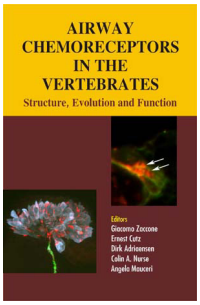
Science Publishers
Life Sciences
2009
July – September

Airway Chemoreceptors in the Vertebrates

Structure, Evolution and Function

Editors:
Giacomo Zaccone: Messina University, Messina, Italy
Ernest Cutz: University of Toronto, Toronto, Canada
Dirk Adriaensen: University of Antwerp, Antwerp, Belgium
Colin A. Nurse: McMaster University, Hamilton, Canada
Angela Mauceri: Messina University, Messina, Italy



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.

978-1-57808-614-6; July 2009; ca.450 pages, hc; US $ 135.00/ £ 76.00/ € 110.00

Physiology of the Pea Crop

Nathalie Munier-Jolain, Véronique Biarnès, Isabelle Chaillet, Jérémie Lecoeur, Marie-Hélène Jeuffroy

With the collaboration of: **Benoît Carrouée, Yves Crozat, Lydie Guillioni, Isabelle Lejeune, Bernard Tivoli**

The book presents vegetative and reproductive development, growth under non-limiting conditions and the nitrogen nutrition of the pea crop. Secondly, the effects of abiotic and biotic stresses on the development, the growth and the nitrogen uptake by the plant are studied. Finally, a global model of functioning of the pea crop is proposed as a tool for the diagnosis of the yield limiting factors.

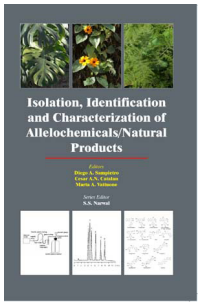
This review, rich in bibliographic references, is intended for researchers, academics, breeders, extension specialists.

978-1-57808-570-5; August 2009; ca.310 pages, hc; US $ 99.50/ £ 56.00/ € 81.10

Isolation, Identification and Characterization of Allelochemicals/Natural Products

Diego A. Sampietro, Cesar A.N. Catalan and **Marta A. Vattuone** (eds.)**:**
Universidad Nacional de Tucumán, Argentina

This book has been written to provide information about all aspects of Allelochemicals/Natural Products. The book is divided in 3 sections — Sample Collection, Handling and Storage; Isolation, Identification and Structural Elucidation and Biological Activity of Natural Products. This book will serve as ready reference in the laboratory or class room to undergraduate and graudate students and Organic Chemists for Isolation, Identification and Characterization of Allelochemicals/Natural Products. The editors have tried to provide appropriate solutions to the problems of Isolation, Identification and Characterization of Allelochemicals/Natural Products. The users of this book can select suitable methods, according to the available facilities.



978-1-57808-577-4; July 2009; ca.560 pages, hc; US $ 139.00/ £ 91.00/ € 113.30

Economic Analysis of Diversity in Modern Wheat

Editors:
Erika C.H. Meng: International Maize and Wheat Improvement Center, (CIMMYT), El Batan, Texcoco, Mexico
John P. Brennan: NSW Department of Primary Industries, Wagga Wagga, New South Wales, Australia

The book describes generally how policies affect wheat genetic diversity; it looks at historical changes in wheat genetic diversity, as policy and priorities have evolved; it identifies factors that explain changes and differences in spatial diversity; and finally, it analyzes the productivity impacts of changes in diversity. Chapters define various types of crop genetic diversity and ways to measure them, framing the definitions and metrics in the contexts for which they are most relevant.

978-1-57808-575-0; July 2009; ca.220 pages, hc; US $ 95.00/ £ 62.00/ € 77.40

Volume 1, Progress in Mycological Research

Fungi from Different Environments

Editors: **J.K. Misra** and **S.K. Deshmukh**

This volume aims to bring together what we know about the fungi from different environments. It comprises 14 chapters written by experts in their chosen area of specialization and covers fungi from various environments such as air, water (freshwater and marine), palaeo-environment, and their influence on the environment and their management.

