Biodiversity across varying environments: accumulation, loss, or stasis?

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(max. 1200 characters including spaces)

Desired Format: poster

Session:

Understanding mechanisms of biodiversity change is important given the many factors that may influence future biodiversity. To provide a long term context for recent biodiversity changes, I investigate links between local biodiversity and environmental change over the past 21,000 years. I assembled records of fossil pollen genera from lake sediment cores in eastern North America and determined richness change at each site through time. The majority of sites showed no substantial directional changes and the mean richness across all sites did not significantly change through time. However, some individual sites had either significant increases or decreases in richness through time. I then examined the taxa underlying those changes to determine 1) if more compositional change occurred during times of rapid climate change and 2) the spatiotemporal patterns underlying taxonomic changes (i.e., average direction and distance of colonization or extirpation); I compared these changes to similar metrics of climate change. These results will illuminate whether environmental change maintains diversity in fluctuating environments by influencing colonization and extirpation of different species.

Keywords: biodiversity, richness, colonization, extirpation, late Pleistocene, pollen

Sessions:

SCT-3 Quaternary biogeography

SCT-6 Climate-change biogeography

PS-3 Paleobiogeography