



Conference Abstract

The interacting effects of precipitation and microhabitat on non-native seed predation are contingent on temporal dynamics

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Abstract

Climate change is reshuffling the interactions that structure communities, with major implications for biological invasions. A key consequence of such reshuffling is the alteration of biotic resistance through changes in antagonistic interactions such as post-dispersal seed predation. This process is highly context dependent and influenced by factors such as climate and microhabitat. However, how large- and local-scale factors interact to shape seed predation remains poorly understood. In this study, we conducted a seed removal experiment along a precipitation gradient in Patagonia, Argentina, to evaluate whether a large-scale factor, precipitation, interacts with a local-scale factor, microhabitat type (open or closed vegetation), to influence seed predation patterns of a non-native conifer species (*Pinus ponderosa*). By measuring seed predation at 960 depots across 12 precipitation levels, we found that predation varies across environmental conditions. Seed predation changed along the precipitation gradient and tended to be higher in open habitats at lower precipitation and in closed habitats at higher precipitation, indicating a shift in granivore activity, although this pattern was

contingent on temporal context. These findings suggest that the interaction between climatic conditions, local habitat structure, and temporal contexts jointly determines any potential contribution of seed predation to biotic resistance.

Keywords

Biotic Resistance, Context-Dependence, Environmental Gradient, Granivory

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Conflicts of interest

The authors have declared that no competing interests exist.