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Preface

This volume of *SYMBIOSIS* represents a compilation of articles given at the Third International Congress on Symbiosis in Marburg, Germany, August 13–19, 2000. The international symbiosis congresses are held every three years in countries represented by the membership of the International Symbiosis Society. The symbiosis congresses provide a forum for investigators and teachers of symbiotic systems to interact, share results, and obtain feedback.

Symbiology is a unique discipline that focuses on the interaction of organisms with one another and how those interactions affect evolutionary fitness of the symbiotic unit. It is our conviction that symbiosis was and is a key process in the evolution of life. It likely enabled the earliest replicating molecules to survive and eventually form cells; and the first cells to increase their genetic capacities and complexities. Symbiosis continues to be a dominant theme among living things. Microbes colonize roots of virtually all land plants or live in close association with them in the rhizosphere. Endophytes and epiphytes inhabit leaves and stems of plants and have impacts on their ecologies. Microbes inhabit skin, hair, and intestines of animals. Cellulose degrading microbes are responsible for the abilities of ruminants and termites to digest cellulose. The symbiotic association of microscopic fungi and algae results in lichens that are important as early colonizers of rock surfaces, resulting eventually in its decomposition to soil. Nitrogen-fixing endophytic bacteria enable many plants to grow in soils devoid of available nitrogen.

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Without symbiosis the living world would be a very different place. At best it would be inhabited by prokaryotic forms that are limited to aquatic and marine habitats, with no fungi, plants, or animals. The dry land would be largely barren because its colonization depended on the development of eukaryotes through endosymbiosis. In the worst scenario, only independently living replicating molecules would be present since the replicating molecules never combined to form more complex cells. Indeed, without symbiosis the earth could be devoid of life.

The International Symbiosis Society wishes to acknowledge Philipps University in Marburg for hosting the Third International Congress on Symbiosis. We also thank the local organizing committee, Dr. Hans Christian Weber (chair), Dr. Stephan Imhof, and Dr. Dorit Zeuske for their attention and energy in organizing the congress. We give special thanks to Dr. Margalith Galun who's dedication and persistence over many years has helped to organize an international group of scientists and teachers into a scientific society.

James F. White, Jr.
Secretary, International Symbiosis Society