ECOLOGY & BIODIVERSITY SEMINAR SERIES

Dr Andrew Polaszek & Dr Zhen Liu

Dr. Andrew Polaszek is a Research Scientist at the Natural History Museum, London. His main research interests are insect systematics and evolution—particularly the evolution of host-parasitoid relationships—the ecological impact of invasive insects on island ecosystems, and the conservation of natural enemies and pollinators. He is also interested in applied entomology, specifically topics in biological control and integrated pest management.

Dr Zhen Liu is Associate Professor at Hunan University of Arts and Science, Changde. She has been working on the taxonomy and systematics of Braconidae, especially Microgastrinae for over 15 years. Zhen has published more than 200 new species across Braconidae, Scoliidae and Elateridae. She is also keen on biodiversity of terrestrial vertebrates and nature protection via biocontrol.

Date: 21 May 2026

Time: 4pm

Venue: 6N-11

Diversity of Hymenoptera parasitoids and their application

Parasitoid wasps are the most successful group of insect parasitoids, comprising more than half the known diversity of Hymenoptera and probably most of the unknown diversity. This lifestyle has enabled them to be used as pest control agents conferring substantial economic benefits to global agriculture. Major lineages of parasitoid wasps include Ichneumonoidea, Ceraphronoidea, Proctotrupomorpha, and a number of aculeate families. The parasitoid lifestyle arose only once among basal Hymenoptera, in the common ancestor of the Orussidae and Apocrita some 200+ Ma ago. The ancestral parasitoid wasp was probably an idiobiont on wood-living beetle larvae. From this comparatively simple biology, Hymenoptera radiated into an incredible diversity of hosts and parasitoid lifestyles, including hyperparasitoidism, kleptoparasitoidism, egg parasitoidism, and polyembryony, in several instances co-opting viruses to subdue their hosts. Many lineages evolved beyond the parasitoid niche, becoming secondarily herbivorous or predatory nest provisioners and eventually giving rise to most instances of insect societies.