, learning, and developmental processes, altering phenotype, which then influences performance, ecology, life-history, survival, fitness, and subsequent evolution. Topics include endocrinology, development, body size, allometry, polyphenism, reproduction, reproductive and lifehistory tradeoffs, alternative mating and life-history strategies, densitydependent prophylaxis, physiological adaptation, acclimation, homeostasis, heat-shock proteins, learning, adaptive anti-predator behavior, and evolution of phenotypic plasticity.



INSECT PHENOTYPIC PLASTICITY: Diversity of Responses

T.N. Ananthakrishnan: Former Director, Entomology Research Institute, Chennai, India

Douglas Whitman: Illinois State University, Normal, IL, USA

978-1-57808-322-0; 2005; 222 pages, hc; \$ 72.80

Phenotypic plasticity theory may very well change the way biologists in a wide variety of discipline think and approach their research. In this collection of eight leadingedge papers, contributors describe their work is such topics as phenotypic plasticity in host selection on adult

Tiger Swallowtail butterflies, plasticity in insect responses to the variable chemistry of host plants, behavioral determinants of Thysanoptera structural diversity, behavioral diversity and its apportionment in a primitively eusocial wasp, clutch size plasticity in the Lepidoptera, the importance of phenotypic plasticity in herbivorous insect specialization, and adaptive allometric responses to galling insects to the availability of oviposting sites.

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Translated from French

MANAGEMENT OF FRESH WATER FISHERIES

Jacques Arrignon

978-1-57808-051-9; 1999; 598 pages, hc; \$ 106.40

The book is organised under the following three major headings: Ecological bases; Fish farming; and Managing aquatic mediums. The tested data is presented in a clear and well-balanced manner, often with the help of tables and illustrated with many sketches and photographs. Includes glossary and an index.

This book will be useful to professionals involved in the biology, management and protection of the aquatic medium: hydrobiologists, aquaculturists, fish farmers, technicians and fishing wardens.

OCEAN ENVIRONMENT AND FISHERIES

M.P.M. Reddy: Formerly, College of Fisheries, Mangalore, India

978-1-57808-519-4; 2007; 560 pages, hc; \$ 128.80 [eBook 978-1-57808-554-5]

Contains detailed information on the physical, chemical and biological oceanographic features at various depths for all the fifteen regions of the Atlantic, Pacific, Indian and Southern Oceans as categorized by the FAO, and on the commercially important marine fishes, and details of fish catches in all the major oceans since 1950. Aspects relating to fisheries forecasts are discussed. Several aspects relating to various Oceans environmental factors which influence fisheries in different regions of the major oceans are given as well.

PROCEEDINGS OF THE WORLD FISHERIES CONGRESS, ATHENS, GREECE Assessment Methodologies and Management

Gary T. Sakagawa (ed.)

978-1-886106-10-9; 1995; 210 pages, hc; \$ 88.50

Mammals of Russia and Adjacent Regions BALEEN WHALES

V.E. Sokolov and V.A. Arsen'ev

978-1-57808-185-1; 2006; 332 pages, hc; \$ 109.80 [ebook 978-1-57808-585-9]

This English translation is a contribution to the systematics of the baleen suborder (as vs. the toothed whales) of Cetaceans. Detailed descriptions of baleen suborders including gray whales, humpbacks, and right whales, are given.

MICROBIAL BIOTECHNOLOGY IN AGRICULTURE AND AQUACULTURE

R.C. Ray (ed.)

. . . see Plant Sciences



FISH GENETICS AND AQUACULTURE BIOTECHNOLOGY

Editors:

T.J. Pandian, C.A. Strüssmann & M.P. Marian

978-1-57808-372-5; 2005; 170 pages, hc; \$ 66.60

Half of the 12 papers are research reports selected from the presentations to an international conference. The others are reviews of literature on the same theme of advanced technologies in fisheries and marine sciences. Among the topics are gene transfer to germline and somatic tissues of zebrafish, methods of sex control in fishes, and the isolation of antibody-like substances from marine algae.

