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Abstract Title:
A Holocene Record of Vegetation and Fire from a "Southern Appalachian Bog:" Whiteoak Bottoms, North Carolina, USA

is part of the Poster Session:
Biogeography and Paleoenvironmental Change

scheduled on Wednesday, 4/13/11 at 10:00 AM.

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Abstract:
The non-alluvial wetlands known as Southern Appalachian Bogs are exceedingly rare, highly diverse, yet increasingly endangered habitats that have received little research attention. The vegetation, hydrology, geomorphic setting, and history of most of these wetlands are poorly documented, and whether they are true bogs, fens, or something intermediate is often uncertain. Here we examine the vegetation and fire history of one such "bog," Whiteoak Bottoms (35°04'44"N, 83°31'50"W), located at ca. 1032 m elevation in the Nantahala River valley of western North Carolina. In 2009, D. Leigh and J. McDonald from the University of Georgia recovered a series of sediment cores to study the stratigraphy and geomorphic history of the wetland. Radiocarbon dating established that the wetland formed approximately 14,000 cal yr BP. In 2010, we carried out additional dating together with pollen and charcoal analyses of two relatively undisturbed cores collected by Leigh and McDonald. Pollen of wetland herbs and shrubs occurs throughout the profile along with forest taxa. Late Holocene sediments contain pollen assemblages consistent with mixed broadleaved and pine forests, while early Holocene and Late Glacial sediments contain higher percentages of spruce pollen. The presence of both microscopic and macroscopic charcoal in the Whiteoak Bottoms sediments indicates that fire has influenced the wetland and surrounding forests

Keywords:

Vegetation History, Fire History, Nantahala, Pollen, Charcoal, Wetlands, Appalachian, Paleoenvironment

New Query