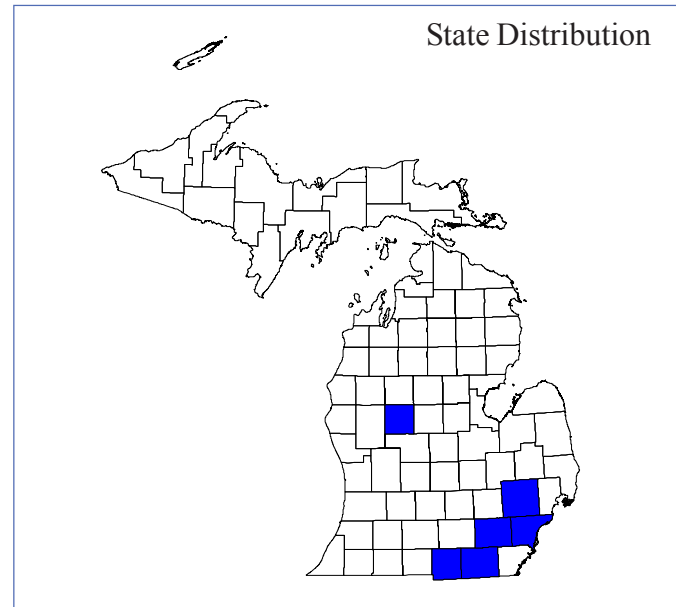
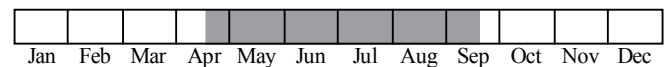




Photo courtesy of Konrad Schmidt,  
Minnesota Department of Natural Resources



Best Survey Period



**Status:** State endangered

**Global and state rank:** G4/S1S2

**Family:** Minnow (cyprinidae)

**Synonyms:** The redside dace can be confused with the northern and southern redbelly dace (*Phoxinus eos* and *Phoxinus erythrogaster*, respectively) and the finescale dace (*Phoxinus neogaeus*). The northern and southern redbelly dace both have smaller mouths, blunter heads and red coloration laterally that may continue to the belly. The finescale dace has a red band above and a yellow band below (the opposite of the redside dace's yellow above and red below). Finescale dace also have a smaller mouth and blunter head than redside dace and have an incomplete lateral line.

**Total range:** The redside dace's distribution is generally discontinuous with disjunct populations scattered throughout an eastern range. It occurs in the Lake Erie and Lake Ontario drainages in southeastern Michigan, Ontario, Ohio, Pennsylvania and New York, as well as the upper Mississippi River basin of Wisconsin and southeastern Minnesota, the upper Susquehanna River drainage of New York and Pennsylvania, and the upper Ohio River basin. Parker et al. (1988) report that the redside dace is declining in Ontario, although recent surveys in Wisconsin reported redside dace within more drainages and at more sites that previously recorded (Fago 1982 and 1983).

**State distribution:** There are several disparate populations of redside dace in Michigan, including the River Rouge drainage in Oakland and Wayne Counties and the Huron River drainage in Washtenaw County. Translocations of individuals from a stream in the River Rouge basin (Wayne Co.) threatened by urbanization to a more secluded stream in Washtenaw County were performed in 1988 (Evers 1994).

**Recognition:** Redside dace are small (up to 3 inches in length) fish with a distinct white-yellow band extending from the snout to the tail that separates the dark back of the fish from a distinct red band on the side of the fish. The mouth is large with a prominent lower jaw that extends past the upper jaw and there are no barbels present. The body is laterally compressed (i.e., "slab-sided") with a complete, slightly decurved lateral line. Adult fish are brightly colored, particularly during spawning. Both sexes are characterized by small breeding tubercles that are distributed over the entire body during spawning season.

**Best survey time/phenology:** Redside dace are best surveyed during the late spring, summer and early fall months during periods of low rainfall and concomitant low water and low turbidity.

**Habitat:** Redside dace typically occur in clear, cool headwaters of river systems. Water clarity is a key component for viable habitat of redside dace. Streams in which redside dace occur are generally small with moderate to high gradients, adequate overhanging vegetation to provide ample shading of the stream,



abundant coarse woody debris, and clean substrates of gravel, sand, cobble and bedrock (Trautman 1981). Pools provide habitat for redbase dace during the nonbreeding season. Riffles with clean rocky substrates are necessary for spawning. This species is often associated with overhanging vegetation shading undercut banks (McKee and Parker 1982).

**Biology:** The life history of the redbase dace has been studied extensively (Koster 1939, Schwartz and Norvell 1958, Trautman 1981, McKee and Parker 1982). Spawning generally occurs in late May when water temperatures reach at least 65°F (18°C). Spawning fish move from pools to gravelly riffles where males defend small, nonbinding territories until spawning begins. When females enter the spawning area, several males will follow her to a nest site where she broadcasts from 400 to 2,000 eggs (Koster 1939, McKee and Parker 1982) which are fertilized by the males. Growth is initially rapid, with young-of-the-year fish attaining a length of 2.9 cm by October. Subsequent growth is comparatively slower, with year-old fish averaging 4.1 cm, two-year old fish averaging 5.7 cm, and >3-year old fish averaging 7 cm. Female fish are typically larger than males. Most spawning fish are three-years of age or older, although some two-year old fish may attain breeding condition. Redbase dace feed primarily on insects. Their large mouth enables redbase dace to catch flying and other terrestrial insects during leaps from the water.

**Conservation/management:** Redbase dace are naturally distributed discontinuously throughout the landscape. This isolation makes local populations highly susceptible to extinction because losses due to local natural or human-induced perturbation cannot be replaced by neighboring populations. Strict habitat requirements for this species also make this species highly susceptible to local extinctions. Land clearing for human land uses, such as agricultural, urbanization and industrialization, have converted many cool, shaded and clear streams to warm, unshaded and turbid systems. Changes in the shade, temperature and oxygen regimes of these small streams as a result of land cover changes have converted them to unsuitable habitat for redbase dace. Continued detailed surveys of small streams in Michigan to identify additional occurrences of this species are needed. Suitable habitats should be protected and monitored, and modified streams that still have occurrences of this species should be targeted for riparian and perhaps instream habitat restoration.

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