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ABSTRACT

THESIS: Microhabitat Selection among Five Congeneric Darter Species in Indiana River and Stream Ecosystems

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Five darter species were collected from streams and rivers in two Indiana counties to determine patterns of microhabitat selection. Selection was based on three microhabitat variables and included flow (velocity), depth, and substrate. A Qualitative Habitat Evaluation Index (QHEI) was also performed at each sampling location to differentiate the habitat quality at each site. Darters were segregated from one or more species present and overlap between species was observed. Specifically, greenside and rainbow darters used intermediate substrate in higher flows and depths relative to fantail, johnny, and orangethroat darters. Fantail and orangethroat darters were found among intermediate-large substrate sizes in reduced flow and depth. Johnny darters preferred small-intermediate substrate in greater depths and lowered flow. Microhabitat use is often driven by competition for food and space.