

New distribution record for *Fundulus diaphanus* (LeSueur), family Fundulidae in Illinois

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ABSTRACT

While conducting a general survey in a small tributary of the Rock River, two individuals of banded killifish (*Fundulus diaphanus*) were found. This species was sampled during October, 2012, in Rock Island County, Illinois. The banded killifish may be expanding its range to northwest Illinois.

FINDINGS

The banded killifish is a topminnow that grows to an average length of 75 mm (Smith, 1979). The key characteristics are the dorsal fin origin which is in advance of the anal fin insertion, and the numerous dark vertical bars. The bars contrast sharply over a light olive coloration above, and silver below (Figure 1) (Smith, 1979).



Figure 1. Banded killifish sampled at Mill Creek, Rock Island County, Illinois, November, 2012.

Banded killifish typically inhabit shallow cool water with abundant aquatic vegetation (Osborne and Brazil, 2006). This species is an opportunistic feeder, eating a wide variety of aquatic invertebrates in all levels of the water column (Osborne and Brazil, 2006). Vegetation is also important spawning habitat, where they attach their eggs to aquatic macrophytes (Richardson, 1939; Chippet, 2003).

The native range of this species is from Newfoundland to South Carolina, west across the northern Great Lake states into the central Dakotas, and as far southwest as central Iowa. In Illinois it was historically found only in the northeastern portion of Lake, Cook, and McHenry Counties (Page and Burr, 1991). The banded killifish is listed as an Illinois threatened species (Illinois

Endangered Species Protection Board, 2011).

Two banded killifish were collected in early November of 2012, while the authors were conducting a general survey near the mouth of Mill Creek in Rock Island County, Illinois. The sample was collected using a 120 volt AC electric seine for a total sample time of 53 minutes. Several dippers followed the seine using quarter inch mesh dip nets to collect the stunned fish. Over 10,000 fish were collected during the sampling, representing 19 species. Common species collected with the banded killifish included sand shiner (*Notropis ludibundus*), spotfin shiner (*Cyprinella spiloptera*), and emerald shiner (*Notropis atherinoides*). Mosquito fish (*Gambusia affinis*), known to compete with top minnows, were also abundant (Meffe et al., 1983). Bottom substrates consisted of 60% sand, 5% gravel, 30% cobble, and 5% boulders. The average width of the stream was 11 meters with an average depth of 20 cm. Aquatic vegetation was abundant and consisted mostly of filamentous algae and pondweeds.

It is not known if these individuals are part of a larger population or were relocated from other populations during previous Mississippi River flood events. Based on the size of the individuals (28 mm, 32 mm) they were most likely young of the year. No significant flooding has occurred in the area since 2011 (USGS, 2013), which may indicate that a resident population exists in the Rock Island County, Illinois area.

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