Common Name: TRISPOT DARTER

Scientific Name: *Etheostoma trisella* Bailey and Richards

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Percidae

Rarity Ranks: G1/S1

State Legal Status: Endangered

Federal Legal Status: none

Description: This is a small darter reaching up to 59 mm (2.3 in) maximum total length, with pale yellow-brown coloration, white on the belly and underside of the head, a dark suborbital bar (teardrop) and three dusky saddles across the dorsum. Breeding males (above photo) develop orange to red color that is especially bright on the underside of the fish, 4-5 iridescent green lateral blotches, and an orange band in the first dorsal fin. A female and a non-breeding adult are shown at the bottom of the account.

Similar Species: Trispot darters are distinctive in appearance from all other darters in the Upper Coosa River basin, except possibly the amber darter (*Percina antesella*). Trispot darters have three dark dorsal saddles over a dusky brown body, compared to amber darter's four saddles over a light or orange-brown body. Amber darters are larger (maximum total length 80mm or 3.1 in) and have a more pointed snout. During the spawning season, male trispot darters develop bright coloration and banding in the fins,

while male amber darters develop small tubercles.

Habitat: Trispot darters are found in shallow (less than 1.5 ft (0.46 m)) main channel habitats of larger streams, and in smaller tributary streams. Adults usually occur over cobble, gravel and sand substrata, often near aquatic vegetation such as clumps of water willow (*Justicia americana*).

Diet: Aquatic invertebrates such as midge larvae and mayfly nymphs.

Life History: The trispot darter requires two distinct, interconnected habitats to complete its life cycle. Non-breeding adults occupy low velocity (e.g., <35 cm/sec) habitats, including backwaters and edgewater pools (often at the shallow edges of faster riffles), in the Conasauga River and larger tributaries. Beginning in late autumn, mature adults move up into small streams to spawning areas. Spawning may occur from January through March, and may require the higher, more stable winter water temperatures found in streams fed by groundwater. At least one known spawning area is heavily vegetated with aquatic plants. The brightly colored males court females in these small streams; females mounted by males broadcast eggs that attach to plants or rocks. Later in the spring, the juveniles and adults return to main channel habitats in larger streams. Maximum life span appears to be 3 years, and most spawning individuals are 1 year old.

Survey Recommendations: Trispot darters are easily collected using a seine.

Range: The trispot darter is endemic to the upper Coosa River system in Georgia, Alabama and southeastern Tennessee. The trispot darter was described from a single specimen collected from Cowans Creek (Cherokee County), and the Coosa River approximately 8 air-miles southwest of Gadsden, Al. - both areas are now impounded by reservoirs. The Trispot darter was thought to be extirpated from Alabama until a startling discovery in late 2008 revealed an unknown population on protected forest land east of Gadsden AL. In Tennessee, the species occurs in the Conasauga River near the Georgia-Tennessee boundary, and in Mill Creek, Sugar Creek and Coahulla Creek, all tributaries to the Conasauga. In Georgia, the trispot darter occurs in: the Conasauga River and some of its tributaries, including Swamp Creek, Holly Creek, Coahulla Creek, Mill Creek (Whitfield County), and Sugar Creek; the Coosawattee River and three tributaries below Carters Reservoir (Gordon County); and tributaries to the Oostanaula River system, including Johns Creek (Floyd County). Check the Fishes of Georgia Webpage for a watershed-level distribution map.

Threats: The greatest threat to the trispot darter is habitat loss and degradation, including loss of access to spawning areas in seepage streams. Dams built on tributary streams and springs and dredging or filling in small seepage streams could eliminate spawning habitat for the trispot darter. Droughts or excessive water withdrawal which de-water spring runs could also lead to reproductive failure.

Georgia Conservation Status: Over the last decade, the trispot darter has been most frequently encountered in the Conasauga River, proper. Despite recent changes in the

Conasauga River that indicate declining conditions, such as declines or apparent loss of some fish species (e.g., the Coosa chub (*Macrhybopsis sp. cf. M. aestivalis* and Coosa madtom (*Noturus sp. cf. N. munitus*)), decline in the aquatic macrophyte, riverweed, and an apparent increase in algal production, the numbers of trispot darters collected has remained stable. A 2010 survey of the mainstem Coosawattee River, downstream of Carter's Reservoir, documented the trispot darter at 5 sites. Much less is known about the status of the trispot darters populations occurring in the Oostanaula river system.

Conservation and Management Recommendations: The Coosa River system in Alabama, Georgia and southeastern Tennessee currently harbors the only known populations of the trispot darter. Conserving this species in the upper Coosa will require protecting habitat quality in main channel and small tributary streams by eliminating sediment runoff from upland construction, maintaining or enhancing forested buffers along stream banks, eliminating inputs of contaminants, such as fertilizers or other nutrients and pesticides, and maintaining natural patterns of stream flow. New barriers to movement between feeding and breeding habitats, such as perched culverts and small impoundments, should be avoided and existing barriers should be removed or retrofitted for fish passage when possible. Small streams like those used for spawning by the trispot darter may frequently be overlooked as important habitats for rare aquatic species and may be degraded by relatively small-scale construction activities. Care must be taken to protect both small streams and the rivers that this species occupies throughout its life.

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Author of Account: Byron J. Freeman and Megan Hagler

Date Compiled or Updated:
B. Freeman,1999: original account

K. Owers, Jan, 2009: Added picture, updated status and ranks, added fish atlas link, converted to new format, minor edits to text
M. Hagler, July 2009: general update of account.
B. Albanese, March 2010: added info from 2010 Coosawattee Survey
Z. Abouhamdan, April 2016, updated links

Female trispot darter.

Unsexed trispot darter