BIOREMEDIATION OF AQUATIC AND TERRESTRIAL ECOSYSTEMS Editors:

Milton Fingerman and *R. Nagabhushanam:* Tulane University, New Orleans, LA USA

978-1-57808-364-0; 2005; 622 pages, hc; \$ 109.80 [ebook 978-1-57808-588-0]

Contributors describe their research in finding the most effective means of removing contaminants while maintaining control of the microorganisms intended to counter them.

AQUACULTURE MICROBIOL-OGY AND BIOTECHNOLOGNEW Volume 1

Editors:

Didier Montet: Centre International de Recherche en Agronomie pour le Développement (CIRAD), Montpellier, France

R.C. Ray: Central Tuber Crops Research Institute, Bhubaneswar, India

978-1-57808-574-3; September 2009; 286 pages, hc; \$ 99.50

As the title suggests, this book addresses the scope of microbiology and biotechnology in aquaculture. Emerging biotechnological approaches presented in this book provide indepth accounts of approaches to improving aquaculture production and productivity while also addressing natural resource conservation and environmental protection issues.

BIOTECHNOLOGY OF AQUATIC ANIMALS

Editors:

R. Nagabhushanam, A.D. Diwan, B.J. Zahurnec and R. Sarojini

978-1-57808-321-3; 2004; 190 pages, hc; \$ 77.80

The book presents current developments in selected areas of the biotechnology of aquatic animals. The uses and applications of biotechnology in general are described, with emphasis on aquatic animals, and recent advances in aquaculture and marine biotechnology are outlined. The book describes techniques for reproductive manipulation of fin and shell fishes, and discusses vaccines for aquatic animals, environmental biotechnology, antifouling technology, and ethics.

SERIES: RECENT ADVANCES IN MARINE BIOTECHNOLOGY

Milton Fingerman and R. Nagabhushnam (eds.): Tulane University, New Orleans, LA, USA

Volume 1: Endocrinology and Reproduction

978-1-886106-53-6; 1997; 536 pages, hc; \$ 140.00

This volume is a compilation of information that covers a wide range of animal groups. This book will be of interest not only to biotechnologist, but also to aquaculturists, comparative animal physiologists, comparative endocrinologists, and developmental biologists.

Volume 2: Environmental Marine Biotechnology

978-1-57808-012-0; 1998; 323 pages, hc; \$ 95.20

CONTENTS: Protein Biomarkers for Paralytic Shellfish Toxins: Donna S. Smith and David D. Kitts; Characteristics of Deep-sea Microorganisms Adapted to Extreme Environments: Chiaki Kato, AkiraInoue, and Koki Horikoshi; Application of Chitosan in Separation and Purification of Metals: Katsutoshi Inoue: Glues from the Sea—Lessons at the Foot of a Bioadhesive Master, the Marine Mussel: Leszek M. Rzepecki; Bioremoval of Heavy Metals by Microalgae: Edward W. Wilde, Joann C. Radway, and John R. Benemann: Microbial Surfactants—Potential Applications in the Treatment of Hydrocarbon Marine Pollution: Jean-Claude Bertrand, Michle Gilewicz, Patricia Bonin, and Michel Denis; Enzymatic Membrane Bioreactors-Current State of the Art and Future Prospects: Duarte M.F. Prazeres and Joaquim M.S. Cabral; Heavy Metal Pollution—Use of Marine Crustaceans as Biological Indicators: Rachakonda Nagabhushanam, Palla S. Reddy, and Milton Fingerman; Enzyme Sensors for the Detection of Pesticides: Jean-Louis Marty, Beatrice Leca, and Thierry Noguer; Microbial Diversity as a Source of Potentially Useful Biopolymers: Eugene Rosenberg; Bioreactor Technology for Mass Cultivation of Photoautotrophicmicroalgae: Yuan K. Lee and Amos Richmond

Volume 3: Biofilms, Bioadhesion, Corrosion, and Biofouling

978-1-57808-013-7; 1999; 320 pages, hc; \$ 98.60

Provides reviews of the advances being made in our understanding of the formation and role of biofilms and how bioadhesion occurs, with the idea in mind that these presentations will provide insight into ways to reduce the impact of corrosion and biofouling on the marine environment.

