STOCHASTIC AND DETERMINISTIC FACTORS CONTRIBUTING TO ASSEMBLAGE DISSIMILARITY IN DIATOMS OF NORTH AMERICAN KARSTIC WETLANDS

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Despite occurring across a wide gradient of climatic conditions, the diatom assemblages of karstic wetland systems within North America exhibit broad taxonomic similarity at large spatial scales. Taxa commonly associated with karstic periphyton, including those within the *Mastagloia smithii* and *Fragilaria synegrotesca* complexes have been widely reported from wetland system ranging from tropical morasses in the Caribbean to Canadian alvars. Regional patterns of assemblage dissimilarity, however, vary with latitude in these systems, and tropical karstic assemblages exhibit higher degrees of similarity than their temperate counterparts. Here, we examine the relative influences of stochastic mechanisms associated with geographic proximity and deterministic mechanisms including environmental differences and ecological specificity of taxa on assemblage dissimilarity along a latitudinal gradient. Preliminary results demonstrate that environmental differences exert a stronger influence on assemblage dissimilarity in tropical regions characterized by more ecologically specialized taxa, while geographic proximity is a more important structuring mechanism at higher latitudes characterized by generalist forms.

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