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Common Name: CHEROKEE DARTER

Scientific Name: *Etheostoma scotti*

Other Commonly Used Names: none

Previously Used Scientific Names: *Etheostoma coosae*

Family: Percidae

Rarity Ranks: G2/S2

State Legal Status: Threatened

Federal Legal Status: Threatened

Description: The Cherokee darter has a rounded snout, a distinct dark bar beneath the eye, and 7-8 dorsal blotches that may fuse with the 7-8 lateral blotches. The lateral blotches elongate into slightly oblique greenish-olive bars in breeding males. The anterior lateral line pores are usually outlined in black. Breeding males have an anterior red window and a single broad reddish band in the first dorsal fin, red in the second dorsal fin, and a green-edged anal fin. The caudal fin may also be edged in green dorsally and ventrally. Adult size of the Cherokee darter is 40-65 mm (1.6-2.6 in) total length. A recent population genetic study of the Cherokee darter identified three distinct evolutionarily significant units (ESUs) that are geographically separated. These ESUs are genetically distinct from one another, suggesting isolation from one another for at least tens of thousands of years. A male from the Richland Creek system (lower ESU) is pictured above. A male from the uppermost ESU and a female from the middle ESU are shown at the bottom of this account.

Similar Species: The Cherokee darter belongs to the subgenus *Ulocentra*, commonly known as snubnose darters. Two other snubnose darters occur in the upper Coosa River basin, the Coosa darter (*E. coosae*) and holiday darter (*E. brevirostrum*). Breeding males of the three snubnose darters can be distinguished based on fin pigmentation: the Coosa

darter has five discrete bands in the first dorsal fin; the holiday darter has a red band appearing over bluish or gray pigment in the second dorsal fin and anal fin; the Cherokee darter has a red wash in both the first and second dorsal fins, without banding (except lower ESU). Because color patterns in breeding males are the main diagnostic characteristics, it can be difficult to distinguish these species outside of the spawning season in places where they co-occur. Cryptic diversity also exists among the three ESUs of Cherokee darters. The downstream-most (i.e., lower) ESU can be distinguished from the middle and upper ESUs based on the appearance of a narrow distal blue band and a broad, but sharply bounded medial red band in the first dorsal fin of breeding males; individuals within the upper and middle ESUs appear similar. The Cherokee darter can be distinguished easily from the more common speckled darter (*E. stigmaeum*) in having eight dorsal saddles compared to the speckled darter's six hourglass-shaped saddles.

Habitat: Cherokee darters typically inhabit small to medium-sized streams where they are found in association with gravel and cobble bed sediments. Cherokee darters may also occur in pools at the head or tail of riffles. The Cherokee darter is not found in streams with moderate or thick deposits of silt and sediment, as they require clean bed sediments for spawning. As with most darter species, the Cherokee darter requires moderate to swiftly flowing stream habitat, and it cannot survive in impoundments.

Diet: Benthic aquatic invertebrates.

Life History: Cherokee darters spawn from mid-March to late June at water temperatures of 11.5-18°C (52.7-64.4°F). Spawning typically occurs in runs and pools adjacent to riffles at depths less than 0.5 m (1.64 ft) with moderate velocities (often 0.1-0.4 m/sec (0.33-1.3 ft/sec)). Cherokee darters display spawning behaviors typical of other *Ulocentra*. The female searches for a suitable spawning substrate while the male pursues her, chasing away other males. The female typically selects large gravel or cobble-sized substrate, though bedrock or large wood may be used. She pecks at the surface with her mouth, possibly to further clean the site before the egg is attached. She then positions her ovipositor over the cleaned area, the male mounts her and they quiver. A single egg is attached to the substrate during a spawn, and it is not further acknowledged by the pair, although the substrate may be used for more than one spawn. In some cases, females have been observed to select a site, peck repeatedly at the substrate, and then disregard it to search for another location. This behavior may indicate that the substrate had too much sediment or algae to be a suitable spawning site, which would emphasize the need for clean spawning substrate. Life span of the Cherokee darter is unlikely to exceed 3-4 years.

