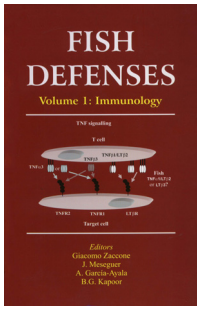
Science Publishers
Life Sciences
2009
January – March

Happy New Year! **Happy New Year!** **Happy New Year!**

Fish Defenses; *Volume 1: Immunology*

Editors:
Giacomo Zaccone: Messina University, Italy
J. Meseguer and **A. Garcia-Ayala:** University of Murcia, Spain
B.G. Kapoor: Formerly Prof. of Zoology, Jodhpur University, India



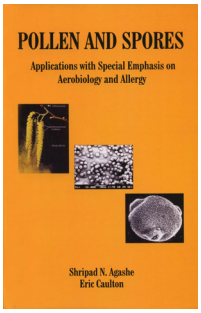
The study of immunological fish defenses has advanced considerably in recent decades. Most of the chapters not only review the current advances on fish immune defenses, but also show perspective for future research. The book will be of interest to scientists involved in fish immunology, fisheries and aquaculture as well as for students of fish biology.

978-1-57808-327-5; January 2009; 390 pages, hc; US $ 118.00/ £ 77.00/ € 96.20

Pollen and Spores

Their Applications with Special Emphasis on Aerobiology and Allergy

S.N. Agashe: Bangalore University, India
E. Caulton: Scottish Centre for Pollen Studies, Edinburgh, Scotland



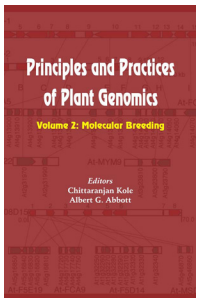
Published literature on the above aspects is widely scattered. The authors have attempted to compile a comprehensive volume that bring together the entire spectrum of study in this field.

978-1-57808-532-3; January 2009; 412 pages, hc; US $ 109.00/ £ 71.00/ € 88.80

Principles and Practices of Plant Genomics

Volume 2: Molecular Breeding

C. Kole and **Albert G. Abbott** (eds.)**:** Clemson University, South Carolina, USA



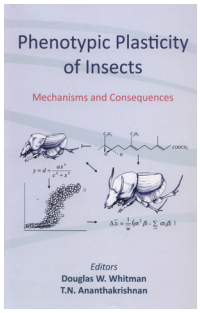
The editors present a general deliberation on the fundamentals of molecular breeding and applications of molecular markers for germplasm characterization; concepts and application of molecular mapping and breeding for yield, quality, and their related component traits; biotic and abiotic stresses; and physiological traits of economic importance.

978-1-57808-537-8; January 2009; 534 pages, hc; US $ 129.50/ £ 85.00/ € 105.50

Phenotypic Plasticity of Insects

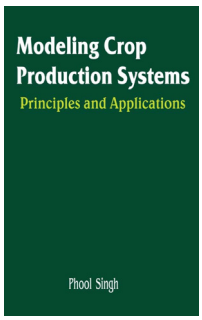
Mechanisms and Consequence

Douglas Whitman and **T.N. Ananthakrishnan** (eds.)



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.

978-1-57808-423-4; January 2009; 904 pages, hc; US $ 135.00/ £ 88.00/ € 110.00



Modeling Crop Production Systems

Principles and Applications

Phool Singh

Outstanding Academic Title
—CHOICE

"This book is critical for any agricultural science library and valuable for professionals in agriculture, plant pathology, entomology, soil science, and ecology. **Summing Up: Essential, Upper-division undergraduates through professionals/practitioners."**

— **CHOICE,** July 2008, Vol. 4, No. 11

978-1-57808-418-0; January 2008; 510 pages, pb; $ 59.50 / £ 39.00 / € 48.50

Embryology of Flowering Plants: Terminology and Concepts: Reproductive Systems

T.B. Batygina (ed.)**:** The Herbarium of the Komorov Botanical Institute, St. Petersburg, Russia