Volume 4: Aquaculture

Part A: Seaweeds and Invertebrates

978-1-57808-082-3; 2000; 292 pages, hc; \$ 98.60

Part B: Fishes

978-1-57808-083-0; 2000; 260 pages, hc; \$ 89.60

Volume 5: Immunobiology and Pathology

978-1-57808-091-5; 2000; 392 pages, hc; \$ 109.20

It describes of how the immune systems of fishes function, particularly now that molecular biology techniques are being applied in these studies. Improving the immunity of fishes would be a major step forward.

Volume 6: **Bio-organic Compounds: Chemistry and Biomedical Applications**

978-1-57808-135-6; 2002; 272 pages, hc; \$ 95.20

Through new diving technologies, exploration at greater depths is now possible, thus aiding greater scope for research on the utilization of natural products. Studies of these marine natural products include investigations of neuronal membrane-active toxins, ion channel blockers, antitumor and antiviral agents, and anti-inflammatory molecules.

Volume 7: Seafood Safety and Human Health

978-1-57808-204-9; 2002; 328 pages, hc; \$ 98.60

This volume examines the need to guard against naturally occurring toxins and pathogenic organisms that are capable of contaminating this food supply. It is imperative to detect the presence of these toxins and environmental conditions which favor the microorganisms that are the sources of these toxins in order to ensure food safety. Marine biotechnology has a major role at the forefront in assuring that our seafood is safe, and has begun to provide impressive successes in assuring that it will be so.

Volume 8: Bioremediation

978-1-57808-245-2; 2003; 352 pages, hc; \$ 107.50

Bioremediation is a technology that utilizes the metabolic potential of microorganisms to clean up contaminated environments. In this volume, international scientists present the results of recent research in marine bioremediation. A sampling of topics includes the bioremediation of petroleum spills, the control of heavy metal contamination, and the use of molecular technologies for monitoring bacteria.

Volume 9: Biomaterials and Bioprocessing

978-1-57808-284-1; 2003; 300 pages, hc; \$ 108.60

The book deals with a range of topics, such as photobioreactors, industrial applications of chitosanases, carrageenans from red algae, anticoagulants from marine algae, anti-HIV compounds from red algae, and biomass production as a source of energy by pyrolysis.

Volume 10: Molecular Genetics of Marine Organisms

978-1-57808-297-1; 2003; 436 pages, hc; \$ 132.20

In this volume, biologists, geneticists, and other scientists in related fields, explore how the basic aspects of molecular genetics can be applied to practical problems of increasing commercial production from the oceans.



CATFISHES

Editors: Gloria Arratia: Humboldt University, Berlin, Germany B.G. Kapoor: Jodhpur University, India R. Diogo and M. Chardon: Université de Liège, Liège, Belgium

978-1-57808-261-2; 2003; 844 pages (2 vols.), hc; \$ 159.00 [ebook 978-1-57808-564-4]

The first volume addresses catfish anatomy; function and functional morphology; and phylogeny, systematics, and some problematic groups. The catfish fossil record, ecology and ethology, development, and sensory biology are covered in the second volume.

".... this book is an important one for all catfish researchers. It certainly deserves a place in reference libraries, and probably also on the shelf of the serious specialist."

> — African J of Aquatic Sc. 2005, 30(1)



Editors:

Robert A. Patzner: University of Salzburg, Salzburg, Austria

Emanuel J. Gonçalves: Instituto Superior de Psicologia Aplicada, Lisboa, Portugal Philip A. Hastings: Scripps Institution of Oceanography, La Jolla, California, USA B.G. Kapoor: Formerly, Jodhpur University, India

978-1-57808-439-5; May 2009; 494 pages, hc; \$ 139.50

Blennies are diverse group of bony fishes found around the globe. Most blennies are small and somewhat difficult to identify, so until recently these fish did not occupy the interests of many ichthyologists and even fewer ecologists. With nearly 900 species, blennies are important members of most coastal marine communities.

This book should stimulate interest in blennies among a wider array of students, and marine biologists in general.

The book comprises 6 sections: Systematics, Biogeography, Feeding and Sensory Systems, Reproduction and Development, Ecology and Behaviour, Species of Blennies.



