

Dr. Sen-Lin Tang

Biodiversity Research Center, Academia Sinica
No.128 Sec 2, Nankang, Taipei 11529 Taiwan
+886-2-2789-3863; sltang@gate.sinica.edu.tw

Biography: Sen-Lin Tang received his Ph.D. from The University of Melbourne in 2002. Tang continued his postdoctoral work in The School of Veterinary of the same university until 2006, and he took a faculty position of Biodiversity Research Center, Academia Sinica, Taiwan. In 2016, Tang was awarded with a full research fellowship in the same research institute. His research interests comprise coral-associated bacteria and their functions in coral holobiont, and ecology and ecophysiology of a coral-killer sponge, *Terpios hoshinota*, and their cyanobacterial symbionts. Tang is a co-Editor-in-Chief of “Zoological Studies”, and the Associated Editor of “Microbes and Environments” and “JIOMICS”. Additionally, Tang also took the position of Director of Taiwan International Graduate Program on Biodiversity in Academia Sinica.



Let's talk about beneficial microorganisms for corals from the bacteria *Endozoicomonas*

Beneficial Microorganisms for Corals (BMCs) becomes a new and hot topic in coral microbiology in very recent years (Peixoto et al., *Frontiers in Microbiology*, 2017). Searching for BMCs is a lingering and frustrating study for coral microbiologists because coral-associated microbes are highly diverse, changeable and dynamic over various spatiotemporal scales and coral species. With many unceasing studies in the past two decades, some candidates of BMCs were unveiled recently. *Endozoicomonas* was one of the first bacterial groups widely recognized as a bacterial group of BMCs. In brief, *Endozoicomonas* were commonly discovered in healthy corals comparing to diseased ones, and its population dynamics highly correlates to coral conditions, for example, ocean acidification and thermal-induced bleaching. We explored this bacterial group in their ecological distributions and diversity across reefs of different latitudes, their population dynamics with different thermal stresses, and their genomes. The evidence of ecological, physiological and genomic studies strongly suggests that *Endozoicomonas* is a BMCs group. Besides *Endozoicomonas*, we newly discovered another anaerobic group, *Chlorobium* sp., residing in coral skeleton that may play a role in nitrogen cycle of coral holobiont. From biodiversity and metagenomic approaches, the results showed that the bacteria potentially acted vital roles in nitrogen, carbon and sulfur cycles in the coral skeleton, suggesting that this group might be another BMCs. With more BMCs discovered in the near future, the in-depth ecological roles of BMCs and the interactions between BMCs and corals will be unfolded.