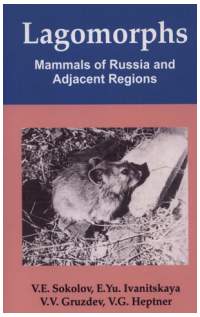
Plant embryology, dealing with the regularities of initiation and the first stages of development of an organism, is now flourishing because of the overall progress being made in natural sciences. Such discoveries of the 20th century as production of plants from a single somatic cell, experimental haploidy, and parasexual hybridization were of general biological significance. The combined efforts of embryologists, geneticists and molecular biologists yielded the discovery of specific genes that control meiosis, egg cell development and early stages of embryogenesis. The tendency to synthesize data of embryology and genetics has become increasingly noticeable. It is connected with the fact that the majority of problems connected with morphogenesis, such as differentiation, specialization, the evaluation of features and the definition of the notions "gene and feature" and "genotype and phenotype", concern embryology and genetics (embryogenetics) in one way or another.

Evolutionary embryology has given rise to a new approach to the study of problems of adaptation in plants. In connection with the problem of preserving biological diversity under conditions of ecological stress, special attention is paid to ecological embryology, revealing the critical periods in early ontogenesis and plasticity and tolerance of reproductive systems at the level of species and population. The study of variability of morphogenesis and phenotype in population (life cycle variations and the diversity of reproductive systems) is the most important point in the population embryology of plants.

978-1-57808-265-0; March 2009; ca.420 pages, hc;
US $ 139.00/ £ 91.00/ € 113.30

Mammals of Russia and Adjacent Regions: Lagomorphs

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



All descriptions of groups and species are given according to the scheme followed in the preceding volumes of the series. Palaeontological data on recent species and genera are limited to just brief mentions, since detailed information on fossil pikas is available in the monograph of M.A. Erbaeva (1980) and on hares—in the book of A.A. Gureev 1964).

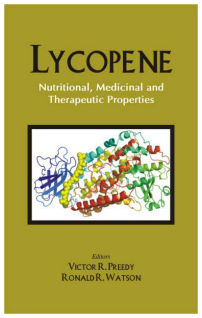
In this book unpublished data on the biology and distribution of pikas has been published. Illustrations 58, table 57, bibliography of 13 papers.

978-1-57808-522-4; January 2009; 408 pages, hc;
US $ 119.50/ £ 78.00/ € 97.40

Lycopene

Nutritional, Medicinal and Therapeutic Properties

Editors:
Victor R. Preedy: Department of Nutrition and Dietetics, King's College, London, UK
Ronald R. Watson: School of Medicine, Univ. of Arizona, Tuscon, USA



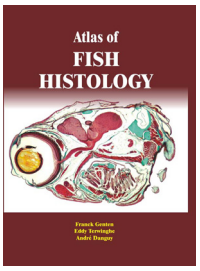
There has been a growing interest in exploring the role of lycopene in the prevention of a variety of nutritional and health issues in humans, including some cancers and cardiovascular diseases. Increasingly, clinical evidence supports the role of lycopene as a nutrient with important health benefits, since it appears to provide protection against a broad range of epithelial cancers. The possibility that consumption of lycopene-rich foods may reduce the risk of such diseases has prompted numerous in-depth studies of the levels of lycopene in foods and of correlations between dietary lycopene and certain diseases.

This monograph will serve as a reference for providing a better understanding of the role of lycopene in promoting health, and by encouraging a deeper understanding of approaches to a healthy diet and life.

978-1-57808-538-5; January 2009; 472 pages, hc;
US $ 116.00/ £ 76.00/ € 94.50

Atlas of Fish Histology

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



The aim of this volume is to present a general reference guide providing an extensive set of histological images of fishes (about 40 species). Although several studies treat histological aspects in relation to pathology, no recent synthesis on the normal histology of fish is available. We therefore believe this atlas will be a main contribution to this field.

This atlas is designed for use by students and researchers, biologists, ichthyologists, fish farmers, veterinarians working in fisheries and, of course, by comparative histologists who want to learn more about the fish world.

