

Devils River Minnow

Scientific Name: *Dionda diaboli*

Federal Status: Threatened, 3/20/99 • State Status: Threatened

Description

The Devils River minnow is a small fish, with adults reaching sizes of approximately 2 inches in length. The fish has a wedge-shaped caudal (near the tail) spot and pronounced lateral stripe extending through the eye to the snout. Double dash markings extend along the lateral line. The species has a narrow head and a body with prominent dark markings on scale pockets above the lateral line that produce a cross-hatched appearance when viewed from the top. The species occurs with other similar minnows, such as the closely-related manantial roundnose minnow (*Dionda argentosa*).



Devils River Minnow
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Distribution and Habitat

The Devils River minnow is found in channels of fast-flowing, spring-fed waters over gravel substrates (Harrell 1978). Although the species is closely associated with spring systems, the fish most often occurs where spring flow enters a stream, rather than in the spring outflow itself (Hubbs and Garrett 1990).

The Devils River minnow was historically (pre-1980) known to occur in Texas in Las Moras Creek in Brackettville, in Sycamore Creek, in San Felipe Creek in Del Rio and in the Devils River from near the confluence with the Rio Grande upstream to Beaver Lake near Juno. In 2002, they were discovered in the headwaters of Pinto Creek, Kinney County. In Mexico, Devils River minnow were reported (pre-1980) in the Río San Carlos and in the Río Salado drainage (Río Sabinas, Río San Juan, and Río

Alamo), but now appear to be rare. The most recent collections of Devils River minnow can only confirm populations in San Felipe Creek, Pinto Creek and in the headwaters of the Devils River.

Life History

Little information is available on life history characteristics, feeding patterns, or reproductive behaviors of this species. However, based on their long coiled intestinal tract, species of the genus *Dionda* are considered to feed primarily on algae. *Dionda episcopa*, a closely related species occurring throughout the Edwards Plateau of central Texas and the Pecos River drainage of New Mexico and Texas, was found to spawn from January through August, laying demersal (deposited near the stream bottom), non-adhesive eggs, sometimes beneath several millimeters of gravel (Hubbs 1951). The life expectancy of the fish has not been studied, but based on other similar minnows, it can be estimated at one to two years.

Threats and Reasons for Decline

The primary threats to the species include habitat loss and degradation (water quantity and quality) and impacts from non-native species. Devils River minnow depends on constant, clean flowing spring waters. Spring flows are under significant threat of failure when groundwater levels decline, particularly in drought-prone areas like west Texas. Threats to stream ecosystems from pollution and introduction of nonnative species also put Devils River minnow at risk.

Recovery Efforts

A conservation agreement for Devils River minnow among Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service, and the city of Del Rio, in cooperation with several private landowners, is currently underway. This agreement outlines cooperative efforts among all parties to research and conservation efforts designed to recover the Devils River minnow.

Where To See The Devils River Minnow

In Del Rio, a green belt is being developed along the banks of San Felipe Creek. Its purpose is not only to preserve the unique fauna of this desert stream in an urban environment, but also to allow residents and visitors to view birds, fish, and other native plants and animals.

How You Can Help

Area landowners can help by protecting the groundwater of the Edwards-Trinity Aquifer. Do what you can as an individual to conserve water and prevent pollutants from entering the aquifer. Care should be taken to avoid reduction in recharge to the aquifer. Limestone aquifers are vulnerable to pollution and measures to prevent aquifer contamination are urged. Land managers can help by implementing sound range management practices designed to protect vegetative cover, improve range condition, and prevent soil erosion and runoff. Good vegetation management will help to ensure optimum aquifer recharge and the continuous flow of springs that support streams in Val Verde and Kinney counties. Since competition and/or hybridization with closely related or introduced species is a major threat to endangered fishes, never release fish into natural waters from which they didn't originate.

Finally, you can support the Special Nongame and Endangered Species Conservation Fund by purchasing a stamp, available at the Texas Parks and Wildlife Department (TPWD) headquarters in Austin or at most State Parks. Part of the proceeds from the sale of these items is used to conserve habitat and provide information concerning rare and endangered species. Contact Texas Parks and Wildlife Department or the U.S. Fish and Wildlife Service for more information.

For More Information Contact

Texas Parks and Wildlife Department
Wildlife Diversity Branch
4200 Smith School Road
Austin, Texas 78744
(512) 912-7011 or (800) 792-1112

or

U.S. Fish and Wildlife Service
Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, Texas 78758
(512) 490-0057

References

- Garrett, G.P., R.J. Edwards, and A.H. Price. 1992. *Distribution and status of the Devils River minnow, Dionda diaboli*. The Southwestern Naturalist 37:259-267.
- Harrell, H.L. 1978. *Response of the Devil's River (Texas) fish community to flooding*. Copeia 1978:60-68
- Hubbs, C. 1951. *Observations on the breeding of Dionda episcopa serena in the Nueces River, Texas*. Texas Journal of Science 3:490-492.
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Funds for the production of this leaflet were provided by the U.S. Fish and Wildlife Service, under Section 6 of the Endangered Species Act.