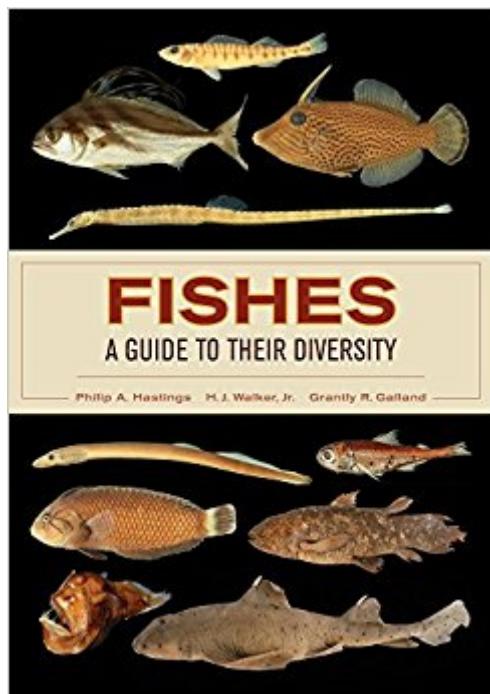


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# Fishes: A Guide To Their Diversity



## Synopsis

There are more than 33,000 species of living fishes, accounting for more than half of the extant vertebrate diversity on Earth. This unique and comprehensive reference showcases the basic anatomy and diversity of all 82 orders of fishes and more than 150 of the most commonly encountered families, focusing on their distinctive features. Accurate identification of each group, including its distinguishing characteristics, is supported with clear photographs of preserved specimens, primarily from the archives of the Marine Vertebrate Collection at Scripps Institution of Oceanography. This diagnostic information is supplemented by radiographs, additional illustrations of particularly diverse lineages, and key references and ecological information for each group. An ideal companion to primary ichthyology texts, *Fishes: A Guide to Their Diversity* gives a broad overview of fish morphology arranged in a modern classification system for students, fisheries scientists, marine biologists, vertebrate zoologists, and everyday naturalists. This survey of the most speciose group of vertebrates on Earth will expand the appreciation of and interest in the amazing diversity of fishes.

## Book Information

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## Customer Reviews

"Technical and accurate, this book will be an important reference for ichthyologists for many years to come." (P. Chakrabarty CHOICE 2015-07-01)"This book is an excellent and exceptionally accessible part of the toolbox of taxonomists." (David Feary Frontiers of Biogeography 2015-11-01)"An accessible, beautifully illustrated, and very reasonably priced guide .

... Nothing quite like Fishes currently exists, and the authors are to be congratulated for producing it." (Melanie L. J. Stiassny *Systematic Biology* 2016-01-01)"The authors have turned hundreds of surprisingly beautiful photographs of preserved fishes into an art form and have used them as the foundation for this very useful volume... this book should be on the desk or laboratory bench of every undergraduate and graduate student of ichthyology." (The *Quarterly Review of Biology*)

&#147;No other readily available reference covers so much up-to-date information about the anatomy and taxonomy of fishes. *Fishes: A Guide to Their Diversity* should be on the bookshelf of anyone with even a casual interest in this important group. It will be an indispensable teaching and learning tool.Ã¢ ¬Â• &#151;Gene Helfman, author of *Fish Conservation: A Guide to Understanding and Restoring Global Aquatic Biodiversity*Ã ª and *Fishery Resources and The Diversity of Fishes: Biology, Evolution, and Ecology* &#147;If you are a student, teacher, naturalist, or just a fish lover, you need *Fishes: A Guide to Their Diversity*. The classification is sensible and the text easy to understand. ItÃ¢ ¬â„¢s a must-have desk reference for those working with or learning about fish.Ã¢ ¬Â• &#151;Peter Moyle, author of *Fishes: An Introduction to Ichthyology* and coauthor of *Protecting Life on Earth: An Introduction to the Science of Conservation* &#147;Perhaps the most valuable feature of *Fishes: A Guide to Their Diversity* is the labeled illustrations of representative fishes. This book will be very useful for introducing students to the vast variety of fishes.Ã¢ ¬Â• &#151;Bruce B. Collette, coauthor of *The Diversity of Fishes: Biology, Evolution, and Ecology* and Chair of the IUCN SSC Tuna & Billfish Specialist Group &#147;*Fishes: A Guide to Their Diversity* will be valuable for students in a lab or field environment and will be an important resource for those who deal with teaching or research collections. The succinct presentation of distinguishing characteristics, particularly at the family level, will prepare students and professionals well for identifying fishes, no matter where they are in the world.Ã¢ ¬Â• &#151;W. Linn Montgomery, Professor of Biology, Northern Arizona University &#147;*Fishes: A Guide to Their Diversity* will be a welcome resource for courses in fish biology and evolution/ichthyology. Its taxonomic coverage is excellent.Ã¢ ¬Â• &#151;Jacqueline F. Webb, Professor of Biological Sciences, University of Rhode Island

