Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2018-82
Project Title:	A novel way for Hong Kong citizen science? Working out the soil biodiversity of millipedes in Hong Kong with secondary school, NGO, and university: field collection, identification via DNA barcoding, and an electronic platform
Principal Investigator:	Dr Hui Ho Lam, Jerome, School of Life Sciences, The Chinese University of Hong Kong
Total Approved Grant:	$1,121,500
Duration:	1/6/2019 to 30/11/2020
Project Status/Remarks:	Completed
Project Scope:	This project aims to carry out the investigation of the biodiversity of millipedes and other soil macrofauna in Hong Kong together with secondary school students, NGO, and university academics. Millipedes represent outstanding ecological importance and play crucial role in decomposition and nutrient cycling. Nevertheless, they remain one of the poorest studied animal groups on our planet, and their situations in Hong Kong are inadequately explored. Secondary school students will be first trained by NGO and academics, and then participating in collection and identification of millipedes collected around their schools throughout a year. Collection sites will be recorded, and specimens will be photographed. DNA will also be extracted, and COI marker will be amplified to ensure the species identity by university. Workshops will be held from time to time by NGO and university. Findings will be summarised and published as a Hong Kong citizen-science output for the first time. All information will also be made available on a publicly accessible website for establishing sustainable citizen science platform.
Summary of the Findings/Outcomes:	Training younger generation citizens to learn about the biodiversity in Hong Kong is of uttermost importance and crucial to conservation engagement. In this project, 20 secondary schools participated and collected soil macrofauna around their schools throughout a year regularly. Over 150 soil macrofauna species (including 24 millipede species) were revealed with molecular sequences. Four workshops have also been disseminated by NGO and university. The Hong Kong Soil Biodiversity Database as sustainable citizen science platform (http://biodiversity.sls.cuhk.edu.hk/millipedes) was established. A postcard summarising the findings of millipedes in Hong Kong has also been made as field guide. This project demonstrated the success of this novel type of research plus education project on revealing the biodiversity between university, secondary school, and NGO, and forged a new way for future citizen science/conservation actions through collaborative efforts from different parties in Hong Kong.