FISH RESPIRATION AND ENVIRONMENT

Editors:

Marisa N. Fernandes and Francisco T. Rantin: Universidade Federal de São Carlos, São Carlos, Brazil Mogens L. Glass: Universidade de São Paulo, Ribeirão Prêto, Brazil B.G. Kapoor: Formerly, Jodhpur University, India

978-1-57808-357-2; 2007; 408 pages, hc; \$ 122.60 [eBook 978-1-57808-553-8]

Gills of healthy fishes are their life-line to meet the challenges arising from their changing environment: oxygen gradient, alkalinity, temperature fluctuations and the added pollutants. The diverse and ever changing aquatic environment has a major impact on the organization of various organ-systems of fishes. This book contains seventeen chapters covering bony fishes. The chapters primarily cover fish respiration but also include osmoregulation, these being the two main functions of gills. Concurrently, cardiorespiratory synchronization has been well addressed.

This book has broad coverage, and is well-supported with illustrations.

DEVELOPMENT OF NON-TELEOST FISHES



Editors:

Yvette W. Kunz: Kilmacanogue, County Wicklow, Ireland

Carl A. Luer: More Marine Laboratory, Sarasota, Florida, USA

B.G. Kapoor: Formerly, Jodhpur University, India

978-1-57808-500-2; September 2009; 309 pages, hc; \$ 109.00

An up-to-date compilation of the development of non-teleost fishes has so far been unavailable. These fishes include the jawless fishes (hagfish and lampreys), the cartilaginous fishes (sharks, rays, skates and chimaeras), the forerunners of the teleostei: the cladistia (bichirs and reedfish), the chondrostei (sturgeon and paddlefish, the neopterygii (gar pike and bowfin), and, finally, the closest relations to the tetrapods: the lungfishes (the coelacanh ['living fossil'], Protopterus of Africa, Lepidosiren of South America and Neoceratodus of Australia).

Therefore, the present volume has been devoted to closing the gap by an up-to-date scientific review of the early life-history of these nonteleost fishes (agnathi excepted).

FISH ADAPTATIONS

Adalberto Luís Val: INPA, Laboratório de Ecofisiologia e Evolução Molecular, Manaus, Brazil

B.G. Kapoor: Formerly, Jodhpur University, India

978-1-57808-249-0; 2003; 432 pages, hc; \$ 156.80

When water characteristics change, fishes have to adjust physiologically to these alternations in their habitat in order to survive as a biological identity. Physiological adaptation is a dynamic and never-ending process that has resulted in myriad fish groups adapting to the vast environmental diversity existing on the Earth. Moreover, adaptively modified organisms acquire greater ability to exploit the full range of natural environment, by adopting new modes of life in many situations. This book is a 'voyage' through Fish Adaptations, including new and not readily available information.

REPRODUCTIVE BIOLOGY AND PHYLOGENY OF CHONDRICHTHYES

Sharks, Batoids, and Chimaeras William C. Hamlett (ed.): Indiana University, Notre Dame, Indiana, USA

978-1-57808-314-5; 2005; 576 pages, hc; \$ 133.80

Deals with ideas concerning the development, reproductive morphology, function and phylogeny of chondrichthyan fishes. This information is fundamental to our understanding of oogenesis, spermatogenesis, gestation, regulation of reproductive tract function, sperm storage, nutrient provision, placentation, phylogeny and are pertinent to our concepts of the origin of live bearing in general. New and exciting data is presented including the idea that yolk sac viviparity is the plesiomorphic state rather than oviparity.

"..this volume will be an indispensable reference to both general biologists and specialists."

— The Quarterly Review of Biology, Vol. 82, No. 1, March 2007





THE ALGA DUNALIELLA Biodiversity, Physiology, Genomics and Biotechnology Editors:

Ami Ben-Amotz: The National Institute of Oceanography, Haifa, Israel *Jürgen E.W. Polle*: Brooklyn College of CUNY, Brooklyn, NY, USA *D.V. Subba Rao*: Bedford Institute of Oceanography, Dartmouth, NS, Canada

978-1-57808-545-3; May 2009; 575 pages, hc; \$ 139.00

This volume presents a state-of-the art research in biochemistry, molecular biology and medical application. A glossary of specialized terms is appended. Each chapter is contributed by an expert or group of experts dedicated to increase our understanding of *Dunaliella*. All the chapters were reviewed internally by their colleagues, editors and external reviewers; this was followed by a final revision.

