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	Altri autori (Persone)	FalkowskiPaul G KnollAndrew H
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	Nota di contenuto	1. An introduction to primary producers in the sea: Who they are, what they do, and when they evolved. Paul G. Falkowski and Andrew H. Knoll -- 2. Oceanic photochemistry and evolution of elements and cofactors in the early stages of the evolution of life. David Mauzerall -- 3. The Evolutionary transition from anoxygenic to oxygenic photosynthesis. Robert E. Blankenship, Sumedha Sadekar, and Jason Raymond -- 4. Evolution of light-harvesting antennas in an oxygen world. Beverley R. Green -- 5. Eukaryote and mitochondrial origins: two sides of the same coin and too much ado about oxygen. William Martin -- 6. Photosynthesis and the eukaryote tree of life. Johanna Fehling, Diane Stoecker, and Sandra L. Baldauf -- 7. Plastid endosymbiosis: sources and timing of the major events. Jeremiah D. Hackett, Hwan Su Yoon, Nicholas J. Butterfield, Michael J. Sanderson, and Debashish Bhattacharya -- 8. The geological succession of primary producers in the oceans. Andrew H. Knoll, Roger E. Summons, Jacob R. Waldbauer, and John E. Zumberge -- 9. Life in Triassic oceans: links between Benthic and planktonic recovery and radiation. Jonathan L. Payne and

Bas van de Schootbrugge -- 10. The origin and evolution of dinoflagellates. Charles F. Delwiche -- 11. The origin and evolution of the diatoms: their adaptation to a planktonic existence. Wiebe H.C.F. Kooistra, Rainer Gersonde, Linda K Medlin, and David G. Mann -- 12. Origin and evolution of coccolithophores: from coastal hunters to oceanic farmers. Colomban de Vargas, Ian Probert, Marie-Pierre Aubry, and Jeremy Young. --13. The origin and early evolution of green plants. Charley O'Kelly -- 14. Armor: why, when and how. Christian Hamm and Victor Smetacek -- 15. Does phytoplankton cell size matter? The evolution of modern marine food webs. Zoe V. Finkel -- 16. Resource competition and the ecological success of phytoplankton. Elena Litchman -- 17. Biological and geochemical forcings to Phanerozoic change in seawater, atmosphere, and carbonate precipitate composition. Michael Guidry, Rolf S. Arvidson, and.Fred T. MacKenzie -- 18. Geochemical and biological consequences of phytoplankton evolution. Miriam E. Katz, Katja Fennel and Paul G. Falkowski.

| Sommario/riassunto | Evolution of Primary Producers in the Sea reference examines how photosynthesis evolved on Earth and how phytoplankton evolved through time - ultimately to permit the evolution of complex life, including human beings. The first of its kind, this book provides thorough coverage of key topics, with contributions by leading experts in biophysics, evolutionary biology, micropaleontology, marine ecology, and biogeochemistry. This exciting new book is of interest not only to students and researchers in marine science, but also to evolutionary biologists and ecologists interested in understanding the origins and diversification of life. Evolution of Primary Producers in the Sea offers these students and researchers an understanding of the molecular evolution, phylogeny, fossil record, and environmental processes that collectively permits us to comprehend the rise of phytoplankton and their impact on Earth's ecology and biogeochemistry. It is certain to become the first and best word on this exhilarating topic. |