中央研究院生物多樣性研究中心
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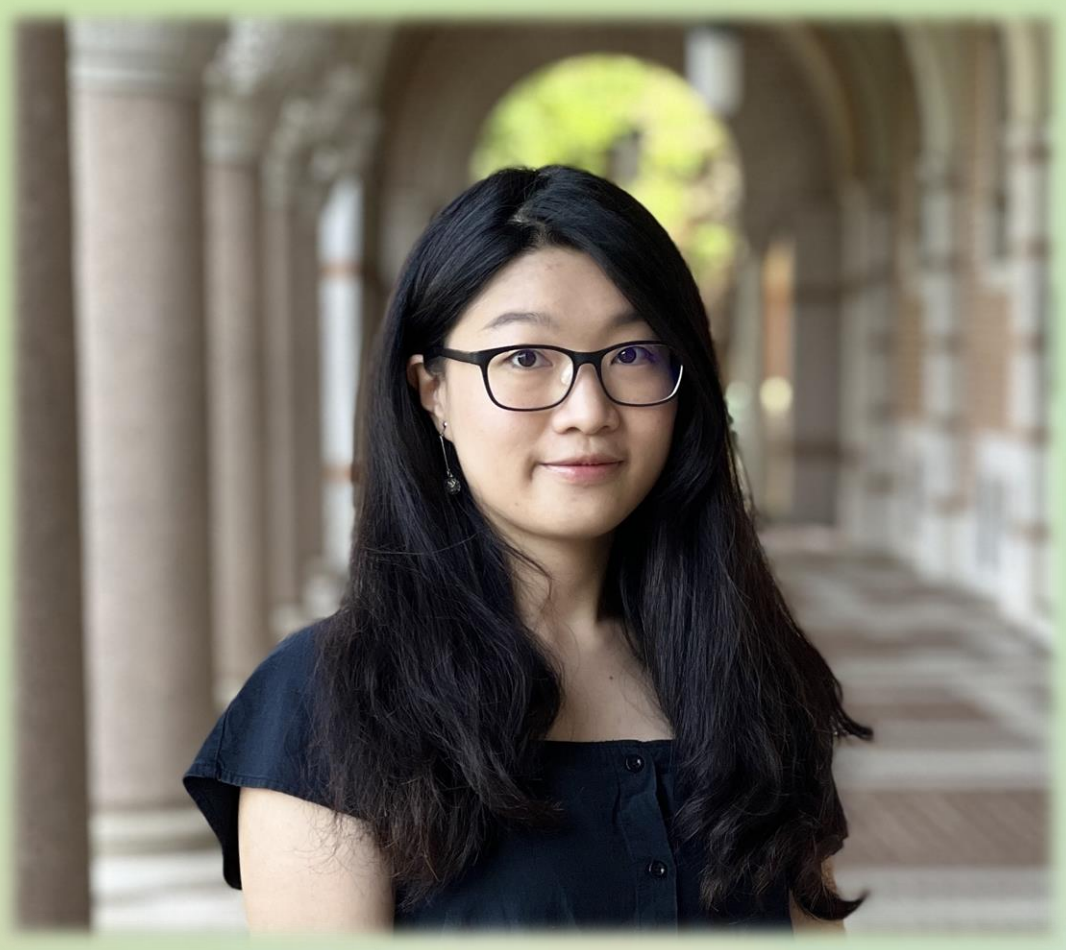
02-2789-9621

Terrestrial Biodiversity and Ecosystems

Unraveling Historical Influences on Pantropical Diversity Disparity of Mammals



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Time: 2025. 01. 07 Tue. 10:30
Venue: Auditorium, 1st Floor,
Interdisciplinary Research Building
跨領域科技研究大樓1樓演講廳
Host: Dr. Mao-Ning Tuanmu 端木茂甯副研究員

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Abstract

Tropical and subtropical moist forests are home to over half of the world's extant vertebrate species, yet the causes underlying continental variations in vertebrate distributions remain puzzling. The disparity has been linked to varying degrees of paleoenvironmental variability and megafauna extinctions since the late Quaternary. However, little is known about how evolutionary history, historical extinction, and environmental variability have shaped the disparity in multifaceted diversity over geological times. By harnessing comprehensive species-level datasets, including phylogenies, ecological traits, and trophic interactions of terrestrial mammals, we uncovered the continental variations in multi-faceted mammal diversity, from the niche space of regional assemblages toward the functional and food-web structure of local communities. We also uncovered the significant historical influences of biogeographic evolutionary histories, historical extinctions, and environmental variability in shaping the diversity of tropical and subtropical mammals. Our work highlights the pivotal role of evolutionary history and environmental dynamics in structuring mammal diversity across spatial and temporal scales, providing valuable insights into the assembly of global vertebrate diversity.