



The University of Hong Kong
School of Biological Sciences

Qualifying Seminar

Diversity, distribution, species delimitation, speciation and demographic history of non-reef- building corals (Hexacorallia: Scleractinia) in Hong Kong

Date: 2nd April 2025

Time: 1530

Venue: 3N01



About the speaker:

Mr. Sam King Fung YIU is a PhD candidate under the supervision of Prof. Juha Merilä and Prof. Paolo Momigliano. His research interests include marine biodiversity, ecology, phylogenomics, population genetics, and evolution.



Abstract:

Non-reef-building scleractinian corals are solitary individuals or small colonies that do not contribute to the formation of reef structures. They are typically small, azooxanthellate, and inhabit deeper waters, often leading to their omission in surveys. These corals provide microhabitats for supporting cryptic organisms in marine ecosystems. Despite their ecological importance, there is very limited knowledge of their diversity and distribution in Hong Kong waters, as no comprehensive survey has ever been conducted. Identifying corals based on morphology is challenging due to morphological plasticity, DNA barcoding is limited to delineate species boundaries of corals, more powerful molecular approaches are essential. Besides, the speciation and population trends of non-reef-building scleractinian corals in Hong Kong also remain poorly known.

Through a comprehensive survey, a higher diversity of non-reef-building scleractinian corals has been found, indicating that their diversity was underestimated in previous studies. The species boundaries of corals has been delineated using both morphology and genomic approaches, ultraconserved elements (UCEs) is one of powerful tools applied in this project. An updated inventory of local non-reef-building scleractinian corals and genomic dataset will be generated. Additionally, this project will explore the grey zone of coral speciation and demographic history by reconstructing effective population sizes to enhance understanding of coral evolution and provide insights for coral conservation.