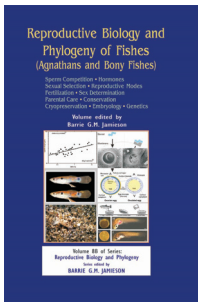
978-1-57808-578-1; August 2009; ca.400 pages, hc; US $ 109.00/ £ 71.00/ € 88.80

Volume 8, Part B of Series: Reproductive Biology and Phylogeny

Reproductive Biology and Phylogeny of Fishes (Agnathans and Bony Fishes)

Sperm Competition Hormones; Sexual Selection Reproductive Modes; Fertilization Sex Determination; Parental Care Conservation; Cryopreservation Embryology Genetics

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



It is perhaps because fishes live in a buoyant medium, whether it be fresh or sea water, that they show a diversity in body shapes that is unparalleled by other vertebrates. There is also a unique diversity in the modes of reproduction, whether by external or internal fertilization, and this, with the morphology and fine structure of the reproductive system and its components, is the subject of Part A. Part B deals with complementary topics: 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; Cryopreservation of Gametes; Embryogenesis and Development; and Molecular Genetics of Development.

978-1-57808-581-1; August 2009; ca.540 pages, hc;
US $ 139.50/ £ 112.00/ € 113.70

Series on: Teleostean Fish Biology

Gonorynchiformes and Ostariophysan Relationships

A Comprehensive Review

Senior Volume Editor:
Terry Grande: Loyola University, Chicago, IL, USA

Volume Coeditors:
Francisco José Poyato-Ariza: Universidad Autónoma de Madrid, Madrid, Spain
Rui Diogo: Universitè de Liège, Liège, Belgium

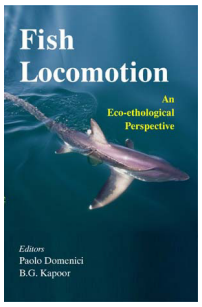
An understanding of gonorynchiform morphology and systematic inter- and intrarelationships has proven vital to a better understanding of the evolution of lower teleosts in general, and more specifically of groups such as the clupeiforms (e.g., herrings and anchovies), and ostariophysans (e.g., carps,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

978-1-57808-374-9; September 2009; ca.600 pages, hc;
US $ 149.50/ £ 84.00/ € 121.80

Fish Locomotion: An Eco-ethological Perspective

Editors:
Paolo Domenici: CNR-IAMC, Toregrade (UR), Italy
B.G. Kapoor: Formerly Professor of Zoology, Jodhpur University, India



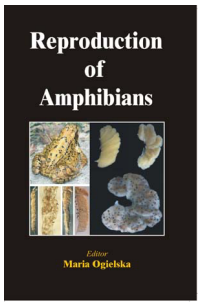
Fish accomplish most of their basic behaviors by swimming. Swimming is fundamental in a vast majority of fish species for avoiding predation, feeding, finding food, mating, migrating and finding optimal physical environments. Fish exhibit a wide variety of swimming patterns and behaviors.

This treatise looks at fish swimming from the behavioral and ecological perspectives rather than from the more traditional biomechanics, ecomorphology and physiological perspectives used in studies of fish swimming. It is aimed at students and researchers interested in fish swimming from any organismal background, be it biomechanics, ecomorphology, physiology, behavior or ecology.

978-1-57808-448-7; September 2009; ca.550 pages, hc;
US $ 139.00/ £ 91.00/ € 113.30

Reproduction of Amphibians

Maria Ogielska: Zoological Institute, University of Wroclaw, Poland



This book deals with reproduction of Amphibians belonging to three extant orders: Caecilians, Salamanders, and Frogs and Toads. Separate chapters have been written for males and females; the chapters describe gonad structure and development, gametogenesis, urogenital connections, and reproductive tracts.

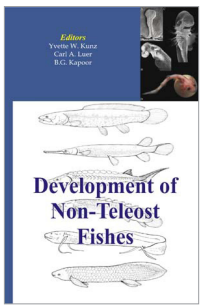
The authors have provided a synthesis of the literature data and results of their own studies. The text is illustrated with original schemes and photographs and focuses on anatomy, histology, cytology, and molecular mechanisms that regulate gametogenesis and reproductive cycles.

The book will interest all reproductive biologists and biologists working on amphibians.

