

Preface

On a hot summer day more than forty years ago, I was snorkeling at leisure in Marsa Murach, a shallow sandy bay in the northern Red Sea during a break in a university field trip. I was suddenly amazed by a strange couple consisting of a goby and a shrimp, which later I learned to recognize as the large and beautiful *Cryptocentrus caeruleopunctatus* and the blue and green mottled burrowing *Alpheus djiboutensis*. The goby was perched in front of a burrow on a small heap of sand while the shrimp continuously excavated this burrow, moving in and out of it similarly to a micro-bulldozer. During this entire operation the shrimp and goby remained very close to one another, with the shrimp touching the goby with its antenna. As I approached this strange couple, both disappeared into the same burrow with only a cloud of sand remaining visible to me. Following this encounter I decided to investigate this association and did so within the frame of my MSc and PhD dissertations carried out in the Red Sea, as well as part of my postdoctoral studies in the

tropical Atlantic. During the following years that I spent in the Red Sea, studying various aspects of the communication systems and specificity of goby-shrimp partnerships, I encountered additional symbiotic associations and the researchers studying them. I was lucky to meet Hans and Simone Fricke studying *Amphiprion bicinctus* and the cardinal fish *Siphamia tubifer* associated, respectively, with giant sea anemones and sea urchins. Likewise, I met James Morin and his colleagues studying the partnership between *Photoblepharon steinitzi* and luminescent bacteria, and Gadi Katzir studying *Dascyllus aruanus* associated with branching corals. In later years, these associations became the topic of many of the lectures that I delivered at the Hebrew University in courses on fish behavior. Over these years I was looking, without success, for a book that would cover most of the available information on the partnerships between fishes, invertebrates and luminescent bacteria. Finally, I got such a book but only after writing it by myself.