The book provides a balanced multi-disciplinary communication and contributes to our understanding of this unique alga. It is addressed to graduate students and scientists as a summary of current thoughts on *Dunaliella*.



ATLAS OF FISH HISTOLOGY

NFW

Franck Genten, Eddy Terwinghe and *André Danguy*: Department of Histology and Biopathology of Fish Fauna, Université Libre de Bruxelles (U.L.B.), Brussels

978-1-57808-544-6; January 2009; 223 pages incl. 440 color plates, hc; \$ 145.00 [ebook 978-1-57808-632-0]

This atlas covers normal fish histology and contains 440 color micrographs of histological sections of about 40 fish species. The atlas is designed for use by students, biologists, ichthyologists, fish farmers, veterinarians, and comparative histologists who want to learn more about the fish world. The author has taught histology and biology to veterinary and medicine students.



FISH LIFE IN SPECIAL ENVIRONMENTS

Philippe Sébert: Unité Haute Pression et Métabolisme, Cedex, France *D.W. Onyango:* University of Nairobi, Kenya *B.G. Kapoor:* Formerly, Jodhpur University, India

978-1-57808-387-9; 2008; 362 pages, hc; \$109.80 [eBook 978-1-57808-560-6]

The book discusses fish in diverse environmental conditions such as alkaline environments, caves, Antarctic, ice cold lakes, tropical coral reefs, and deep waters. The chapters also discuss mitochondrial functions in the cold, circadian rhythms, endocrinology of migratory fish life cycle and fish muscle function.

The topics have been selected in order to present a window to an array of adaptations of aquatic inhabitants which enable them to subsist and survive in the uncommon, and often hostile, external environment. The book serves as both a general and a specific source of information for fish biologists as well as ecophysiologists.

MORPHOLOGICAL EVOLUTION, APTATIONS, HOMOPLASIES, CONSTRAINTS AND EVOLUTIONARY TRENDS Catfishes as a Case Study on General Phylogeny and Macroevolution

Rui Diogo: University of Liège, Belgium

978-1-57808-291-9; 2004; 502 pages, hc; \$ 136.60 [ebook 978-1-57808-662-7]

The major aim of this work is, to help understand the interrelationships of catfishes, with major implications on the study of the general evolution of these fishes.

A great part of this work therefore, deals with a cladistic analysis of catfish higher-level phylogeny based on extensive morphological data, in which are included some terminal taxa not included in previous analyses, but principally a large number of characters traditionally excluded from those analyses, with particular attention being given to catfish mycology.

FISH DEFENSES

Editors: Giacomo Zaccone: Messina University, Italy

J. Meseguer and *A. Garcia-Ayala:* University of Murcia, Spain *B.G. Kapoor:* Formerly, Jodhpur University, India



978-1-57808-327-5; July 2008; 390 pages, hc; \$ 118.00 [ebook 978-1-57808-631-3]

Coverage includes fish innate immunity; adaptive immunity; the molecular organization of antibody genes; the structural and functional features of the antibody molecule; the development of antibody-producing cells and the organization and function of the system which leads to an antibody response; the discovery of the new immunoglobulin class; the characterization of teleost IGH loci; fish immune response to eukaryotic parasites, and the evasion and suppression of the immune response by such pathogens; the fish cytokine network and immune regulatory peptides coordinating innate and adaptive responses; immune-endocrine interactions in fish; morpho-functional features of leukocytes and cytokines present in fish testis; and applied aspects of manipulating fish immune defenses in aquaculture. For researchers of fish immunology, fisheries and aquaculture, as well as students of fish biology.

