

graphs too small. These are minor points for what is a useful book.

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Fish Farming Handbook: Food, Bait, Tropical and Goldfish, edited by E.E. Bron and J.B. Gratzek, 1980, AVI Publishing Company, Inc., 391p. US\$ 39.50, ISBN 0-87055-341-0.

Aquaculture topics have now become a significant proportion of the current world's fisheries literature. To write a comprehensive and up-to-date book on such an important subject to the growing body of aquaculturist is a daunting task. The emphasis given to US aquaculture activity in the present book is a practical one, yet even in the short time since publication, new species have become of interest in the USA, for example, the white sturgeon, *Acipenser transmontanus*. Surprisingly some fish are not given attention, like *Gambusia affinis*, a small viviparous top minnow (used for mosquito control) which suffers from lack of an efficient mass-rearing method, and coolwater fish, like *Muscellunge*, the northern pike and many others.

This book is aimed at . . . 'private and public aquaculturists, and to those interested in fish culture as a hobby or as a large scale operation' . . . to quote from the cover, . . . but only within the limit of the species covered. So assure yourself in advance if the fish you are interested in is described by the authors under the categories: food, bait, tropical or goldfish or is among the 'others' not mentioned.

An opening chapter on Environmental Factors (by R. Reinert) includes diffuse information; a one-page table could be more instructive than this mixture of fish physiology and environmental effects, not many corresponding to readers requirements. A chapter on types of culture methods describes ponds and raceways, mentions cages, but gives no information on aquaria, tanks, and recirculated systems, often an essential part of commercial aquaculture enterprises. When reading about the control of fish populations and vegetation, a novice may be convinced that using chemical methods (11 pages) instead of biological ($\frac{1}{2}$ page) or mechanical methods ($\frac{1}{2}$ page) is best. Such preference is neither justified by its selectivity nor by the economics.

In the methods section, culture techniques for catfish (20 pages), trout and salmon (30 pages), American eel (4 pages), bait (minnows and suckers)

and goldfish (38 pages), and tropical fish (40 pages) are reviewed. This is an essential part of the book, but should serve only as preliminary information for most species.

Nutrition and feeding by R.T. Lovell covers largely the nutrient requirements for catfish, but adds two diet formulations for golden shiner and angle fish, and finishes with a feeding schedule for channel catfish and rainbow trout. Thus the chapter has little correspondence to the important fish species mentioned elsewhere in the book. Most significantly the book neglects entirely live food culture, growing facilities, and methods. In the second, and most extensive part, common fish diseases and their control receive unequal treatment. The range of coverage is enormous and superficial. The reader is expected to learn about a monocular microscope and 50 pages later about the isolation of gram negative bacteria and virus diagnostic procedures on cell culture. Authors very 'generously' supply 4 scanning electron micrographs of the protozoan *Ichthyophthiris multifillis* (2 pages) and 4 SEM (3 pages) of *Costia* and *Chilodonella*, etc., when simple drawings would have done. The part covering prevention and treatment is useful but too short.

The last chapter, Processing and Marketing by E.W. McCoy and M.L. Hopkins is notable for the fact that it neglects to mention at what condition fish should be kept and marketed. Literature is cited after every chapter, so Leitritz and Levis' book is quoted 3 times (page 39, 69, and 209). This seems excessive. As authors state (page 71) . . . 'no one book or any number of books are a substitute for practical knowledge.' On the evidence here, I agree with them.

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Glacial Marine Sedimentation, edited by Bruce F. Molnia, 1983, Plenum Press, New York, 844p. US\$ 67.00, ISBN 0-306-41497-X.

1983 was especially rich in glacial geology books. However this volume is the first one on glacial marine sedimentology. The editor has compiled eighteen papers describing a variety of temporal and spatial settings for glacial marine sedimentation. Many characteristics of Quaternary sediments have been studied allowing regional differentiation between glacial marine environments and their resulting deposits and facies. Some