



**Common Name:** BRIDLED DARTER

**Scientific Name:** *Percina kusha* Williams and Burkhead

**Other Commonly Used Names:** upland bridled darter, muscadine darter

**Previously Used Scientific Names:** *Percina* sp. cf. *macrocephala*

**Family:** Percidae

**Rarity Ranks:** G1/S1

**State Legal Status:** Endangered

**Federal Legal Status:** None

**Description:** A small, slender darter that reaches about 75 mm total length (3 inches). The sides are marked with 8-11 oval blotches that are fused into a continuous dark-brown to black lateral stripe. The stripe has undulating margins and terminates as a square-shaped spot that extends onto the base of the caudal fin rays. The dorsum is light brown and the belly is white or cream-colored. The sub-orbital bar is absent or weakly developed. Nuptial males have a dark basal band, an unpigmented medial band and a thin, dark marginal band in the first dorsal fin.

**Similar Species:** The bridled darter is very distinctive and unlikely to be confused with other *Percina* throughout most of its range. In the Coosawatee River system it may be confused with the goldline darter (*Percina aurolineata*), which differs in having a serrated preopercle margin and 1-3 pored lateral line scales extending onto the caudal fin base (vs. no serrations on preopercle and 1 or no pored lateral line scales extending onto the caudal fin in the bridled darter).

**Habitat:** The bridled darter inhabits small, clear rivers and the lower reaches of tributary streams. It is mostly found in flowing pools or runs and has been observed in association with a variety of substrates and cover types, including sand, gravel, cobble, bedrock, woody debris, aquatic plants, and detritus. Occupied streams generally have very good water quality. Annual,

seasonal, and diurnal shifts in habitat use have been documented for the population in the Conasauga River population.

**Diet:** Specimens from the Conasauga River have been observed picking immature aquatic insects from the drift and the stream bottom; gut content studies from the same population indicate consumption of blackfly larvae and mayfly nymphs. The closely related muscadine darter (*Percina smithvanizi*) is also known to feed on immature aquatic insects, such as blackflies, mayflies, and caddisflies.

**Life History:** Spawning has been observed in the Conasauga River during May and June in water temperatures ranging from 16-22 °C (61-72 °F). A male pairs with a single female during courtship and will attempt to chase away other males trying to intrude during the spawning act. Courtship behavior has been observed in sandy areas, where the eggs are probably buried. The collection of gravid females from the Conasauga River system suggests relatively low fecundity (mean = 75 ova). Length frequency data suggest a lifespan of about 3 years.

**Survey Recommendations:** Since this species is usually found in clear waters, snorkeling is a very good method for determining presence or absence. The bridled darter is often found in low numbers, and it may be necessary to sample a site repeatedly in order to determine presence.

**Range:** The bridled darter is endemic to the Coosa River system in Georgia and Tennessee, but nearly all of its range occurs within Georgia. Populations occur in three main areas: the upper Conasauga River and tributaries; Talking Rock Creek (Coosawattee River system) and the upper Etowah River and tributaries (e.g., Amicalola Creek, Cochran Creek, Long Swamp Creek, Shoal Creek). Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

**Threats:** Limited geographic range and the species' restriction to clear flowing pools in medium-sized rivers make the bridled darter vulnerable to habitat degradation. Land disturbance associated with residential and urban development in the north Georgia mountains could threaten populations, especially in the upper reaches of the Etowah River and Long Swamp Creek where development is imminent. Failure to follow agricultural best-management practices is a threat to the Conasauga River population.

**Georgia Conservation Status:** This species has very small populations and very limited range within each of the three areas (Etowah River, Conasauga River, and Talking Rock Creek). In their description of this species, Williams et al. (2007) considered the bridled darter to be an endangered species. Public lands in the headwaters of the Etowah and Conasauga river systems provide partial but not complete protection for these two populations.

**Conservation and Management Recommendations:** Conserving populations of the bridled darter will require general watershed-level conservation and restoration practices. Implementation of the Etowah Habitat Conservation Plan should decrease the risk of extirpation associated with the high development pressures in this system. Continued incentives to help farmers implement best-management practices could improve instream habitat in the Conasauga

River system by decreasing sediment, nutrient, and chemical runoff and increasing riparian forest cover.

**Selected References:**

Boschung, H. T. and R. L. Mayden. 2004. Fishes of Alabama. Smithsonian Books, Washington D.C.

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Johnson, C.E., Kleiner, K.J. & Herrington, S.J. 2002. Seasonal, diel, and spawning habitat of the rare muscadine darter (*Percina* sp.) in the Conasauga River, Georgia. Southeastern Fishes Council Proceedings 44: 1-11.

Williams, J.D., D. A. Neely, S.J. Walsh, and N.M. Burkhead. 2007. Three new percid fishes from the Mobile Basin drainage of Alabama, Georgia, and Tennessee. Zootaxa 1549: 1–28.

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