Volume 2: Pathogens, Parasites and Predators

Giacomo Zaccone: Messina University, Italy

C. Perrière: Insectes et Toxins, Facultè de Pharmacie, Chatenay-Malabry Cedex, France

A. Mathis: Southwest Missouri State University, Springfield, Missouri, USA *B.G. Kapoor*. The University of Jodhpur, India

978-1-57808-407-4; October 2009; 411 pages, hc; \$ 129.50

Dramatic changes in the environment, including habitat degradation and climate change, have focused attention on how individuals and populations respond to a shifting biotic and abiotic landscape. A critical step toward meeting this goal is a clear understanding of the capacity of individuals to defend themselves against threats. Changes in water quality and temperature have direct and indirect effects on fishes. Defensive responses can occur at many levels, from cellular to behavioral actions. The authors in this volume have attempted to provide a general view of the current state of knowledge of fish defenses with respect to pathogens, parasites, and predators, and to point out gaps where further study is needed.



FEEDING AND DIGESTIVE FUNCTIONS IN FISHES

Editors:

J.E.P. Cyrino: Dept. of Animal Science (Zootecnia), Piracicaba, SP, Brazil

D. Bureau: University of Guelph, Ontario, Canada *B.G. Kapoor:* Formerly, Jodhpur University, India

978-1-57808-375-6; 2008; 589 pages, hc; \$ 135.00 [ebook 978-1-57808-634-4]

More than 250 aquatic species are cultivated on a commercial scale using a wide variety of production systems. This great diversity results in great opportunities and tremendous challenges. Topics covered in this book are as diverse as, feeding ecology of fish in their natural habitat, feeding behavior, digestive anatomy, biochemistry and physiology of different fish species at different life stages, the impact of diet on gastro-intestinal development and health, nutrition and disease resistance, and modeling conversion of food or feed inputs into biomass.



FISH REPRODUCTION Editors:

Maria J. Rocha: Centre of Marine & Environmental Research, Porto, Portugal Augustine Arukwe: Norwegian University of Science & Technology, Trondhein, Norway B.G. Kapoor: Formerly, Jodhpur University, India

978-1-57808-331-2; 2008; 632 pages, hc; \$ 143.40 [eBook 978-1-57808-557-6]

"... covers a broad array of topics related to fish reproduction. Several chapters address recent work on hormonal effects; others discuss mating systems, reproductive strategies, parental care, environmental toxins, and fish reproduction in relation to aquaculture. One chapter focuses on shark reproduction.... valuable as a reference for people researching aspects of reproduction (information that is not usually included in a physiology work). Fish Reproduction belongs in the libraries of institutions where courses in ichthyology, fish biology, or aquaculture are taught.

> — CHOICE, June 2008, Vol. 45, No. 10



FISH OSMOREGULATION

Editors:

Bernardo Baldisserotto: Universidade Federal de Santa Maria, Santa Maria-RS, Brazil

J.M. Mancera Romero: Universidad de Cadiz, Spain

978-1-57808-447-0; 2007; 540 pages, hc; \$ 143.40 [eBook 978-1-57808-555-2]

Several specialists have analyzed and reviewed the new data published regarding fish osmoregulation, in this volume. The chapters present an integrative synthesis of the different aspects of this field focusing on osmoregulation in specific environments or situations. function of osmoregulatory organs, general mechanisms and endocrine control. In addition, interactions of osmoregulatory mechanisms with the immune system, diet and metabolism were also reviewed. New emerging techniques to study osmoregulation have also been analysed.

Available in e-book only

COMMUNICATION IN FISHES

Editors:

Friedrich Ladich: University of Vienna, Austria

Shaun Collin: University of Queensland, Brisbane, Australia

Peter Moller: City University of New York, NY, USA

978-1-57808-328-2; 2006; 870 pages (2 vols.), hc; \$ 162.40 [eBook 978-1-57808-563-7]

This book describes how fish communicate with acoustic, chemical, visual, and electric signals.

"... valuable as classroom and research resources for both graduate students and more established researchers in fish biology, sensory biology, and neuroethology."

