

## A NEW DISTRIBUTION RECORD FOR THE BLACKSIDE DACE, *PHOXINUS CUMBERLANDENSIS*

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**ABSTRACT**—A small population of *Phoxinus cumberlandensis* was found to inhabit the upper kilometer of Turkey Creek, Knox County, Kentucky. This finding represents a new distribution record. Turkey Creek has experienced habitat degradation and the population appears to be in a precarious state.

The distribution of the blackside dace, *Phoxinus cumberlandensis* Starnes and Starnes is well documented (Starnes and Starnes, 1978a, 1978b; Warren, 1981; O'Bara, 1985, 1990; Burr and Warren, 1986). This species is listed as threatened by the United States Fish and Wildlife Service (US Fish Wildl. Service, 1987). Within Knox County, Kentucky, *P. cumberlandensis* has been reported from a single drainage, Little Poplar Creek. However, O'Bara (1985, 1990) reported the possible extirpation of this population due to mining activities.

We report herein a population of *P. cumberlandensis* in Turkey Creek, a tributary to Stinking Creek, Knox County, Kentucky. The Turkey Creek population of *P. cumberlandensis* represents the second known population, possibly the only surviving population, in Knox County, Kentucky. This population was monitored from May 1992 to June 1993. We found *P. cumberlandensis* to be restricted to the upper kilometer, from the point of continuous flow, down the right arm of Turkey Creek. This portion of Turkey Creek is less than three meters in width and contains five pools in which we observed *P. cumberlandensis*. Turkey Creek is found on United States Geological Service topographical maps Fount, Kentucky, and Artemus, Kentucky.

The population of *P. cumberlandensis* in Turkey Creek appears to be small. However, on two occasions (22 May and 30 June 1992) approximately 20 individuals were observed in a single pool. Three individuals were collected for identification and are housed in the Tennessee Technological University collection.

O'Bara (1985, 1990) discussed habitat requirements of *P. cumberlandensis*. Natural undisturbed zones of riparian vegetation are an important habitat component. Turkey Creek has experienced extensive degradation. Riparian vegetation along Turkey Creek has been removed. Only a few scattered stands of willow, *Salix* sp., and sycamore, *Platanus occidentalis*, remain. Pastures and gardens extend to stream banks. Also, livestock are allowed access to many sections of the creek. As a result of these practices, bank erosion has occurred causing siltation.

Starnes and Starnes (1978b) found streams having populations of *P. cumberlandensis* and dense riparian vegetation to be relatively cool, below 20 °C much of the year. We found temperatures as high as 27 °C during August 1992. Temperatures

exceeded 20 °C from late June until early September. By early October temperatures were below 20 °C.

The presence of old coal mines at the head of Turkey Creek appears to pose no threat to this population at the present time. These mines were last active 60–75 years ago (personal accounts of local residents) and are now reforested.

We believe this population of *P. cumberlandensis* is in a precarious state. However, landowners along the section of Turkey Creek known to harbor this threatened fish are aware of its presence and want to see it survive.

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### LITERATURE CITED

- BURR, B. M., AND M. L. WARREN JR. 1986. A distributional atlas of Kentucky fishes. Kentucky Nature Preserves Comm., Sci. Tech. Series, Number 4.
- O'BARA, C. J. 1985. A status survey of the blackside dace, *Phoxinus cumberlandensis*. US Fish Wildl. Service, Endang. Species Off., Asheville, North Carolina.
- . 1990. Distribution and ecology of the blackside dace, *Phoxinus cumberlandensis* (Osteichthyes: Cyprinidae.). *Brimleyana*, 16:9–15.
- STARNES, W. C., AND L. B. STARNES. 1978a. A new cyprinid of the genus *Phoxinus* endemic to the Upper Cumberland River drainage. *Copeia*, 1978:508–516.
- . 1978b. Status report on a new and threatened species of *Phoxinus* from the Upper Cumberland River drainage. *Southeast. Fishes Council Proc.*, 2:1–3.
- US FISH AND WILDL. SERVICE. 1987. Endangered and threatened wildlife and plants; determination of threatened species status for the blackside dace. *Fed. Reg.*, 52 (113):22580–22585.
- WARREN, M. L. JR. 1981. New distribution records of eastern Kentucky fishes. *Brimleyana*, 6:129–140.