



The University of Hong Kong
School of Biological Sciences

Qualifying Seminar

The Chironomidae (Diptera) of Hong Kong: spatiotemporal dynamics, implications for environmental assessment and checklist update

Date: 16 Aug 2024 (Fri)

Time: 2:30-3:30pm

Venue: 3N-01 & Zoom



About the speaker:

Chan Tsz Ying (Elaine) is a MPhil student in The eDNA & eEcology Lab. She is interested in insect biodiversity and conservation. Her current research focuses on the largest freshwater insect family - Chironomidae. Previously, Elaine has studied (BSc) and worked as an RA, developing eDNA-based method at HKU.



Abstract:

Biodiversity is an important indicator of ecological and ecosystem stability, as well as environmental service functioning. Information on local species occurrence and their association with environmental factors is essential for natural resource management, conservation planning, and ensuring ecosystem sustainability. Chironomidae (i.e., non-biting midges) is the most diverse group of freshwater insects and is highly sensitive to environmental conditions, making them potential indicators for water quality. Chironomids also act as a major food source for numerous animals. Despite their key ecological importance, knowledge regarding chironomids' biodiversity and their associated environmental dynamics is severely limited, particularly at the regional level where endemic species are common. Hong Kong Chironomidae is one such understudied group, with current knowledge missing regarding species present locally and an understanding of their response to seasonal or environmental factors.

Elaine's research aims to address key gaps in Hong Kong Chironomidae knowledge across four key objectives: **1)** Determine the species and overall biodiversity of Chironomids associated with ecologically important streams in Hong Kong. **2)** Develop and implement an eDNA based Chironomidae community assessment approach for rapid and non-invasive biodiversity monitoring. **3)** Investigate terrestrial Hong Kong Chironomidae species diversity and the direct association with native pitcher plants. **4)** Investigate the species and community level associations between larval Chironomidae and river water quality.