

Tuna: Physiology, Ecology, and Evolution.
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W. S. Hoar, D. J. Randall and A. P. Farrell).

Edited by B. A. Block and E. D. Stevens

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Tunas (Thunnini, Scombroidei) are fishes that are of interest to a wide scope of researchers: those drawn to study them because of unique morphological and physiological traits, and those with fisheries interests. *Tuna: Physiology, Ecology, and Evolution* is intended for such biologists, but is not concerned with commercial or game fisheries aspects of these fishes. There is, however, no lack of literature in these areas.

In page order, the book concerns the systematics, metabolism, cardiovascular system, adaptations for endothermy, tagging, reproduction, adaptations for swimming, oceanography, captivity and conservation. Every topic is relevant and deserves to be included. Each chapter is written by one or more leading authorities on the topic.

Block and Stevens have edited this book carefully. The chapters are consistent with one another and are presented in a clear style so that the book is lucid for its whole audience: biomechanics will understand the section on metabolism and energetics. I am not a native speaker of English, but I believe the text is clear for both native and non-native speakers.

Throughout the book, not only in the chapter on systematics, it is evident that the issue of tuna relationships (and of scombroid relationships as a whole) is unresolved. If there would be more clarity on the phylogeny of the Scombroidei, there would be more clarity on issues such as the evolution of

tuna endothermy and swimming adaptations. I regret not seeing the fossil record of tuna applied in evolutionary studies here. This area has therefore remained an unmarked territory. Only Graham and Dickson, in their chapter on adaptations for endothermy, refer to evolution in geological periods. Scombroids have an excellent fossil record, hence there is much potential for their use to solve evolutionary puzzles.

The coverage of published work consists of historical overviews and surveys of the most recent state-of-the-art developments, with the most relevant and freely available references all included, as well as suggestions for future research. All this is very valuable for the researcher, and even more so for students who may not be familiar with much of the available literature. But besides the surveys mentioned above, this book contains much that is new and exciting, for example chapters on tagging and biomechanics that present sound, new data. The book contains many new and informative figures, some excellently coloured, which are worth having.

Tuna: Physiology, Ecology, and Evolution makes essential reading for tuna researchers, but is also of relevance to others: comparisons to other scombroids and occasionally to yet other fishes appear throughout. As a whole, this collection has set a high standard in ichthyological literature. Although I heartily recommend this book, I do find it expensive. However, if you have not yet purchased it, then have your library order it. This ichthyological reference work is a worthy addition to any biological library.

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