I have been studying fish biology for twenty years, and I teach the ichthyology class at a large state university. I cannot convey how much I like this book or how excited I was after reading it. There are few fully developed resources for ichthyology classes. There are a few ichthyology textbooks that are adequate, but they just don't cover the material that I want to cover in my class. And forget

about any resources for the laboratory component of my class beyond a dogfish dissection guide. Well this book has changed all of that. This book is, without exaggeration, exactly the book I need for my ichthyology lab. This will be the one required text that I have the students purchase for future ichthyology classes (and the price is absolutely reasonable to downright cheap). This is an excellent reference, and I love the use of high quality photos of real preserved specimens. When you are teaching a specimen-based class having these real photos of preserved specimens is critical and it counts for a lot. Beyond the images, the text provides diagnostic characters for hundreds of families as well as a diversity of natural history, biology, and evolutionary information (including a vast literature cited) that students will love. Beyond an ichthyology class, this is also a great resource for training undergraduates starting in my lab. I can hand them a specimen, and they can work through the pictures to get close to a family-level identification, eventually using the diagnostic features to identify the fish's family. It is a large commitment to develop a working knowledge of fish families, but this book goes a long way toward giving new researchers the building blocks necessary to create that foundation. I cannot say enough great things about the book. It is an absolute must have for any professor or student interested in ichthyology or anyone interested in the diversity of fishes. I recommend it without any reservations.

I am currently teaching an Ichthyology course, and this is the book that I used as required reading. It is great for classes, particularly because the figures are based on preserved specimens. This makes it an invaluable resource for students because it serves as an excellent reference for how real preserved specimens of fishes look, particularly for the lineages of fishes one may potentially include in a lab. No it does not provide detailed information for all 500+ families of fishes, but that is certainly not the goal of this book. It is absolutely the perfect companion for an Ichthyology course that is focused on the evolution and biodiversity of fishes. I highly recommend this book to anyone that teaches courses on the biodiversity of fishes, or as a general reference. Having a focus on preserved specimens alone makes it an interesting and unique addition as an ichthyology resource.

As a graduate student studying evolution in Ichthyology, this book is an excellent guide to the biodiversity of fishes. Unlike most other guides, this book utilizes photos of preserved specimens instead of idealized illustrations, lending the book to a more practical usage. Also, the authors have included cladograms from recent phylogenetic studies allowing the reader to see the proposed evolutionary history of fishes. I wouldn't say this book is geared towards a specific audience, which, in my option, is a fantastic quality to have. It is not too basic that Ichthyologists would not find it

useful nor is it too technical that it would be too advanced for an angler or student. I will be petitioning to have this book included in my University’s Ichthyology course as it is an ideal teaching resource. Regardless if you’re an Ichthyologist, or a layperson interested in fish, this is an excellent guide to fish biodiversity. Add it to your library and you will not regret it.

I was greatly excited for a new book covering fish diversity, but now that I have spent some time with it I would have to describe it as underwhelming. For a topic as broad as this, the book only contains around 240 pages devoted to the subject at hand. This is clearly not enough room to cover the subject exhaustively, and often times the treatment of certain groups is almost inconsequential. For example, the 18 families of Characiformes are not discussed at a family level at all. Morphologically diverse groups such as Osteoglossiformes are likewise given short shrift. Large families that would benefit from a subfamily or tribe level treatment get little more than a single brief paragraph. Life history and biogeography is often given little more than a single sentence. Etymology is completely absent. The authors seem to favor morphological studies, and have often chosen to ignore the findings of recent molecular work. One example is their traditional placement of Callionymidae with the gobiiforms and not the molecularly supported relationship with the Syngnathiformes. (Though you’d never know this as the family is never mentioned in the text and only appears in the index!!!) Another example is their traditional treatment of Gobiidae, whereas well-supported molecular studies show microdesmids, ptereleotrids and schindlerids belong inside the group, which is often treated as two separate families now. While some molecular findings are used (e.g. Ovolentariae), the treatment is too haphazard and arbitrary and it feels like much of this book is already outdated. Another frustrating feature, or rather lack thereof, is the author’s choice to ignore fossil fish diversity. Major extinct groups like acanthodians, ostracoderms and pteraspids are given zero mention. This is a major oversight for a book claiming to be a "guide to [fish] diversity". Perhaps a better title for this book would have been "An introduction to some common extant families of fish". While there is often mention of osteological or soft tissue features that diagnose groups, there are no images to explain things. Instead the authors have chosen to merely give the citation of a work that happens to cover the subject in actual detail. This is a poor choice, as many of these cited works will be unavailable to readers without institutional access to scientific literature (which is the audience this book seems to be targeted for). The images in the book are only of preserved specimens, which comes with its own limitations. In general the images are rather small, and little can be observed other than the general shape and structure of the fins (and some specimens are distorted and broken and provide only a partial idea of what the animal looks like).

There is also no scale bar provided in the image and species within the same figure are not shown to scale relative to each other. The only way to get an idea of the size is to read the legend below the figures. I don't want to discredit this book too harshly. It's still a decent source of information, but it's far from the thorough account of fish diversity I had expected. Too many groups are completely ignored or treated only briefly. The authors have done a fine job of providing citations to encourage further reading, but the book would have been better served had some of this vital information been included directly. The main problem I see for this publication is that there's no specific audience for it. The book is far too limited to appeal to ichthyologists, and it's too dense and poorly illustrated for more casual naturalists. If you're a serious student of fishes or just have a casual interest, there are better books out there to meet your need. This book is best suited for students beginning study in ichthyology, and at that it is a good resource.

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