978-1-57808-544-6; January 2009; 223 pages incl. 440 color plates, hc; US $ 145.00/ £ 95.00/ € 118.20

Introduction to Plant Biotechnology; 3/ed

H.S. Chawla

This is an update edition of the widely used textbook. It covers all the important aspects of plant tissue culture *viz*. nutrition media, micropropagation, organ culture, cell suspension culture, haploid culture, protoplast isolation and fusion, secondary metabolite production, somaclonal variation and cryopreservation.

978-1-57808-636-8; March 2009; ca.700 pages, pb;
US $ 69.50/ £ 46.00/ € 56.60

The Alga Dunaliella

Biodiversity, Physiology, Genomics and Biotechnology

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

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*.

978-1-57808-545-3; March 2009; ca.550 pages, hc;
US $ 139.00/ £ 91.00/ € 113.30

Novel Therapeutic Agents from Plants

Editors:
Maria C. Carpinella: School of Chemistry, Catholic University of Córdoba, Argentina
M. Rai: Department of Biotechnology, SGB Amravati University, Maharashtra, India

Since the advent of synthetic drugs, the use of natural products has diminished. However, the diversity of natural molecules still surpasses those from synthetic compounds, and this ensures that natural products will continue to be important for drug discovery. Besides, many of the currently used synthetic drugs have side-effects and often expensive.

While there are several books on natural drugs, this volume covers multiple curative aspects of natural chemicals. It is a complete review of medicinally active metabolites produced by nature and looked at from different approaches. The book describes the effects of natural extracts and/or their isolated compounds and also gives an update of their modes of action, production and commercialisation.

978-1-57808-546-0; February 2009; ca.470 pages, hc;
US $ 129.00/ £ 84.00/ € 105.10

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; February 2009; ca.220 pages, hc;
US $ 95.00/ £ 62.00/ € 77.40

Environmental Biology

The Conditions of Life: Environmental Selection, Extinction, Creation, Adaptation and Overpopulation

Terry Bruce Hilleman

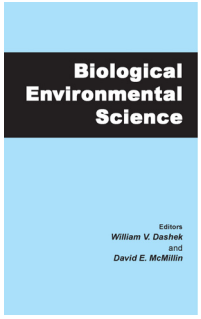
Environmental biology is a study in the conditions of life; these conditions impact the life within it. The conditions of life are not limited to the present time; environmental biology has applications to any time in the history (or future) of any place on earth (or beyond). The environment sets limits 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.

978-1-57808-576-7; February 2009; ca.400 pages, pb;
US $ 79.00/ £ 52.00/ € 64.40

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



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, 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.

978-1-57808-536-1; January 2009; 243 pages, pb; US $ 46.00/ £ 30.00/ € 37.50

Volume 1 of the series: Progress in Mycological Research

Fungi from Different Environments

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

Mycologists now look at the genes of fungi to decipher many features that they have been studying in the past beyond just looking at the morphology and other such traits of these organisms. Fungi are also attracting the attention of scientists in various other disciplines. These include the search for useful fungi in various extreme environments that may be useful in other ways such as for their therapeutic value. Fungi are known to produce low molecular weight compounds and several cholesterol-lowering ones like the statins. Compounds such as the cytochalasins, peptaibols, grisan and scirpene derivatives are found only in fungi. Nanotechnology has opened many new areas of research including the use of microorganisms in the biosynthesis of nano-materials, including fungi.

This volume aims to bring together what we know about the fungi from different environments. It comprises of 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; March 2009; ca.400 pages, hc;
US $ 109.00/ £ 71.00/ € 88.80

Fire Effects on Soils and Restoration Strategies

Editors:
Artemi Cerdà: University of Valencia, Valencia, Spain
Peter R. Robichaud: USDA-Forest Service, Rocky Mt. Research Station, Moscow, ID, USA

In this book, the collected expertise of over 50 international scientists provides a global view of fire effects on soil and potential mitigation of those effects for use by scientists, policy-makers, land managers, and students. Recent post-fire rehabilitation and restoration efforts are presented in regional examples from North and South America, Europe, and Australia.

978-1-57808-526-2; March 2009; ca.500 pages, hc;
US $ 129.50/ £ 85.00/ € 105.50