



**Common Name:** AMBER DARTER

**Scientific Name:** *Percina antesella* Williams and Etnier

**Other Commonly Used Names:** none

**Previously Used Scientific Names:** none

**Family:** Percidae

**Rarity Ranks:** G1G2

**State Legal Status:** Endangered

**Federal Legal Status:** Endangered

**Description:** The amber darter is distinct from other all other darters in the upper Coosa River System in having four dark saddles that contrast with a golden brown dorsum. The saddles may be narrowly haloed by a light greenish margin. The sides are marked with indistinct, small brown blotches. The belly and underside of the head are generally light in color, but often a faint blue coloration is present on the underside of the head. The snout is pointed, and a wide, dark teardrop extends below the eyes. The fins are mostly clear with faint banding on the dorsal, pectoral and caudal fins. Breeding males develop tubercles on the anal, caudal and paired fins, belly and caudal peduncle. In adults, males have an elongate anal fin that may be used to distinguish them from females. This slender darter reaches a maximum standard length of 63 mm (2.5 inches).

**Similar Species:** Amber darters are distinctive in appearance from all other darters in the Upper Coosa River System, except possibly the trispot darter (*Etheostoma trisella*). Trispot darters have three dark dorsal saddles over a dusky brown body, compared to amber darter's four saddles over a light or orangish-brown body, and in both species the first dorsal saddle is in front of the first dorsal fin. Trispot darters are shorter (maximum

standard length 45mm) and stockier with a more rounded snout. During spawning season, male trispot darters have red and blue bands in the dorsal fins, orange sides and belly and a row of small blue blotches on the sides. Other unrelated species of fishes living over gravel sediments such as juvenile Alabama hogsuckers and banded sculpins have prominent dorsal saddles, but can be distinguished by a number of other characters.

**Habitat:** Amber darters are found in the mainstems of the Conasauga and Etowah Rivers and the downstream reaches of two large tributaries to the Etowah River. Amber darters occur in riffles or shoals with cobble and gravel, and moderate to swift currents, typically 30-70cm/sec. They are often found in shoals with the submerged aquatic macrophyte, riverweed (*Podostemum ceratophyllum*). Amber darters rarely occur in very shallow (<20cm) or low-velocity (<10 cm/sec) areas, or areas with accumulated silt. The color patterns formed by the amber darter's dark dorsal saddles against the lighter dorsum serve well as camouflage over gravel streambed sediments. Amber darters burrow into loose gravel and sand, possibly to hide from predators.

**Diet:** Snails, limpets and immature aquatic insects such as midge, blackfly and caddisfly larvae.

**Life History:** Details of amber darter spawning season conditions and behavior have not been documented in the field. Spawning likely occurs in late winter and spring, based on collections of gravid females during these times. Laboratory observations of spawning document that females, mounted by males, bury their eggs in gravel sediment. Closely related species, such as the snail darter (*Percina tanasi*) and river darter (*P. shumardi*), have a drifting larval stage; newly hatched young emerge from the gravel and drift downstream from riffle spawning sites. The larvae presumably occupy lower velocity habitats while they complete development. Juveniles less than 20 mm in length return to the riffle habitats occupied by adults. Amber darter larvae may similarly occupy pool or edge-pool habitats near riffles; juveniles appear in riffles during summer.

**Survey Recommendations:** Amber darters can be difficult to collect because of their rarity and relatively low abundance. Seining over gravel areas is an effective sampling approach. Backpack electrofishing is discouraged due to the increased risk of incidental mortality.

**Range:** Endemic to the upper Coosa River System in Georgia and southeastern Tennessee, the amber darter was first discovered in 1948 in Shoal Creek (Cherokee County, Georgia), a tributary to the Etowah River that now flows into Allatoona Reservoir. Subsequent collection efforts in the Etowah River system yielded only a single specimen until the early 1990s, when amber darters were discovered at eight localities in the mainstem Etowah River upstream of Allatoona Reservoir and in the lower portion of Sharp Mountain Creek (a tributary to the Etowah River in Cherokee County). In June 1993, the amber darter was rediscovered in the lower portion of Shoal Creek, upstream from the 1948 locality and just above the area influenced by the Allatoona Reservoir. More recently, the amber darter has been found along the Etowah River from near the mouth of Amicalola Creek downstream to Canton, GA. The amber darter also occurs in an approximate 55 km reach of the Conasauga River, from the

vicinity of the U.S. 411 bridge in Polk County, TN to the vicinity of Browns Bridge Road outside of Dalton, GA (Murray and Whitfield Counties). A single amber darter was collected in the Coosawattee River, downstream of Carter's Lake Reservoir, in 2010. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

