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Evolutionary Genetics and Genomics

Mixed Clonal and Sexual Reproduction Determines Population Genetic Patterns in the Coastal Salt Marsh Plant Spartina Patens



Dr. Matthew Hamilton

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Time: 2026. 11. 11 Wed. 11:00
Venue: Auditorium, 1st Floor
Interdisciplinary Research Building
跨領域科技研究大樓1樓演講廳
Host: Dr. John Wang 王忠信副研究員

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Absteact

Dr. Matthew B. Hamilton is an Associate Professor in the Department of Biology at Georgetown University. His research focuses on fundamental questions in evolutionary biology, population genetics, and conservation genetics. His studies natural populations of plants and animals, and employs predictive modeling and genetic marker data to understand the mechanisms that shape genetic polymorphism.

Many plant species combine sexual and clonal reproduction, yet the impacts of such mating portfolios on patterns of population genetic variation remains difficult to predict. The salt marsh ecological foundation species Spartina patens and serves as a model to understand how partial clonality shapes distributions of the number of vegetative ramets per genotype (genet), and the spatial patterns of genotypes. A novel coalescent model accommodating both sexual and clonal reproduction was developed to estimate neutral genetic patterns such as heterozygosity and closely matched observed heterozygosity. A wider recognition of plant mating portfolios combined with a richer set of mechanistic null models for species that engage in mixed sexual and clonal reproduction will improve the understanding of mechanisms generating ecological genetic variation and enhance conservation and restoration efforts of plants.