
Community Assembly on Remote Islands: Does Equilibrium Theory Apply?

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Abstract

Fifty years after MacArthur & Wilson's (1963) classic article on island biogeography theory, using islands as model systems still very opportune. Until recently there has been a predominant gap between ecological studies that are explicitly spatial and consider short timescales, and evolutionary studies considering longer timescales but in which the spatial scale of phenomena is sometimes unclear. Here I will argue that the combination of assets offered by islands as model systems to both ecologists and evolutionary biologists should continue to place them centre stage as tools with which to close this gap. Of primary importance in this endeavour is the acquisition of DNA sequence data at the genomic level at an ever-increasing rate, and for non- model organisms. This is providing ecologists and evolutionary biologists with unprecedented opportunities to uncover the history of lineages at the community level and to decipher the processes underlying community buildup. Of equal importance, we are also in a period in which islands as model systems are receiving considerable new theoretical input, although incorporating non-equilibrium dynamics still remains a major challenge. Prospects for future research on islands have been discussed at length during the ISLANDS project, are presented in details in a review paper published in *Ecology Letters* (2015; 18:200-216), and will be briefly summarized in my talk. Consistent with MacArthur & Wilson's intuition, implications of these island-based prospects are not restricted to islands, rather they extend to our understanding of ecology and evolution in general.

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