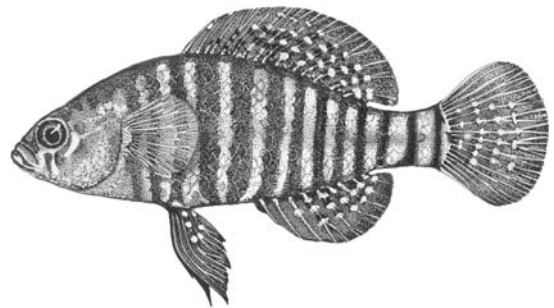


Threatened fishes of the world: *Elassoma boehlkei* (Rohde and Arndt 1987) (Elassomatidae)

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Common name: Carolina pygmy sunfish.
Conservation status: Threatened and protected by state law in North Carolina (NWRC 2004). State threatened in South Carolina (SCDNR 2003). Listed by the Federal Endangered Species Act as a species of concern, as followed by the American Fisheries Society (Williams et al. 1989; NWRC 2004). Internationally recognized as nearly threatened (Gimenez Dixon 1996). **Identification:** D IV/8-12; A III/5-8; C 14; P1 14-17; P2 I/5; L1 24-30; mouth terminal and upturned. Lateral line absent. Sympatric species of pygmy sunfishes have head scales or humeral spots and ocular bars. *Elassoma boehlkei* normally has 12–14 vertical bars along the body, alternating with iridescent interbars of approximately equal width (Rohde and Arndt 1987). In the spawning season males become dark brown to black, with bright blue-green interbars. Interbars are brown and indistinct in females. Lacks humeral spots and preocular and postocular bars as seen in *E. zonatum*. Grows to 3.3 cm (Rohde et al. 1994). Illustration by Ellen S. Strack-Heiler. **Distribution:** Lumber and Cape Fear drainages of North Carolina. *E. boehlkei* is an associate of the evolutionarily distinct Lake Waccamaw fauna,



endemic to the lake and surrounding areas (Hubbs and Raney 1946). In northeastern South Carolina a population is found in old ricefield ditches near Georgetown. Several populations occur in tributary ditches of the Waccamaw River near Conway. A genetically distinct, disjunct population occurs in the Santee drainage. Further sampling is necessary to determine distributional limits within the Santee (Quattro et al. 2001). **Abundance:** Irregular and localized. South Carolina populations seem stable. Populations near Lake Waccamaw (Brunswick and Columbus co., NC) seem to be in decline. At times relatively common in known habitat patches. Populations either use alternate habitats or fluctuate substantially with the seasons. **Habitat and ecology:** Pygmy sunfishes are generally cryptic, solitary animals. *Elassoma boehlkei* feeds on microcrustaceans and other small invertebrates. This species is not limited by water chemistry, as specimens are collected from

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weakly alkaline (pH 7.2) to highly acidic (pH 5.5) water. Usually occupies heavily vegetated, tannic swamps and sloughs. Commonly found in roadside ditches where competition and predation from other species may be minimized. Substrate consists of leaf litter in different states of decomposition, mud, or fine sand. *Reproduction*: Females deposit up to 76 eggs in vegetation or occasionally on the substrate. Nests are not constructed. Eggs are guarded by the male (Rohde et al. 1994). Young of the year are present by mid-April. Individuals attain adult size and reproductive maturity within one year. Lifespan not likely to exceed 18 months in nature (Rohde et al. 1994). *Threats*: Roadside populations are certainly affected by pollution and habitat alteration. Urbanization has been associated with local extirpation events. Anecdotal evidence suggests competition with congeners to exclude this species from optimum habitat. Some populations are at considerable risk of over-harvesting by private aquarists. Recent droughts have severely affected the populations in North Carolina. *Conservation actions*: This is the only pygmy sunfish listed by the Federal Endangered Species Act. All populations are protected by state conservation agencies. Riverbanks Aquarium and Conservation Fisheries Inc. conduct independent conservation projects involving propagation of this species. Emergency caretaking procedures are being developed to prevent extirpation of evolutionarily significant units (M. Salmon and J.R. Shute, personal communication). *Conservation recommendations*: Anthropogenic effects on *E. boehlkei*

are difficult to assess, because of lack of information about metapopulation dynamics, geographic distribution, and life history. Local extirpation of this cryptic species could easily go undetected. Specimens should not be taken for non-research purposes. Aquarists should seek captive bred specimens. We recommend a federal listing of “threatened” for this species.

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