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Morphological Analysis of North American Cave and Swamp Fish (Amblyopsidae)

Kapil Mandrekar, Aldemaro Romero, Stanley Trauth, David Hayes

Arkansas State University, Jonesboro, Arkansas, United States

Amblyopsidae is a family of North American fishes that is endemic to the United States. The family is comprised of five genera that include a total of six described species. They are found in swamps springs and subterranean waters that occur in limestone rock on both sides of the Mississippi River with a range that encompasses central and southeastern Missouri, northwest Alabama, northwest Georgia, central Tennessee, Kentucky, southern Indiana and northern Arkansas. We conducted a morphometric shape analysis of all species to see if external morphology could be correlated to isolation and other ecological factors. We established twelve landmarks on the full lateral region of the body, seven on the dorsal region of the head, and eight on the ventral and lateral region of the head using a TpsDig version 2.10. Using Goodall's statistical test to analyze morphometric data we concluded that each species of Amblyopsidae is morphologically distinct from one another. However, they show a great deal of intraspecific variation consistent with the idea that isolation of populations generates detectable differences that are correlated to geographic distribution.