

Functional and Phylogenetic Diversity-Area Relationships: What We Know and Where We Are Heading

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Summary: Space molds populations and biodiversity, yet human-driven habitat loss hampers this process, underscoring the need to grasp spatial scales for effective conservation. The species-area relationship (SAR) has served ecologists for over a century, providing insights into diversity shifts across scales. Despite its importance, exploring area relationships beyond taxonomic diversity is recent. Functional diversity-area relationships (FDARs) quantify trait variation as a function of area, and phylogenetic diversity-area relationships (PDARs) describe changes in the phylogenetic composition of species assemblages as a function of area. Beyond complementing SARs, FDARs and PDARs unveil spatial mismatches between different diversity facets, aiding minimal area estimation for trait and lineage diversity representation. This talk delves into theoretical advances in FDARs and PDARs, particularly in habitat islands, exploring their general patterns and how area influences insular community assembly functionally and phylogenetically. We will also examine how recent advancements in calculating functional diversity indices can contribute to understanding how area influences multiple dimensions of this facet of diversity.

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The Alfred Wallace Seminar Series