978-1-57808-307-7; July 2009; ca.310 pages, hc;
US $ 125.00/ £ 70.00/ € 101.90

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 Professor of Zoology, Jodhpur University, India



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).

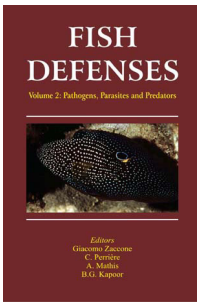
Therefore, the present volume has been devoted to closing the gap by an up-to-date scientific review of the early life-history of these non-teleost fishes (agnathi excepted).

978-1-57808-500-2; September 2009; ca.310 pages, hc;
US $ 109.00/ £ 61.00/ € 88.80

Fish Defenses

Volume 2: Pathogens, Parasites and Predators

Editors:
Giacomo Zaccone: Department of Animal Biology and Marine Ecology, Messina University, Italy
C. Perrière: Laboratoire de Biologie Animale, Insectes et Toxins, Facultè de Pharmacie, Chatenay-Malabry Cedex, France
A. Mathis: Department of Biology, Southwest Missouri State University, Springfield, Missouri, USA
B.G. Kapoor: Formerly Professor of Zoology, Jodhpur University, India



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.

978-1-57808-407-4; September 2009; ca.420 pages, hc;
US $ 129.50/ £ 73.00/ € 105.50

Soil Biochemistry

Konrad Haider: Augustinum, Diessen, Ammersee, Germany
Andreas Schäffer: Institute for Environmental Research (Biology V), RWTH Aachen University, Germany

Soils play a central role in the conversion of organic matter and element fluxes because of the large number of microorganisms present in the soil. In this book the more important processes that are driven by microbiological activity are discussed.

It will be of interest to students of chemistry, biology, ecology, soil science and related areas. Researchers from these fields will profit from extended literature surveys in each chapter comprising important findings from early as well as the most recent investigations.

978-1-57808-579-8; July 2009; ca.130 pages, pb;
US $ 59.50/ £ 33.00/ € 48.50

Plant Systematics; Third Edition

An Integrated Approach

Gurcharan Singh: Department of Botany, University of Delhi, India

The focus of the present edition has been to further consolidate the information on the principles of plant systematic, include detailed discussion on all major systems of classification, and significantly, also include discussion on the selected families of vascular plants, without sacrificing the discussion on basic principles. The families included for discussion are largely those which have wide representation, as also those that are less known but significant in evaluating the phylogeny of angiosperms. The discussion of the families also has a considerable focus on their phylogenetic relationships, as evidenced by recent cladistic studies, with liberal citation of molecular data. Several additional families have been included for detailed discussion in the present volume.

978-1-57808-668-9; August 2009; ca.720 pages incl. 37 color plates* + CD-Rom**, pb; US $ 75.00/ £ 42.00/ € 61.10
** comprising 450 color photographs*
*** comprising over 600 color photographs*

Crop Protection

From Agrochemistry to Agroecology

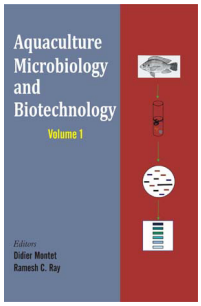
Jean-Philippe Deguine: CIRAD, France
Pierre Ferron: INRA, Centre de recherche de Montpellier, Montpellier, France
Derek Russell: Natural Resources Institute, University of Greenwich, Greenwich, UK

This book is a synthesis and a celebration of a large body of agro-ecological research carried out on the management of the pests of cotton, one of the world's major crops and one which has historically been a very heavy consumer of inputs of pesticides. It demonstrates how agro-ecological approaches to pest management are at last approaching the 'mainstream', with an increasing recognition that farmland delivers a wide range of ecosystem services (nature's goods and services), including but certainly not solely comprising the production of food.

978-1-57808-652-8; August 2009; ca.220 pages, pb;
US $ 97.50/ £ 55.00/ € 79.50

Aquaculture Microbiology and Biotechnology; 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



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.

978-1-57808-574-3; July 2009; ca.290 pages, hc; US $ 99.50/ £ 56.00/ € 81.10