



Common Name: COOSA MADTOM

Scientific Name: *Noturus undescribed species*

Other Commonly Used Names: Frecklebelly madtom

Previously Used Names: *Noturus munitus*, *Noturus sp. cf. N. munitus*

Family: Ictaluridae

Rarity Ranks: G3/S1

State Legal Status: Endangered

Federal Legal Status: none

Description: The Coosa madtom is an undescribed species in the subgenus *Rabida*, closely related to the frecklebelly madtom (*Noturus munitus*). This small catfish, which grows to 99 mm (3.9 in) total length, displays striking yellow and brown coloration. Four dark saddles cross the yellow dorsum. Black pigment speckles the sides, belly and barbels. The fins are yellow with dark bands; the rounded caudal fin has two distinct dark bands. As in all madtom catfishes (genus *Noturus*), the entire length of the adipose fin is joined to the dorsum. The Coosa madtom has spines at the front of the dorsal and pectoral fins that can deliver painful jabs to a careless handler, similar to most other catfishes. The large pectoral spines of the Coosa madtom have 6-10 well-developed serrations (teeth or barbs).

Similar Species: The speckled madtom (*Noturus leptacanthus*, subgenus *Shilbeodes*) is the only other madtom species found in the upper Coosa River basin in Georgia. The Coosa madtom can be distinguished from the speckled madtom by the yellow and brown saddle pattern, which is characteristic of the subgenus *Rabida*.

Habitat: The Coosa madtom occurs in swift flowing riffles or shallow runs at depths of typically 20-50 cm, often with the submerged aquatic macrophyte, riverweed (*Podostemum*

ceratophyllum), and with moveable coarse gravel to cobble bed sediments.

Diet: No dietary studies have been conducted for the Coosa madtom, but the diet of the closely related frecklebelly madtom consists primarily of caddisfly and mayfly larvae and to a lesser extent, midge and blackfly larvae.

Life History: Little is known about this small catfish, which may live about 4 years. Spawning may occur in late spring and summer. Females deposit eggs in protected cavities, sometimes including discarded soda cans or bottles. Males typically guard the nests and eggs until the fry hatch and disperse. This species likely feeds primarily at night and hides beneath cobbles or among gravel during the day. Captive Coosa madtoms have been observed burying in sandy sediments when disturbed, a behavior they may also exhibit in the wild. Recruitment of young-of-year may be impacted by stream flow pattern, as more young-of-year have been collected in fall samples in years with relatively higher variability of spring flows and low variability of summer flows. However more data is needed to understand the relationship between stream flow and juvenile recruitment.

Survey Recommendations: The Coosa madtom is believed to be active at dawn, dusk and at night and therefore may be easiest to detect during these time periods. Nighttime snorkeling or seining may be a preferred approach, although daytime seining can be successful. Electrofishing is discouraged due to the increased risk of mortality to this rare species and others that occupy similar habitat.

Range: The Coosa madtom is endemic to the upper Coosa River basin in northwest Georgia southeastern Tennessee (just barely). Coosa madtoms are almost completely restricted to the mainstems of the Etowah and Conasauga Rivers; they have been collected near the mouth of Amicalola Creek, a major Etowah River tributary. Coosa madtoms occur in an 85 km reach of the Etowah River that extends from upstream of Allatoona Reservoir (Cherokee County) to just upstream of GA Hwy 136 (Dawson County). In the Conasauga River, Coosa madtoms are known from a 40 km reach between the mouth of Coahulla Creek and TN Hwy 74/GA Hwy 225. However, despite intensive surveys, no individuals have been collected in the Conasauga River since 2000. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

Threats: Coosa madtoms 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 Coosa madtoms. Potential point sources of contaminants include landfills adjacent to the Etowah River in Forsyth and Cherokee Counties.

Georgia Conservation Status: Annual surveys over the last decade suggest a small but stable population of Coosa madtoms in the Etowah River, while the population in the Conasauga River may be lost or restricted and too small to be easily detected. The Coosa madtom was last documented in the Conasauga River in 2000 when a single individual was collected near Tibbs Bridge (Murray-Whitfield County, Georgia). The decline of Coosa madtoms in the Conasauga River has coincided with loss or decline of several other fish species (e.g., the Coosa chub, (*Macrhybopsis* sp. cf. *M. aestivalis* and tricolor shiner, *Cyprinella trichroistia*), decline in riverweed, and an apparent increase in algal production. The status of the Coosa madtom population in the Conasauga River is a major concern for the survival of the species. As the Etowah and Conasauga Rivers harbor the only known populations of the Coosa madtom, the persistence of the species depends upon maintaining and improving habitat conditions in both systems.

Conservation and Management Recommendations: Conserving the Coosa madtom 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. Coosa madtoms and other species that depend on 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 rivers, thus long-term viability of Coosa madtom 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, such as fertilizers and other nutrients, pesticides, heavy metals, and surfactants is critical to protecting aquatic resources. [Forested buffers](#) should be maintained and enhanced 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 the maintenance of natural patterns of stream flow by minimizing water withdrawals, new impoundments, and impervious cover. The Coosa madtom 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](#).

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Author of Account: Byron J. Freeman, Christina Baker and Megan Hagler

Date Compiled or Updated:

B. Freeman, 1999: original account

K. Owers, Jan 2009: Added picture, updated status and ranks, converted to new format, minor edits to text

C. Baker and M. Hagler, July 2009: general update of account

Z. Abouhamdan, April 2016: updated links