

THE EPHEMEROPTERA, PLECOPTERA, AND TRICHOPTERA  
OF MISSOURI STATE PARKS WITH NOTES ON BIOMONITORING,  
MESOHABITAT ASSOCIATIONS, AND DISTRIBUTION

Michael Leslie Ferro

Dr. Robert W. Sites, Thesis Supervisor

ABSTRACT

Thirty-seven streams within 15 Missouri State Parks were sampled for immature and adult Ephemeroptera, Plecoptera, and Trichoptera (EPT) through 2002 and early 2003. All totaled, 34,251 EPT larvae were collected, all specimens of which were identified to the lowest taxon possible. Of approximately 70,000 adult specimens collected, 10,342 were identified to the lowest taxon possible. Fifteen species endemic to the Interior Highlands and two species on the Missouri Species of Conservation Concern Checklist were collected. This research revealed a total of 214 species in 100 genera and 37 families of EPT in the designated state parks, accounting for 52% of the EPT fauna known from Missouri. Specifically, 57 species in 35 genera and 13 families of Ephemeroptera, 43 species in 18 genera and 8 families of Plecoptera, and 114 species in 47 genera and 16 families of Trichoptera were collected. Of seven mesohabitats designated, species richness was significantly highest in the riffle. Many species are reported from each state park for the first time and *Serratella sordida* McDunnough (Ephemeroptera: Ephemerellidae) and *Triaenodes perna* Ross (Trichoptera: Leptoceridae) were collected in Missouri for the first time.