

## PREFACE

This volume of *Symbiosis* is a compilation of papers presented at the *International Congress on Symbiosis* in Jerusalem, November 17-22, 1991.

In his forward to "Symbiosis as a Source of Evolutionary Innovation", Sir David Smith, who presented the opening lecture at the congress, wrote "without symbiosis, the nature on Earth would be unrecognizable from that which is found today. This is not just because symbiosis was crucial to the evolution of eukaryotes from their prokaryote ancestors. It is also that most modern terrestrial ecosystems are critically dependent on symbiosis. Ninety percent of land plants in nature are mycorrhizal, and virtually all mammalian and insect herbivores would starve without their cellulose-digesting symbionts.

Understanding symbiosis is thus fundamental for the comprehensive appreciation of organisms and their molecular and cellular biology.

In presenting the program of the Congress, we have "mixed" various symbiotic systems under topics of phenomena that these associations have in common, with the incentive to establish better communication between symbiosis researchers and to share ideas by those who study symbiosis confined to specific associations.

The phenomena discussed were: nutritional interaction, carbon and nitrogen metabolism; recognition and specificity; behavioral symbiosis; transport mechanisms; ecology of the rhizosphere; evolutionary consequences of symbiosis; the "host"-symbiont interface; communication in symbiosis; symbiosis and development of new structures and functions; ecological adaptation; applying plant-microbe symbiosis in agriculture and symbiotic features of virus-host relationships.

The comparative discussions on these aspects of symbiosis were generally accepted with much interest and enthusiasm by the 250 participants, who came from 27 countries.

Moreover, it was the desire of the organizing committee to call attention to the need for recognition of symbiosis as a discipline in its own right and, as such, that it be integrated into the curriculum of university biology programs. As a beginning it was decided to prepare a Manual for class laboratory work on symbiotic associations.

From the letters and from comments conveyed, it is clear that the program and its format were well-received; the success of this first conference and need for fuller and better communication in this discipline was made evident by a call for another such meeting in 1994.

Jerusalem, the golden city, resplendent in autumn sunlight and white stone, provided the perfect setting for our meetings, workshops, formal and informal discussions and gatherings.

The committee wishes to acknowledge and to thank the Agricultural Research Organization, The Volcani Center; Bar-Ilan University; The Hebrew University of Jerusalem; The Israeli Academy of Sciences and Humanities; The Israel Society of Microbiology; The Ministry of Science and Technology, Israel; Tel Aviv University, United States-Israel Binational Agricultural Research Fund-BARD and The Weizmann Institute of Science who helped make this meeting possible. To the members of the organizing committees, I convey my heartfelt thanks, for their diligence and fortitude in bringing this conference to fruition.

It is my hope that a symbiotic relationship between and among the researchers in symbiosis has begun.

All the papers in this volume were peer reviewed and followed the usual editorial procedure of *Symbiosis*.

Margalith Galun