- The Quarterly Review of Biology, Vol. 82, December 2007

FISH LOCOMOTION

An Eco-ethological Perspective Editors:

Paolo Domenici: CNR-IAMC, Torregrande (OR), Italy *B.G. Kapoor*: Formerly, Jodhpur University, India

978-1-57808-448-7; September 2009; ca.550 pages, hc; \$ 139.00

Fish accomplish most of their basic behaviors by swimming. Swimming is fundamental in a vast majority of fish species for feeding, avoiding predation, finding food, mating, migrating and finding optimal physical environments.

This book aims at filling a gap in the literature, by adding behavioral and ecological viewpoints to the more traditional biomechanics, ecomorphology and physiological perspectives used in studies of fish swimming. The book is therefore largely integrative by its own nature, and it includes considerations related to fisheries, conservation and evolution. It is aimed at students and researchers interested in fish swimming from any organismal background, be it biomechanics, ecomorphology, physiology, behavior or ecology.

FISH CHEMOSENSES

Editors:

Klaus Reutter: Anatomisches Institut Universität, Tübingen, Germany *B.G. Kapoor:* Formerly, Jodhpur University, India

978-1-57808-319-0; 2005; 356 pages, hc; \$ 106.40 [ebook 978-1-57808-651-1]

Deals with the fishes chemosensory systems — the well known olfactory and the gustatory senses and the less popular solitary chemosensory cells. Chemosenses play an essential role in the survival of fishes. They help the fish to search for food, to consume it and to process it further, they help to find their conspecifics and to avoid enemies or predators. Fishes living in unusual extreme ecological niches, like caves and the deep sea, have highly developed and evolved chemosensory organs then the chemosenses of sight-hunting fish.



FISH CYTOGENETICS

Editors:

E. Pisano: Universita di Genova, Italy *C. Ozouf-Costaz*: Museum National d'histoire Naturelle, Paris, Cedex, France *F. Foresti*: Instituto de Biosciencias, UNESP, Brazil

978-1-57808-330-5; 2007; 518 pages, hc; \$ 128.80 [eBook 978-1-57808-549-1]

This book is organized in four sections (systematics and evolution; biodiversity conservation; stock assessment and aquaculture; and genomics) covering the major fields of present fish cytogenetic research. The book provides a comprehensive picture of the ongoing research around the world. Due to the diversified arrays of themes approached, including speciation and evolution, biodiversity and conservation and genomics, the book is addressed not only to specialists in cytogenetics but to all scientists interested in fish biology.

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FISH LARVAL PHYSIOLOGY Editors:

R. Nigel Finn: University of Bergen, Norway *B.G. Kapoor:* Formerly, Jodhpur University, India

978-1-57808-388-6; 2008; 742 pages including 26 color illustrations, hc; \$ 139.00 [ebook 978-1-57808-592-7]

This book is intended as a resource for students and researchers interested in developmental biology and physiology and specifically addresses the larval stages of fish. This book aims at providing a single-volume treatise that explains how fish larvae develop and differentiate, how they regulate salt, water and acid-base balance, how they transport and exchange gases, acquire and utilise energy, how they sense their environment, and move in their aquatic medium, how they control and defend themselves, and finally how they grow up.

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THE ORIGIN OF HIGHER CLADES

Osteology, Myology, Phylogeny and Evolution of Bony Fishes and the Rise of Tetrapods

Rui Diogo: George Washington University, Washington, DC, USA

978-1-57808-530-9; 2008; 388 pages, incl. 7 color plates, pb; \$ 55.00 [eBook 978-1-57808-559-0]

The Osteichthyes, including bony fishes and tetrapods, is a highly speciose group of animal comprising more than 42,000 living species. The extraordinary taxonomic diversity of osteichthyans is associated with a remarkable variety of morphological features and adaptations to very different habitats, from the deep sea to high mountains. This book provides a new insight on the osteology, myology, phylogeny and evolution of this fascinating group. The data presented in this book will stimulate, and pave the way for, future studies on the comparative anatomy, functional morphology, phylogeny and evolution of osteichthyans and of vertebrates in general.

FISH DISEASES

FISH DISEASES Editors:

Jorge Eiras: Universidade do Porto, Portugal Helmut Segner and Thomas Wahli: University of Bern, Switzerland B.G. Kapoor: Formerly, Jodhpur University, India

978-1-57808-438-8; 2008; 1340 pages (2 vols.), hc; \$ 149.00 [ebook 978-1-57808-625-2]

The purpose of this book is to provide a comprehensive overview of infectious as well as non-infectious diseases of fish, with emphasis on recent advancements in

our understanding of fish disease processes.

