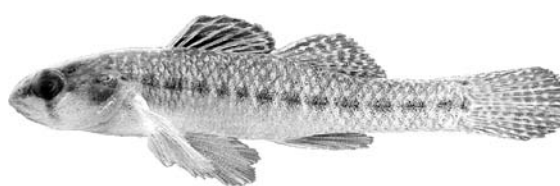


## Threatened fishes of the world: *Etheostoma fonticola* (Jordan & Gilbert 1886) (Percidae)

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**Common name:** Fountain darter. **Conservation status:** Endangered, Federal, 1970. **Identification:** The fountain darter is the smallest darter (maximum SL = 35 mm). Small mid-lateral blotches of about 11–16 are developed in most, resembling an interrupted dark band (Kuehne & Barbour 1983). Caudal fin weakly banded. Opercles scaled or partially scaled. Cheeks, nape, breast and prepectoral area naked. D 6–8 (7), 10–13 (10–11), A 1–2 (1), 5–8 (6–7) P 8–11 (9–10), lateral line scales 31–37 (32–36), 0–6 (1–3) pored. Pronounced black, clear, red, clear,



and black bands on the first dorsal fin of males (Schenck & Whiteside 1977). Photograph of a 35 mm (TL) adult male from the San Marcos River by Chad Thomas, Texas State University-San Marcos. **Distribution:** The fountain darter is endemic to thermally constant (21–24°C) springs and upper reaches of the San Marcos and Comal rivers of central Texas (Hubbs et al. 1991). **Abundance:** Population estimate is 103,000 for the San Marcos River (Schenck & Whiteside 1976) and 168,078 for the Upper Comal River (Linam et al. 1993). **Habitat and ecology:** The fountain darter is most abundant in habitats with aquatic macrophytes and filamentous algae (Schenck & Whiteside 1976). Diet consists primarily of cladocerans, copepods, amphipods, and aquatic insects (Bergin et al. 1997). **Reproduction:** Fountain darters are continuous spawners (Schenck & Whiteside 1977) laying adhesive eggs on filamentous algae and plants (Strawn 1956). Under laboratory conditions, mean egg production ( $\pm 1$  SD) is 760 ( $\pm 310$ ) per two breeding pairs during a 33-day period at 23°C (Bonner et al. 1998). Optimal temperatures range from 14 to 27°C for egg production and from 14 to 25°C for larval production. **Threats:** Reduction of spring flow and exotic species threaten the fountain darter (U.S. Fish and Wildlife Service 1996). Spring flows are reduced by drought and by water withdrawals from the Edwards Aquifer. Cessation of flow contributed to the extirpation of fountain darters from Comal River in the 1950s (Schenck & Whiteside

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1976). Comal River was restocked in 1975 with fountain darters from the San Marcos River. The exotic snail, *Marisa cornuarietis*, denudes aquatic vegetation in the springs (Horne et al. 1992) and reduces cover and spawning habitat for the fountain darter. A potential threat is from an introduced digenetic trematode, *Centrocestus formosanus*, which encysts in the gill cartilage and lamellae of the fountain darter (Mitchell et al. 2000). **Conservation action:** A San Marcos and Comal springs and associated aquatic ecosystem recovery plan was revised in 1996 and identifies general conservation measures for water quality, water quantity, and habitat maintenance (U.S. Fish & Wildlife 1996). National Fish Hatchery and Technology Center in San Marcos, Texas, serves as a refugium during periods of low flows (Brandt 1993).