**Threats:** Amber darters are vulnerable to loss of quality habitat resulting from suburban and urban development in the Etowah watershed and parts of the Conasauga watershed, as the human population is rapidly increasing. Suburban development remains fairly restricted in the upper Conasauga system, where non-point source pollution from agricultural lands may be significant. Stream degradation results from failure to employ Best Management Practices (BMPs) or otherwise inhibit upland runoff in forestry and agriculture, failure to control soil erosion from upland housing, commercial and road construction, and increased stormwater runoff from impervious areas. Water-supply reservoirs constructed on tributaries and off-stream that discharge to the mainstems of the Etowah or Conasauga could significantly alter water flow and thermal regimes in main channel riffles that provide habitat for amber darters. Potential point sources of contaminants include landfills adjacent to the Etowah River in Forsyth and Cherokee Counties within the amber darter's range.

**Georgia Conservation Status:** Annual surveys over the last decade suggest a small but stable population of amber darters in the Etowah River, while their total abundance may be declining in the Conasauga River. The apparent decline in abundance of amber darters in the Conasauga River has coincided with loss or decline of several other fish species (e.g., the Coosa madtom (*Noturus sp.c f. N. munitus*), Coosa chub (*Macrhybopsis sp. cf. M. aestivalis* and tricolor shiner (*Cyprinella trichroistia*)), decline in riverweed, and an apparent increase in algal production. Status of the amber darter population in the Conasauga River is of continuing concern. Current status of the population in Shoal Creek (Cherokee County), which is isolated from the larger Etowah River population by Allatoona Reservoir, is not known. As the Etowah and Conasauga Rivers harbor the only known populations of amber darters, the persistence of the species depends upon maintaining and improving conditions there.

**Conservation and Management Recommendations:** Conserving the amber darter and other unique aquatic resources of the upper Coosa River system depends on maintaining habitat quality in the upper Etowah River (upstream from Allatoona Reservoir) and upper Conasauga River (upstream of Dalton, GA), and ultimately improving habitat and water quality in the lower portions of those systems. Amber darters and other species that depend on mainstem rivers are particularly vulnerable because there is no suitable refuge should conditions in the river deteriorate. Conditions in the tributaries directly and strongly influence conditions in the river, thus long-term viability of amber darter populations will require watershed-scale land-use management that protects the entire system. Eliminating runoff of upland sediment from land-disturbing activities, such as roadway and housing construction, and runoff of contaminants (e.g., fertilizers, other nutrients, pesticides, heavy metals, and surfactants) from impervious surfaces or suburban and agricultural areas, is critical to protecting aquatic resources. [Forested buffers](#) should be maintained along stream banks to aid in protecting water quality.

Stream buffers are essential, but offer inadequate water quality protection where surface runoff is directed to bypass buffered areas, (e.g., where stormwater or other surface drains are in place to accelerate upland runoff to streams). Protecting riverine habitat quality will require maintaining natural patterns of stream flow by avoiding excessive water withdrawal, depleted base-flows, and unnaturally flashy runoff, as results in urban areas with relatively high impervious surface cover. The amber darter and other fishes that depend on riffle habitats are especially vulnerable to stream flow depletion because habitats with swift currents are diminished at low flows. Technical guidance on how to minimize the impacts of development on sensitive fishes is available through the [Etowah HCP website](#).

### **Selected References:**

Freeman, B. J., and M. C. Freeman. 1994. Habitat use by an endangered riverine fish and implications for species protection. *Ecology of Freshwater Fish* 3: 49-58.

Lee, S. L., C. R. Gilbert, C. H. Hocutt, R. E. Jenkins, D. E. McAllister, and J. R. Stauffer. 1980. Atlas of North American fishes. North Carolina State Mus. Nat. Hist. 867pp.

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

Starnes, W. C. 1977. The ecology and life history of the endangered snail darter *Percina (Imostoma) tanasi* Etnier. Tenn. Wildl. Res. Agency, Tech. Rep. No. 77-52.

U. S. Fish and Wildlife Service. 1985. Endangered and threatened wildlife and plants; determination of endangered status and of critical habitat for the amber darter and the Conasauga logperch. Federal Register 50(150): 31597-31603.

Williams, J. D., and Etnier, D. A. 1977. *Percina (Imostoma) antesella*, a new percoid fish from the Coosa River system in Tennessee and Georgia. Proc. Biol. Soc. of Washington 90: 6-18.

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### **Date Compiled or Updated:**

B. Freeman, 1999: Original account.

M. Hagler, May 2009: Update of original account.

B. Albanese, May 2010: Updated range. Added Coosawattee photos.

Z. Abouhamdan, April 2016: updated links





