

How invader and community traits shape the long-term consequences of biotic invasions

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What explains that a species, being introduced in different ecological communities, may have a minimal impact upon some systems and a large one upon others? Many facets of ecological theory rely upon the analysis of invasion processes, and general approaches exist to understand a species' short-term ability to invade a community. No such generalities exist for the long-term transformations of the community as a result of invasions. We propose a simple method to predict these impacts, as a function of community structure and invader traits, in a Lotka-Volterra model of ecological dynamics. Our approach reveals that short-term invasion success and long-term consequences are two independent axes of variation, controlled by different properties of both invader and resident community.