



ABSTRACTS

Diatom voucher flora of Timberlake Biological Field Station, Texas

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Diatoms (golden-brown algae, Bacillariophyceae) provide important bioindicators of water quality due to species-specific tolerances to chemical and physical aspects of their aquatic habitats. The identification of different diatom species by unique cell wall morphologies and ornamentation allow for calculations of relative abundance, which combined with their preferred habitat conditions, can be used to infer the water quality of their habitats. Due to a limited amount of research in diatom communities located in Texas, correlations between diatom species abundance and water quality are virtually nonexistent for this region. In an effort to correlate the species composition of diatoms to water quality at the different microhabitats along the Colorado River, specifically at Timberlake Biological Field Station, a voucher flora of the diatom community must first be established. We collected samples from ten sites along the Colorado River and ponds at the field station. Samples were chemically digested and prepared on microscope slides. Community assemblage was assessed by counting 300 diatom valves per slide using light microscopy. By calculating relative abundances, we found that the genera *Nitzschia*, *Diploneis*, and *Navicula* dominated the communities, as is characteristic of their preference for shallow, slow streams and algal mat communities. Multivariate analysis of water quality parameters found that some species seem to be sensitive to pH, hardness, and silica concentration. Additionally, the Colorado River is nitrogen-limited, and we found many species known to be tolerant of nitrogen-poor conditions. Biodiversity is high at each site. Overall, the voucher flora for Timberlake contained 100 species in 43 genera.