

Preface

The interdisciplinary Workshop on Unicellular Symbionts was held from December 12–13th 2005 at the Department of Paleontology, University of Vienna. The aim of this workshop was to exchange information about different symbiosis systems and to discuss results of the latest research in this area. The topics included physiological, ecological, biogeographical, morphological and phylogenetic aspects of unicellular endosymbiotic organisms and their hosts.

Symbiosis is a driving force of evolution and one of the most successful concepts of life. The classic definition of symbiosis describes a reciprocally beneficial relationship of two different organisms, which is also called mutualism. Recent definitions of the term symbiosis adapt the original broad definition according to Anton De Bary, 1879, “*a phenomenon, in which dissimilar organisms live together, or symbiosis*”, and recognize many different types where boundaries sometimes become blurred. Symbiosis includes therefore not only mutualism, but also commensalism (one organism benefits, the other is not affected) and parasitism (one organism benefits at the cost of the other organism).

The current issue of *Symbiosis Journal* presents the latest results of research on symbiont-bearing foraminifera, a group of marine protozoans that are important elements of coral reefs and other carbonate depositional environments and whose carbonate production rates can be comparable to production rates of corals and calcareous algae.

Several of the submitted manuscripts are dealing with foraminiferal algal symbionts. In a review, Lee summarizes the work that has been carried out on endosymbiotic foraminifera. Pochon and Pawlowski present a review on the evolution of dinoflagellate bearing soritid foraminifera and Lee and Reyes discuss the latest results concerning dinoflagellate symbiont recognition in Soritinae. Holzmann et al. report molecular findings on diatom symbionts of nummulitid foraminifera, while Richardson presents evidence of bleaching in the dinoflagellate bearing foraminiferal genus *Sorites*. The section on morphology presents the results of a study on the functional connection of depth-dependent ornamentation and irradiation intensity in symbiont-bearing foraminifera (Hottinger). This paper will be published in *Symbiosis J.* Vol. 42, No. 3 (2006).

The authors and editors hope that this issue will contribute to a better understanding of foraminifera which can be regarded, in many aspects, as a high point in the evolutionary development of protozoan symbiotic associations.

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Wien, July 2006

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