
This is by far the best compendium we have seen of fish illustrations. The book (8½- by 11-inch pages) is printed on high-quality gloss paper. Illustrations are made as large as possible by "bleeding" off the edge of the page, as well as by spreading many onto two pages. Action pictures of fish in natural surroundings are numerous and of extraordinary quality.

As in any attempt to cover such a large subject in small compass, only the most salient and interesting life-history points are discussed for each family. Written in a style easily understood by the layman, the text is, at the same time, so full of facts about each group that one finds it hard to set the book aside. The price is not high considering the quality and number of illustrations. The phylogenetic arrangement and index to both common and scientific names render it valuable as a general reference. This book is highly recommended for your library.

GEORGE A. ROUNCEFELL

Biological Laboratory
U. S. Bureau of Commercial Fisheries
Galveston, Texas


The title of this book is rather misleading; a more accurate title would be Management of British Streams with Special Emphasis on Salmon. The audience to which this book is apparently addressed scarcely exists in the United States. The book is far too detailed and specific for the lay reader and lacks the technical accuracy required by the scientist. The audience appears to be the large number of enthusiastic amateur sportsmen who can afford the luxury of salmon angling. Examples of technical errors: on page 13, "In theory a pond may produce enough fish food to support 100 fish weighing 1 lb. each or 400 fish weighing ¼ lb. each," and on page 47, "A. Salmonidus. This family includes salmon, sea trout, brown trout, rainbow trout, char, whitefish, grayling and sparling [smelt]." On page 218 the Deep Channel Fishpass which his diagram shows as the deep-baffle type used in the United States and Canada is described as being adapted for "...very high obstructions. . . ."

A large share of the book is devoted to British fresh-water fishery laws and administration, a non-technical discussion of stream pollution, methods of stream improvement, and diagrams and pictures of many bizarre means of catching a salmon, perhaps the oddest being a large wicker funnel so long and narrow at the small end that the entering salmon becomes jammed and cannot back out. The style is entertaining, and if you wish to build a small footbridge or a fishing shelter, the details are given. The droll style is best illustrated on page 251, "... when cutting through a branch from a ladder, the cut should be made on the side of the ladder away from

Department of Zoology
Indiana University
Bloomington, Indiana

SHELBY D. GERKING
the trunk.” For British anglers the detailed material on the functioning of the River Boards should be rewarding.

GEORGE A. ROUNSEFELL

Biological Laboratory
U. S. Bureau of Commercial Fisheries
Galveston, Texas


In addition to briefly discussing shallow bay sediments this paper presents a review of some of the pertinent literature concerning ecological aspects of bacteria in the marine environment, and more significantly it directly and indirectly exposes some of the difficult and intricate problems associated with marine ecological investigations and understanding. In his discussion of organic matter, source, and diagenesis in the bay environment the author points out, possibly too briefly, some of the factors involved in the distribution of organic matter in sediments, i.e., living organisms, particulate material, and scavenging of dissolved material. This latter point should be stressed since such a mechanism may well be a major contributing factor for organic distribution where appreciable available surface area is present as in fine-grained sediments.

The difficult problems concerning absolute bacteria counts are also discussed. All individuals investigating ecological systems with respect to sediments must be aware of these limitations which are due to technique difficulties.

Concerning the rate of decomposition of organic matter, the writer contends that organic decomposition is more rapid in sands than in clays due to the more abundant types of bacteria present in sands. In this statement we find one of the anomalies or conflicts related to sediment organic geochemistry or biogeochemistry. Particle size, mineralogy, organic matter, bacteria, decomposition rates, etc., may all be considered separate for some purposes yet their interrelationship must be equally understood before we can arrive at an understanding of the operative ecological situation. This conflict is further demonstrated when the author discusses bacteria and particle size.

The writer also points out the problem of organic material present and organic material available. This is a vital concept in that the mere presence of organic material does not of necessity mean the presence of a nutrient source. The pH and redox potential discussion also briefly demonstrates the complexity of the situation. Both are extremely difficult to determine with a uniform degree of usefulness. There can well exist an appreciable difference between the values obtained by measurement and the actual operative conditions.

In summary this paper is quite valuable in that it attempts to point out the severe difficulties which are inherent in our investigations of sedimentary chemistry and biochemistry. It is necessary for the ecologist to absorb the lessons learned or unlearned by the problems posed in this paper.

RICHARD G. BASS

Department of Oceanography and Meteorology
A and M College of Texas
College Station, Texas

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