

ogy, the anatomy, evolution, ecology, speciation, distribution and classification of the amphibians and reptiles, and will be greatly appreciated by both professional and amateur naturalists.

J. SHERMAN BLEAKNEY

Biology Department
Acadia University
Wolfville, Nova Scotia

Ichthyology

By LAGLER, KARL F., JOHN E. BARDACH, and ROBERT R. MILLER. John Wiley and Sons Inc., New York, 1962, 549 pp., illus. \$12.50.

This is the first textbook on ichthyology to appear in several decades. It includes a wide range of information and is well illustrated, printed, bound and indexed. Fortunately, the current trend towards use of glossy paper has not been followed.

Chapters include: classification, basic fish anatomy, skin, food and growth, skeleton and movement, circulation, respiration, excretion and osmotic regulation, reproduction, integration (nervous and endocrine systems), genetics and evolution, systematics and nomenclature, ecology and zoogeography. The sections are well cross-indexed. A sparse selection of references is given at the end of each chapter.

There is an unevenness in the treatment of chapters, some being oversimplified. The classification outline unfortunately does not include all the families. The lancelets are not included, although both Jordan and Berg place them in their classifications. The discussion of fossil and living fishes separately does not give the student an integrated picture of evolution. Space is wasted through duplication in the basic anatomy and later chapters. Technical terms being introduced are hidden between parentheses instead of being emphasized in boldface type or italics. Only the external elements of the skull are presented and behavior is curtly dealt with. The sections on the brain and zoogeography are good. Few of the illustrations are original.

The elimination of duplication, of the limnological-oceanographic section, of unnecessary background material which should be obtained in introductory zoology courses and of commonplaces such as "Fish, as all animals require adequate nutrition in order to grow", and "The most characteristic movements of fish are for swimming", would give space for more detailed information for the serious and intelligent student.

There is a pandering towards popularization and simplification which is not desirable in a text. Popular names for fishes are used excessively and coined where none exist. The spinules on scales are called "teeth" rather than ctenii. Colloquialisms such as . . . "juicy contributions of the sperm ducts". "Fishes, with amphibians and reptiles are cold-blooded poikilothermous vertebrates", and "adhesive stickiness", mar the text. Evolution is referred to as a theory.

Errors and omissions are not very numerous but more could have been removed by having other ichthyologists check the text. Some errors and omissions may be mentioned. The first sentence, a definition of fish, does not eliminate gilled salamanders. No trouble has been taken by the authors to bring the classification to date. Neostethidae are not currently recognized as distinct from Phallostethidae, nor the Gasteropelecidae from the Characidae. The new order Miripinnati is not mentioned. The axillary appendages function to streamline the adducted paired fins. Some Actinopterygii (Acipenseridae) do have a spiracle. A third eye pigment is known in fishes. Catostomidae are not indicated on Cape Breton Island, Nova Scotia. The term antitropical is not mentioned in the zoogeographic section.

However, despite the above problems the book does present the basic background for an introductory ichthyology course.

D. E. McALLISTER

National Museum of Canada
Ottawa, Ontario



McAllister, Don E. 1963. "Ichthyology, by Karl F. Lagler, John E. Bardach, and Robert R. Miller [Review]." *The Canadian field-naturalist* 77(3), 171–171.
<https://doi.org/10.5962/p.342104>.

View This Item Online: <https://www.biodiversitylibrary.org/item/89278>

DOI: <https://doi.org/10.5962/p.342104>

Permalink: <https://www.biodiversitylibrary.org/partpdf/342104>

Holding Institution

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Sponsored by

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Ottawa Field-Naturalists' Club

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.