

## Threatened fishes of the world: *Etheostoma segrex* Norris & Minckley, 1997 (Percidae)

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**Common names:** Perca (dardo, dardito) del Salado (S), Río Salado darter (E). **Conservation status:** Endangered (Williams et al. 1989), listed as 'Dardo de Cuatro Ciénegas, *Etheostoma* sp.' which confounded this darter with the *E. lugoi* Norris & Minckley (1997). **Identification:** Small darter, rarely exceeding 40 mm SL. Pored scales in lateral line 33–52 (mode: 38–39). Small patch of scales at base of pectoral fin. Allopatric to all other darters. Photograph by SMN, male (above), female (below). **Distribution:** Probably originally widespread in headwaters of Río Salado de los Nadadores, Coahuila, México, Río Bravo de Norte (Rio Grande) system. Now known only from several closely adjacent sites within the canyon below the Cuatro Ciénegas basin.



**Abundance:** *Etheostoma segrex* can be locally abundant where water flow remains sufficient to maintain preferred habitat. **Habitat and ecology:** This darter inhabits riffles 1.5–3 m wide and from 10 to 25 cm deep, of moderate turbulence over gravel and small cobble substrate, concentrating in vegetated areas when present. It avoids deeper, soft-bottomed eddies, pools or runs and turbulent, 'whitewater' rapids. It probably feeds on small invertebrates. **Reproduction:** Little is known. Nuptial males collected in April (Norris & Minckley 1997). **Threats:** *Etheostoma segrex* is threatened by human initiated habitat alteration and degradation. Water resources, including the Río Salado de los Nadadores and its ground-water sources, are under heavy demand and exploitation in this very arid region of the eastern Chihuahuan desert. Water diversion and extraction through canals and wells have severely altered, sometimes dewatering, large portions sections of the watershed. The present discharge of the river is substantially reduced (as much as 90%) from historical norms (Norris & Minckley 1997, S. Contreras-Balderas personal communication). It is highly likely that significant darter habitat has already been severely degraded or lost. **Conservation action:** Portions of the Cuatro Ciénegas basin, including all aquatic systems, have been designated as a biological preserve (Secretaría de Desarrollo Social 1994); this may alleviate some potential threats. **Conservation recommendations:** A critical status and life history survey needs to be completed for this darter. Maintaining water flow and quality through the remaining reaches inhabited by *E. segrex* is imperative. Introductions of alien organisms must not be allowed. **Remarks:** It appears that only a fraction of the Río Salado de los Nadadores watershed remains able to support this darter. Further study of the headwater fauna of this river may demonstrate additional unique forms.

Norris, S.M. & W.L. Minckley. 1997. Two new fishes (Osteichthyes, Percidae, *Etheostoma*) from Central Coahuila, Northern México. *Ichtyol. Exp. Freshwat.* 8: 159–176.

Secretaría de Desarrollo Social. 1994. Decreto por el que se declara como área natural protegida, con el carácter de área de protección de flora y fauna, la región conocida como Cuatrociénegas, con una superficie de 84,347-47-00 hectáreas, municipio del mismo nombre, Coah. *Diario Oficial de la Federación (Méx.)* 294(5): 5–11.

Williams, J.E., J.E. Johnson, D.A. Hendrickson, S. Contreras-Balderas, J.D. Williams, M. Navarro-Mendoza, D.E. MaAllister & J.E. Deacon. 1989. Fishes of North America endangered, threatened, or of special concern: 1989. *Fisheries* 14: 2–20.