

HELPS, C.¹, L. SPIETH¹, J. PORTERFIELD², AND D.C. HANEY¹. ¹Biology Dept., Furman University, Greenville, SC 29613 and ²Centre College, Danville, KY 40422-A study of body morphology and microhabitat use of several families of freshwater fish in the Enoree River Basin, SC.

The morphological traits of minnows, darters, catfish, and sunfish found in the Enoree River watershed, SC, were compared to the microhabitat use of each family. At each sampling site, subreaches were designated as pools, runs, or riffles and sampled for fish with a backpack electrofisher. Characteristics of each subreach were recorded and fish were either identified and released, or preserved for identification confirmation and vouchering. A Principal Components Analysis (PCA) was performed to see which habitat variables were correlated with the presence of minnows, darters, catfish, and sunfish in a given subreach. Minnows were distributed almost equally in pools, runs, and riffles, while darters were sampled more often in riffles and runs, and sunfish commonly inhabited pools. Catfish did not exhibit a subreach preference. Presence of darters in a subreach was correlated with shallower depths and gravel/cobble substrates, presence of catfish was correlated with woody debris, and minnows occupied the entire multivariate space. Representatives from each family were then selected for the morphological study. Body shape, fin size, and feeding structures, among others, differed in the four groups. While microhabitat usage overlapped in some groups, all had differing morphological traits that aided in their use of the habitat.