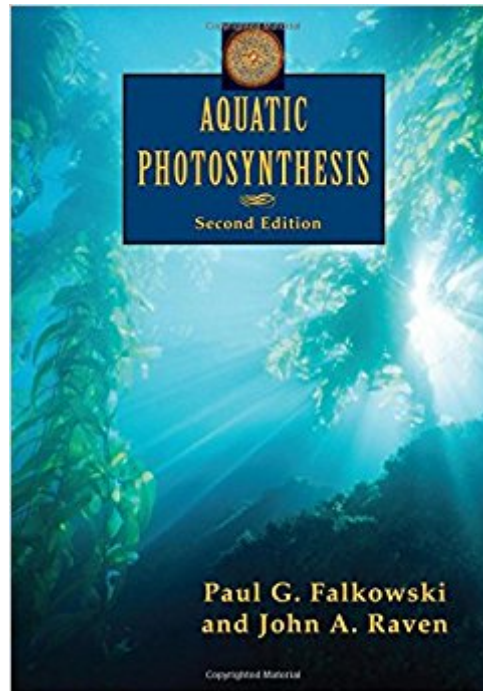




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# Aquatic Photosynthesis: Second Edition



## Synopsis

Aquatic Photosynthesis is a comprehensive guide to understanding the evolution and ecology of photosynthesis in aquatic environments. This second edition, thoroughly revised to bring it up to date, describes how one of the most fundamental metabolic processes evolved and transformed the surface chemistry of the Earth. The book focuses on recent biochemical and biophysical advances and the molecular biological techniques that have made them possible. In ten chapters that are self-contained but that build upon information presented earlier, the book starts with a reductionist, biophysical description of the photosynthetic reactions. It then moves through biochemical and molecular biological patterns in aquatic photoautotrophs, physiological and ecological principles, and global biogeochemical cycles. The book considers applications to ecology, and refers to historical developments. It can be used as a primary text in a lecture course, or as a supplemental text in a survey course such as biological oceanography, limnology, or biogeochemistry.

## Book Information

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## Customer Reviews

"Despite the ubiquity and critical importance of this topic to the study of aquatic ecology, there are very few books dedicated primarily to aquatic photosynthesis, and none cover the subject matter with comparable elegance or continuity from the molecule to the ecosystem as does this one, authored by two of the leading researchers in the subject.... [I]t is a pleasure to have this important volume back in print after a hiatus of several years. No other text covers the subject as lucidly or completely as this one, and that makes it an extremely valuable pedagogical reference. It will be a

welcome addition to any library or personal collection."--Richard C. Zimmerman, *Limnology and Oceanography Bulletin*"Indeed a magnificent book that will, perhaps, be welcomed as one of the best and the most useful ones for all biologists and oceanographers. . . . No other text covers the subject as lucidly or completely as this one, and that makes it an extremely valuable pedagogical reference. It will be a welcome addition to any library or personal collection."--Richard C.

Zimmerman, *Current Engineering Practice*

"Aquatic Photosynthesis is an excellent reference text for undergraduate-level courses and is a good text for specialist courses (advanced undergraduate and postgraduate). Everyone who works on aquatic photosynthesis should own this text and most people entering the field at the postgraduate or professional level will purchase it."--Richard J. Geider, University of Essex"It's a great book. It will be very useful for all biologists and oceanographers."--Govindjee, University of Illinois, Urbana-Champaign

I am a fisheries major, so my interests do not lie in the plant realm, at all. The course I am enrolled in is the ecology of algae, and it doesn't follow along with the book very well, but that's not really the problem. Falkowski's writing is full of so much jargon, it is very difficult to follow. It was written more for a graduate level, which this course is in part, but way too many big words are planted into each individual idea, making it a tough book to learn from. However, this said, the data and graphs used are relevant and seem to be concise for the concepts, and mistakes seem to be at a minimum. I just feel it isn't very approachable for an undergraduate, unless they have the time to go back and google terms and piece it together for conceptual understanding.

This is an extremely interesting and useful book for anyone working with or needing knowledge of photosynthesis in algae and other aquatic plants. The emphasis on biophysics in the first few chapters sheds a whole new light on the processes of photosynthesis at the most basic level. The information is general and does not give extensive citations to current scientific work, but rather focuses on the historical research leading to current understanding of photosynthesis. My one criticism so far is with the number of errors, typographical and other, in some of the graphs and figures, making it quite hard to figure out just what is what. Hopefully there will be a revised edition which will correct these.

This definitive text on aquatic photosynthesis reads like a good novel. It takes the reader on a

scientific adventure through the fundamentals of light absorption and the biophysics of the light reactions all the way to the biogeochemistry and evolution. Interspersed throughout the book are particularly interesting anecdotes about everything from the molecular clock to hole burning. A scientific tour de force!

The standard for algae and cyanobacteria. I refer to it frequently.

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