



The University of Hong Kong
School of Biological Sciences

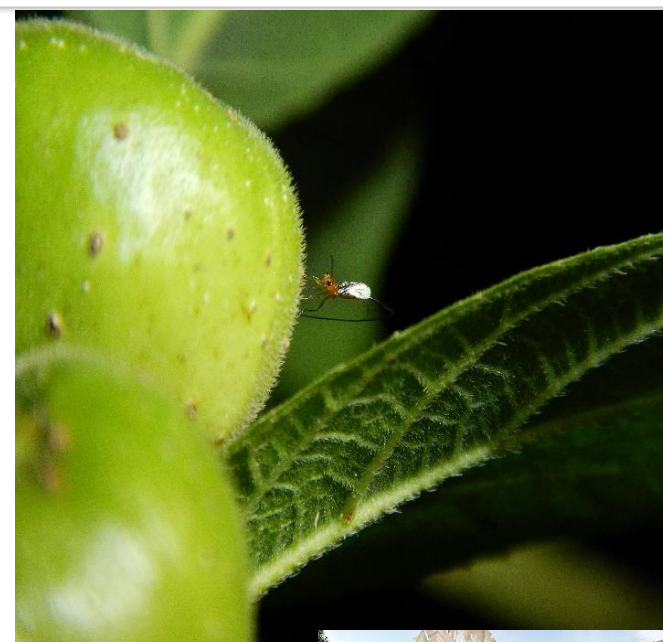
**Qualifying
Seminar**

Effects of insect species composition and habitat alteration on ecosystem functions

Date: 28 October 2024

Time: 2:30 PM

Venue: 6N-11 + zoom



About the speaker:

Shahmshad Ahmed Khan is a PhD student under the Supervision of Professor Benoit Guénard. Shahmshad's current research focuses on how habitat disturbance impacts ant communities, specifically looking at functional traits and ecosystem functions such as decomposition, pollination, and seed dispersal, having previously engaged in projects that explored insect biodiversity and ecological interactions.



Abstract:

Ecosystem functions such as decomposition, seed dispersal, or pollination are important ecosystem functions which maintain biodiversity and ecological balances. Habitat alterations, like deforestation and urbanization, shift species composition from specialists to generalists and body size distribution, raising concerns about the long-term impacts of these processes. This study explores how disturbances affect ant communities and the consequences for ecosystem functions, such as carrion decomposition, seed dispersal, and pollination. Ants, a dominant insect group, play essential roles in ecosystems, and changes in species community composition and functional diversity could significantly alter ecological dynamics. Field and laboratory experiments are conducted across natural, semi-disturbed, and disturbed habitats to investigate how functional diversity changes within ant communities alter their roles in ecosystem processes; with a focus on carrion decomposition and trait efficiency. In addition, the roles of new invaders in a complex plant-pollinator and seed dispersal fig-wasps system will be studied to understand the ambivalent actions of the yellow crazy ant (*Anoplolepis gracilipes*), known for its impacts on ecosystems integrity. By examining how ant communities influence pollination success, parasitism rates, seed dispersal, and seed germination, this work will provide valuable insights into the broader ecological implications of these interactions. These findings will offer new insights into how ant community alterations shape biodiversity and ecosystem functions, guiding future conservation strategies.