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**Common Name:** MUSCADINE DARTER

**Scientific Name:** *Percina smithvanizi* Williams and Walsh

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

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

**Family:** Percidae

**Rarity Ranks:** G2G3/S2

**State Legal Status:** Rare

**Federal Legal Status:** none

**Description:** A slender darter reaching up to 75 mm (3 in) in total length, the muscadine darter is marked with 8-11 black, rounded blotches on the sides that merge into a lateral stripe and an off-center black blotch at the base of the caudal fin. The upper sides and dorsum are pale brown with irregular darker brown markings, contrasting with the pale venter. The brown to black lateral stripe continues as a stripe through each eye and onto the snout. The first dorsal fin is narrowly edged in black and has a black basal band. The lateral line is complete, but pored scales typically do not extend onto the caudal fin. Gill membranes are narrowly joined or separate.

**Similar Species:** The blackbanded darter (*Percina nigrofasciata*) differs from the muscadine darter in having vertically elongate (vs. rounded) lateral blotches and having moderately connected (vs. narrow or separate) gill membranes. The bronze darter (*Percina palmaris*) has two rounded pale marks at the base of the caudal fin, more vertically oriented lateral blotches, and bright breeding coloration.

**Habitat:** The muscadine darter inhabits larger streams such as the mainstem Tallapoosa and Little Tallapoosa rivers, as well as smaller tributary streams (e.g., Walker Creek, Beach Creek, etc.). Preferred habitats within these streams include riffle and flowing pool areas, in moderate to swift currents over sand, gravel and cobble substrates.

**Diet:** Aquatic invertebrates.

**Life History:** Spawning occurs between late March and July, when water temperatures range 12-15 °C (54-59 °F). Aging by scales indicates a life span of two to three years, with reproduction beginning at age 1. Unlike many darters that forage almost exclusively on benthic prey, these darters forage on the stream bottom and also hover above the bottom, capturing animals drifting in the current.

**Survey Recommendations:** This species is typically captured by seine or by backpack electrofishing. Visual observation techniques may also be effective in streams with good water clarity.

**Range:** The muscadine darter occurs in the Tallapoosa River system above the Fall Line in Alabama and Georgia and occupies both mainstem and tributary streams. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

**Threats:** Impoundment of the Tallapoosa River upstream from Harris Dam in Alabama would destroy habitat and fragment populations in the upper Tallapoosa River system. As a riffle-dwelling drift feeder, the muscadine darter will not persist in reservoir habitats. A recent study found that the occurrence of muscadine darters is strongly and positively associated with the percentage of forest cover in the watershed, suggesting vulnerability to future land use change associated with the westward expansion of metropolitan Atlanta.

**Georgia Conservation Status:** Although the global range of the muscadine darter is restricted to the Tallapoosa River system upstream of the Fall Line, it is relatively widespread within this range. A recent study documented 33 (40% of surveyed sites) and 11 (55% of surveyed sites) collections between 1991 and 2002 in the Georgia portion of the Tallapoosa and Little Tallapoosa systems, respectively.

**Conservation and Management Recommendations:** Conserving populations of the muscadine darter depends on maintaining and improving stream habitat quality by eliminating sediment runoff from land-disturbing activities (such as roadway and housing construction), maintaining and restoring 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, which scours stream channels and results in lower baseflows. For these reasons, promoting natural infiltration of stormwater runoff from developed areas is an important element in protecting stream habitats for fishes and other aquatic organisms. Impounding streams should be a last resort for developing water supplies.

#### **Selected References:**

Boschung, H. T. and R. L. Mayden. 2004. The Fishes of Alabama. Smithsonian

Institute, Washington,. 736 pp.

Etnier, D. A. and W.C. Starnes. 1993. The fishes of Tennessee. Univ. Tennessee Press, Knoxville. 681pp.

Freeman, M.C., J.T. Peterson, E.R. Irwin, and B.J. Freeman. 2004. Distribution and status of at-risk aquatic taxa in the Upper Tallapoosa River System, Georgia and Alabama. Final Report to U.S. Fish and Wildlife Service.

Mettee, M. F., P. E. O'Neil and J. M. Pierson. 1996. Fishes of Alabama and the Mobile Basin. Oxmoor House, Birmingham. 820pp.

Page, L. M. and B. M. Burr. 1991. A field guide to freshwater fishes of North America north of Mexico. Houghton Mifflin, Boston. 432pp.

Wieland, W. and J. S. Ramsey. 1987. Ecology of the muscadine darter, *Percina sp. cf. P. macrocephala*, in the Tallapoosa River, Alabama, with comments on related species. Proc. Southeastern Fishes Council 17: 5-11.

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.

**Author of Account:** Byron J. Freeman

**Date Compiled or Updated:**

B. Freeman, 1999: original account

K. Owers, Jan 2009: updated status and rank, added fish atlas link, converted to new format, minor edits to text

B. Albanese, December 2009: added similar species, conservation status, and picture. Incorporated information from new references and removed information based on the bridled darter (*Percina kusha*).

Z. Abouhamdan, April 2016: updated link