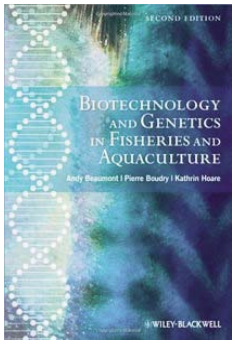
Book Notices

■ Biotechnology and Genetics in Fisheries and Aquaculture



EDITED BY ANDY BEAUMONT, PIERRE BOUDRY, KATHRYN HOARE

April 2010, Second edition, Hardcover, 216 pages, ISBN: 978-1-4051-8857-9, Wiley-Blackwell, £79.50 / €91.50.

Description:

1 What is genetic variation? DNA, RNA. Protein structure, chromosomes. How does sexual reproduction produce variation? Mitochondrial and chloroplast DNA.

2 How can genetic variation be measured? DNA sequence variation. DNA fragment size variation. Protein variation. Phenotypic variation.

3 Genetic structure in natural populations. What is a population? How are allele frequencies estimated? What is the relationship between alleles and genotypes? How do allele frequencies change over time? How does popu- lation structure arise? How are genetic markers used to study population structure? Levels of genetic differentiation in aquatic organisms. Allozymes and coding markers; mtDNA, microsatellite variations. Population structure in the flat oyster. Mixed stock analysis (MSA).

4 Genetics of population size in conservation and aquaculture. Genetics of small population size in the wild. Genetic markers in conservation. Is there evidence of loss of genetic variation in the hatchery? How does hatchery propagation affect heterozygosity? Genetic markers for identification of hatchery product. Genetic markers for pathogen identification.

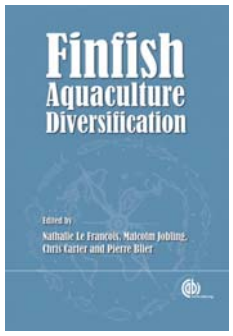
5 Genetic variation of traits. Qualitative and quantitative traits. What kinds of traits are important? How can we estimate narrow-sense heritability? Correlated traits. What types of artificial selections are there? Setting up a breeding programme.

6 From genetics to genomics. What is the genome? Genome mapping. Whole genome sequencing: the "big picture". Application of QTLs in aquaculture and fisheries management. Marker-assisted selection (MAS): from QTLs to genomic selection. Transcriptomics.

7 Triploids and beyond: why manipulate ploidy? How is it done? Production of gymnogens and androgens. Identification of ploidy change. Triploids. Tetraploids.

8 Genetic engineering in aquaculture. The DNA construct. Detecting integration and expression of the transgene. Results of transgenesis efforts in fish. – what about cloning? Ethics.

■ Finfish Aquaculture Diversification



EDITED BY NATHALIE LE FRANÇOIS, MALCOLM JOBLING, CHRIS CARTER AND PIERRE BLIER

April 2010, Hardback, 688 pages, ISBN 978 1 84593 494 1, CABI, Price £135.00 / $255.00 / €190.00.

Description:

There is considerable global interest in the culture of finfish species both for cold and warm water aquaculture development and growth. Essential information on the biology, domestication and aquacultural characteristics of a wide selection of novel and established species is provided in the form of technical sheets, species descriptions and information on current rearing practices, making this a must-have reference in the field of aquacultural science. The book also offers a basic framework in order to support investment strategies for research and development efforts aimed at the emergence of a profitable finfish aquaculture industry and presents a rationale for species diversification, different approaches to species selection and basic economical and market considerations governing the launch of strategic development and commercialization efforts.

1 Aquaculture diversification.

2 Finfish species description and biotechnical analysis: the Sturgeons (Acipenseridae), Milkfish (Centropomidae), Catfish (Ictaluridae), Salmonids (Salmonidae), Codfishes (Gadidae), Snooks (Centropomidae), Temperate Basses (Moronidae), Sea Breams and Porgies (Sparidae), Tilapias (Cichlidae), Drumfish or Croakers (Sciaenidae), Wolffishes (Anarhichadidae), Tunas (Scombridae), Flatfishes (Pleuronectiformes).

3 Market and economical analysis.

4 Perspectives.

Readership: Practitioners, researchers and students in fish biology, fisheries and aquaculture.

Book Notices

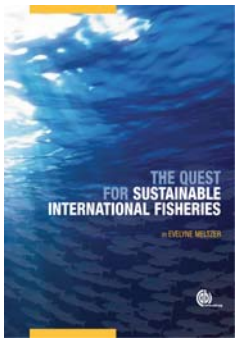
■ The Quest for Sustainable International Fisheries

EDITED BY EVELYNE MELTZER

February 2010, Hardback, 448 pages, ISBN 9781845935832, CABI Publishing £95.00 / $160.00 / €145.00

Description:

The United Nations Fish Stocks Agreement (UNFSA) represents a major international effort to improve fisheries governance, resource recovery, and sustainable development of international fisheries. Straddling fish stocks and highly migratory fish stocks are especially vulnerable to overexploitation because of ineffective management regimes and non compliance by fishing interests. This book explains the international legal framework, summarizes the state of the fisheries, and outlines the efforts of regional fishery management organizations (RFMOs) to adopt and implement key elements of UNFSA: the precautionary approach, the ecosystem approach, decision making, and enforcement.



Readership: Researchers and policy makers involved in fishery development.

■ Fish Diseases and Disorders, Volume 2, second edition Non-infectious Disorders

EDITED BY JOHN F. LEATHERLAND AND PATRICK T. K. WOO

March 2010, Hardback, 416 pages, ISBN 9781845935535, CABI Publishing £95.00 / $180.00 / €135.00

Description:

Written by leading authorities in the field, this new edition of Volume 2 in the successful Fish Diseases and Disorders trilogy has been thoroughly updated with new research and contributions. Focusing largely on finfish, it covers non-infectious disorders of development, growth and physiology of wild and captive species, including genetic conditions, respiratory disorders, stress physiology, environmental factors and a new contribution on the relationship between welfare issues and disorders associated with intensive fish culture. The book is indispensable for zoologists, fish health specialists and veterinarians, researchers and students, and those involved with fisheries and aquaculture.