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978-0-521-17742-9 - Algal Symbiosis: A Continuum of Interaction Strategies

Edited by Lynda J. Goff

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## Algal symbiosis

Few groups of organisms have been more successful in forming intimate symbioses with other organisms than the evolutionarily diverse group, the algae. Within every division of these organisms, and in every community they inhabit, symbiotic interactions have evolved, in some cases having profound effects on the ecosystem.

Algal symbioses form a continuum, each interaction being a function of the evolutionary history of the separate “players” as well as of the partnership. Each algal symbiosis is unique; although symbioses may be described, they cannot necessarily be categorized. In fact, it is arguable that attempts to do so may actually obscure the true physiological and genetic nature of the interaction, and quite possibly bias the scientific objectivity necessary for the required experimental quantitative and qualitative studies of the association.

Symbiotic systems provide biologists with extremely useful experimental tools to study important biological phenomena. No longer should research in this area be considered “exotic”; rather, it is central to the understanding of cell biology and the origins of innovation in evolution.

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*Edited by*

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The contributors to this publication were selected to provide a broad coverage of the continuum of interactions apparent in algal symbiosis. The text is not intended to be a comprehensive coverage of algal symbiosis, but rather a major sampling of the interactions on which experimental work has been undertaken. Other topics that would have been logically included, such as the cyanellae symbiosis, the biology of parasitic red algae, zoochlorellae, and protozoans, have been reviewed recently, and the reader is directed to such texts as *Progress in Phycological Research* (Round, F. E., and Chapman, D. J., eds., 1982), *Cellular Interactions in Symbiosis and Parasitism* (Cook, C. B., Pappas, P. E., and Rudolph, E. D., eds., 1980), *Symbiosis in Cell Evolution* (Margulis, L., 1981), and the article by M. Richmond and D. C. Smith entitled *The Cell as a Habitat* (1979, Proceedings of the Royal Society of London), as well as those in the 1975 *Symposium Proceedings on Symbiosis* published by the Society of Experimental Biology.

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