Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2022-106
Project Title:	Environment and Conservation Fund - Hong Kong Chironomidae biodiversity: an initial assessment of the largest freshwater insect group and their link with ecologically important stream conservation
Principal Investigator:	Dr Seymour Mathew Stephen, School of Biological Sciences, The University of Hong Kong
Total Approved Grant:	$1,300,000
Duration:	1/1/2024 to 31/12/2025
Project Status/Remarks:	To be commenced
Project Scope:	Chironomids are the most abundant insect species in freshwater ecosystems with widespread diversity and functionality. Their importance as bioindicators for water quality, pollution control functionality and service as a primary food source for fish, birds and mammals is well documented. Hong Kong Chironomidae biodiversity, life histories and distributions are unknown, however. This study will provide the first survey of Hong Kong Chironomidae biodiversity, particularly for presently defined Ecologically Important Streams (EIS). The project aims to: (a) initially characterise the Chironomidae biodiversity across Hong Kong; (b) assess the temporal and spatial variation of Chironomidae species found across Hong Kong; and (c) test the feasibility of an environmental DNA (eDNA) assessment of Chironomidae biodiversity for Hong Kong EISs. Overall this project will fill a key knowledge gap on the most overlooked species group within Hong Kong. The project anticipates the discovery of 500-800 species across Hong Kong, which would provide a valuable source of information related to the Hong Kong Biodiversity Action Plan (BSAP). Furthermore, this project will provide initial information regarding water quality links to species occurrence and abundances and allow for an initial assessment of molecular-based biodiversity assessment, which is rapidly gaining traction for many government and private agencies across the globe.
Summary of the Findings/ Outcomes:	To be available upon completion of the project