Survey Recommendations: Cherokee darters can be collected using kick-seine methods, with or without the use of a backpack electrofisher, or they may be observed by snorkeling.

Range: The Cherokee darter is endemic to the Etowah River watershed within the upper Coosa River system in Georgia. Currently, this species is known from only about 20 small tributaries to the Etowah River. Populations of Cherokee darters exhibit a

fragmented pattern of disjunct populations upstream and downstream of Allatoona Reservoir. The three ESUs are geographically isolated and can be divided into upper, middle and lower regions of the Etowah system. The upper ESU is found in the Camp, Proctor, Palmer, Russell and Shoal Creek tributary systems, as well as in other unnamed tributaries to the Etowah River, primarily in Lumpkin and Dawson Counties. The downstream limit of the upper ESU is near the mouth of Shoal Creek (Dawson County). The middle ESU can be found between Yellow Creek (likely upstream limit) and two tributaries to Allatoona Reservoir: Kellog Creek (southern) and Sweetwater Creek (northern). Major tributary systems within the middle ESU include Long Swamp, Sharp Mountain, Canton, and Shoal (Cherokee County) Creeks. To date, the upstream-most collections of the lower ESUs have been in the Stamp Creek system and Allatoona Creek system, both now tributaries to Allatoona reservoir. The downstream ESU is also found in the Pettit, Pumpkinvine and Raccoon Creek systems. Raccoon Creek is the downstream-most limit of the lower ESU and of Cherokee darters more generally. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

Threats: As with the holiday darter, potential threats to the Cherokee darter are habitat loss due to excess silt and sediment runoff, reduced water quality and stream impoundment. Stream degradation results from failure to employ Best Management Practices (BMPs) for forestry and agriculture, failure to control soil erosion from construction sites and bridge crossings, and increased stormwater runoff from developing urban and industrial areas. Water development projects that impound streams, such as the Yellow Creek Reservoir and the newly constructed Hickory Log Creek reservoir, eliminate Cherokee darter populations; continued persistence of a population within those tributary systems will depend on the size of the upstream unimpounded area.

Georgia Conservation Status: Cherokee darters may be locally abundant within some tributary systems of the Etowah, but are very rare in other locations. Cryptic diversity among the ESUs of this species conservatively requires that each of the three forms be independently evaluated by managers; the ESUs are not substitutes for one another. Because Cherokee darters occur in small stream systems, stream degradation due to subdivision construction or reservoir construction, for example, can devastate a Cherokee darter population within a tributary system.

Conservation and Management Recommendations: Conserving populations of the Cherokee darter depends on maintaining or improving habitat quality in streams: eliminating sediment runoff from land disturbing activities, such as roadway and housing construction and logging activities, maintaining [forested buffers](#) along stream banks, eliminating inputs of contaminants, such as fertilizers and pesticides, and maintaining natural patterns of stream flow. Watershed clearing and urban development can lead to unnaturally flashy stormwater runoff that alters temperature regimes, scours stream channels, and reduces groundwater recharge resulting in lower baseflow conditions. For these reasons, infiltrating and slowly releasing stormwater runoff from developed areas is an important element in protecting stream habitats for fishes and other aquatic organisms. The Cherokee darter and other fishes that similarly depend on riffle habitats and clean spawning substrate are especially vulnerable to streamflow depletion because habitats

with swift currents that flush fine sediment are diminished at low flows. Impounding streams should be a last resort for developing water supplies in areas where the Cherokee darter occurs. Technical guidance on how to minimize the impacts of development on sensitive fishes is available through the [Etowah HCP website](#).

Selected References:

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Author of Account: Byron J. Freeman and Megan Hagler

Date Compiled or Updated:

B. Freeman-Original Account: 1999

K. Owers-Updates: January 27th, 2009 Added picture, updated status and ranks, added fish atlas link, converted to new format, minor edits to text

M. Hagler- Update original account, July 2009.

Z. Abouhamdan, April 2016: updated links



Male Cherokee darter (*Etheostoma scotti*) from Shoal Creek, Dawson Co. (Upper ESU)



Female Cherokee darter (*Etheostoma scotti*) from Rock Creek, Pickens Co. (Middle ESU)