The book is aimed at scientists involved in basic and applied fish research, aquaculture industry, and private and governmental fish health laboratories. It will also serve as a reference textbook for graduate courses on general parasitology, microbiology, aquaculture and environmental studies.

REPRODUCTIVE STRATEGY OF MARINE BIVALVES AND ECHINODERMS

V.L. Kasyanov: Institute of Marine Biology, Vladivostok, Russia

978-1-57808-136-3; 2001; 240 pages, hc; \$ 100.20

This work analyzes the data on reproduction and growth that might be useful in practical aquaculture, and the industry. The scope of investigations on echinoderms has been confined to economically important species — sea cucumbers, sea urchins, and sea stars.

The book has been updated and revised by the author for the English edition in 2000.

NUTRITION, PHYSIOLOGY, AND METABOLISM IN CRUSTACEANS

Elena Mente: University of Thessaly, Greece and University of Aberdeen, UK

978-1-57808-220-9; 2003; 170 pages, hc; \$ 66.60

It examines protein metabolism and growth in decapod crustaceans.

SENSORY BIOLOGY OF JAWED FISHES: New Insights

B.G. Kapoor and T.J. Hara (eds.)

978-1-57808-099-1; 2001; 404 pages, hc; \$ 133.80

Ichthyologists specializing in morphology, ultrastructure, physiology, developmental biology, neurology, ecology, and behavior present 15 commissioned papers on the senses of the gnathostomes, or jawed fish, among which are the teleosts, which account for almost all living fish. Editors:



FISH BEHAVIOUR

Carin Magnhagen: Swedish University of Agriculture Sciences, Umea, Sweden

Victoria A. Braithwaite: University of Penn State, MA, USA Elisabet Forsgren: Norwegian Institute for Nature Research, Trondheim, Norway

978-1-57808-435-7; 2008; 662 pages, hc; \$ 137.50 [ebook 978-1-57808-624-5]

Central questions addressed in this book include: How do sensory input, hormones, genetics and experience interact to shape individual behaviour? What should a fish do to be in the right place at the right time—and how should it behave to be an efficient predator yet not become the subject of predation itself? How to find a mate—or to find the best mate? Should all fish do the same, or is the optimal behaviour dependent on individual characteristics? How does reproductive behaviour affect what fish look like, in terms of colour, body form or body size? And how do fish cope with their complex social and biological environment, including parasites, competitors and collaborators?

The book provides new insights offered by recent research on fish behaviour. The chapters are written by prominent international scientists and are aimed not only at fish biology students and researchers but anyone interested in the interplay between behaviour, ecology and evolution.



FISH ENDOCRINOLOGY

Editors:

Manfred Reinecke: University of Zürich, Switzerland

Giacomo Zaccone: Messina University, Italy *B.G. Kapoor:* Formerly, Jodhpur University, India

978-1-57808-318-3, 2006; 912 pages (2 vols.); 12 color figures, hc; \$ 151.20 [eBook 978-1-57808-561-3]

With the recent advances in molecular biology, cell biology, physiology and behavior, the contributors of these 24 papers are making significant progress in understanding the endocrine functions of a number of species of fish.

"... a valuable contribution to general fish endocrinology literature."

> - J of Experimental Marine Biology and Ecology, 351(2007)

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978-1-57808-374-9; November 2009; ca.600 pages, hc; \$ 149.50 [ebook 978-1-57808-624-5]

An understanding of gonorynchiform morphology and systematic inter- and intrarelationships has proven vital to a better understanding of the evolution of lower teleosts in general, and more specifically of groups such as the clupeiforms (e.g., herrings and anchovies), and ostariophysans (e.g., carps, minnows and catfishes).

This book examines the current knowledge of gonorynchiform biology, including comparative osteology, myology, epibranchial morphology and development. Phylogenetic interrelationships among gonorynchiform fishes are reexamined.