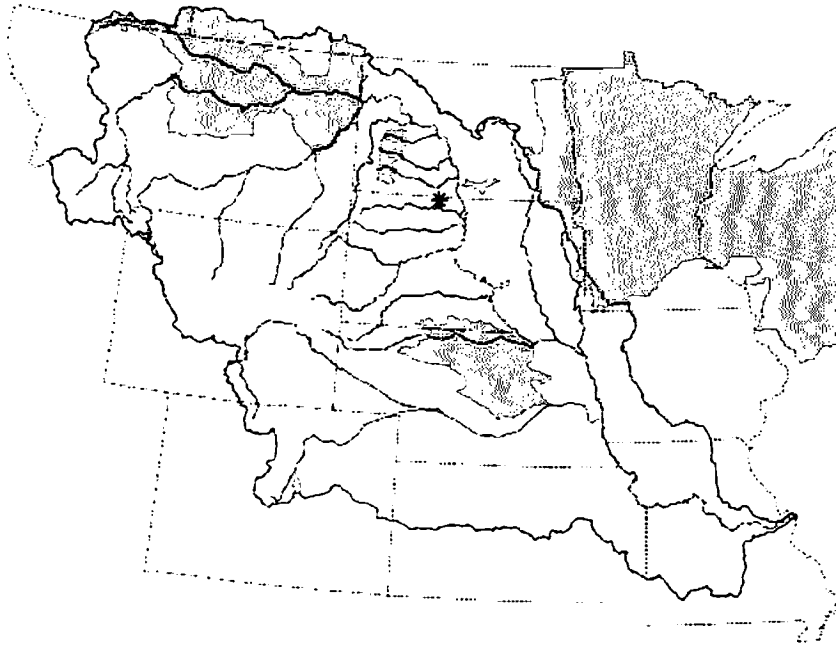


**NEW DISTRIBUTIONAL RECORD OF THE NORTHERN REDBELLY DACE IN THE NORTHERN GREAT PLAINS**

-- The range of the northern redbelly dace (*Phoxinus eos*) is grouped into two regions in central North America (Stasiak 1980). In the northern Great Plains, the species is distributed throughout the upper Missouri River drainage in Montana and Canada (Brown 1971, Scott and Crossman 1973). In the Central Lowlands, the northern redbelly dace is distributed through northern Minnesota, Wisconsin, Canada, and the Great Lakes region (Hubbs and Cooper 1936, Eddy and Underhill 1976, Becker 1983). The present distribution of northern redbelly dace has shifted northward from a more southerly distribution during Pleistocene glaciation (Cross et al. 1986). Relict populations remain in Colorado, Nebraska, South Dakota, and North Dakota. In Colorado and Nebraska, northern redbelly dace has been recorded from the upper reaches of the tributaries draining into the South Platte and Platte rivers (Johnson 1942, Bestgen 1989, Haynes and Weekly 1992). Similarly, the species has been recorded from the upper reaches of the Knife River, Heart River, and Cannonball River drainages in western North Dakota and from Spring Creek and Clear Creek in central North Dakota (Reigh and Owen 1978, Stasiak 1980, NDGFD 1997, R. Sylvester, South Dakota State University, unpublished data). In South Dakota, the northern redbelly dace is found in the Big Sioux River and Minnesota River drainages, and relict populations are scattered through the western Great Plains. Relict populations in South Dakota include several creeks from the Niobrara River drainage, a creek from the White River drainage, and two small tributaries draining into the Missouri River from the east (Bailey and Allum 1962, Cunningham et al. 1995, Smith et al. 2003). A large distributional gap exists in the northern Great Plains between the Cannonball drainage in North Dakota and the White River drainage in South Dakota. No collections of northern redbelly dace have been reported from the Grand River, Moreau River, Cheyenne River, or Bad River drainages in South Dakota.

We collected 13 northern redbelly dace from Stink Creek (45°47'38"N, 101°11'54"W) in the Grand River drainage on 6 June 2003 (Fig. 1). A 150-m stream reach was sampled by using pulsed-DC electrofishing. Other species collected included fathead minnow (*Pimephales promelas*), white sucker (*Catostomus commersoni*), green sunfish (*Lepomis cyanellus*), and longnose dace (*Rhinichthys cataractae*). Northern redbelly dace ranged in length from 41 to 79 mm. Water quality conditions measured were: water temperature (16.6°C), dissolved oxygen (14.6 mg/L), conductivity (748 µmhos/cm), and pH (7.69). Stream gradient was low (0.1%) along the reach. The stream consisted of a single, unconstrained channel that transected open prairie. Surface flow was not apparent at the time of sampling. Pools within the sampling reach ranged in depth from 26 to 84 cm. Mean wetted width was 1.33 m and mean depth was 23 cm. Pool substrates consisted mostly of silt, but gravel and cobble were present in shallow habitats. Filamentous algae and rooted macrophytes were abundant throughout the stream reach.



**Figure 1.** Current distribution of the northern redbelly dace (area shaded in gray) in the northern Great Plains and northern Central Lowlands of the United States (Johnson 1942, Bailey and Allum 1962, Brown 1971, Scott and Crossman 1973, Eddy and Underhill 1976, Reigh and Owen 1978, Stasiak 1980, Becker 1983, Haynes and Weekly 1992, Cunningham et al. 1995, Smith et al. 2003). Stink Creek is denoted by a star.

We found northern redbelly dace in Stink Creek where habitat conditions were similar to those reported for this species by other researchers (Brown 1971, Eddy and Underhill 1976, Becker 1983, Bestgen 1989). The range of the northern redbelly dace in western South Dakota seems to be limited to perennial streams with slow, clear water and abundant macrophytes and algae. Additional sampling efforts in under-surveyed drainages might provide new records of the species in western South Dakota. This range extension provides a more complete distribution of glacial relict populations of northern redbelly dace in the northern Great Plains.

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