



Common Name: BLOTCHED CHUB

Scientific Name: *Erimystax insignis*

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cyprinidae

Rarity Ranks: G3G4/S2

State Legal Status: Endangered

Federal Legal Status: none

Description: Chubs are a group of minnows that are represented by nine genera. The blotched chub is a small silvery chub with a large upward-directed eye, a blunt nose overhanging an inferior mouth, and single large barbels located at each corner of the mouth. Blotched chubs are very distinctive in having 6-9 large rectangular-shaped blotches along the mid-side of the body. The maximum total length is 10 cm (4 in). The species epithet *insignis* means remarkable and is in reference to the prominent blotches.

Similar Species: The bigeye chub (*Hybopsis amblops*) also has large eyes and barbels, but is not marked with prominent lateral blotches.

Habitat: The blotched chub lives in moderate-sized creeks and small upland rivers, usually in riffles and runs with coarse, rocky substrates (e.g., gravel, cobble, bedrock).

Diet: Large amounts of periphyton and aquatic insect larvae, especially fly larvae and mayfly larvae.

Life History: Most blotched chub reach sexual maturity at age 1. Spawning occurs when the water

temperature approaches 15 °C (59 °F), usually in mid April to May, sometimes lasting into early June when temperatures may reach 25 °C (77F). Spawning has been observed in relatively deep water (50-80 cm) over rocky substrates and involves rapid vibrations of the spawning pair. Young utilize slow-current shallow areas before moving into riffle and run habitats used by all other sizes. Males display nuptial tubercles. The life span is about 2.5 years.

Survey Recommendations: This species can be surveyed using underwater observation methods or by backpack electrofishing. Both methods were employed at 9 sites sampled on the Toccoa River in 2008 and blotched chubs were detected at the same three sites using both methods. The same study found that the probability of detecting a blotched chub during a snorkel survey (64%) was relatively low compared to both tangerine darters (99%) and wounded darters (95%), suggesting that snorkel surveys may underestimate the true number of sites occupied by this species.

Range: The blotched chub occurs throughout the Tennessee and Cumberland river drainages in several southeastern states, but most of its range is in Tennessee. In Georgia, this species is known from the Toccoa, Nottely, and Hiwassee river systems in Fannin, Union, and Towns counties: most records are from the mainstem Toccoa and Nottely rivers and from Brasstown Creek. All of these streams are within the Blue Ridge physiographic province. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

Threats: The blotched chub depends on good water quality and fast-water habitats in upland streams. Impoundments have reduced available habitat for the blotched chub, and remaining free-flowing mountain streams are vulnerable to degradation by excessive inputs of silt and sediment. Stream degradation results from failure to employ Best Management Practices (BMPs) for forestry and agriculture, failure to control soil erosion from construction sites and bridge crossings, and increased stormwater runoff from developing urban and industrial areas. Increasing development of houses utilizing poor construction and riparian management practices poses a significant threat to the blotched chub in the Toccoa, Nottely, and Hiwassee river systems. Finally, hemlock wooly adelgid is an additional threat to aquatic habitats in this region.

Georgia Conservation Status: Twenty-nine randomly selected sites, located upstream and downstream of Lake Blue Ridge on the mainstem Toccoa River, were surveyed by snorkeling during summer 2008. The blotched chub was observed at 12 of these sites (41%), all of which were located upstream of Lake Blue Ridge. Since there is no historic data for comparison, this occupancy rate may serve as a baseline from which to evaluate future changes in population status. Despite extensive sampling, the last records of the blotched chub in the Nottely River system and Brasstown Creek were documented in the 1990s.

Conservation and Management Recommendations: Conserving populations of the blotched chub will require maintaining and improving habitat quality in the Toccoa River and the other streams within the Hiwassee River system by eliminating sediment runoff from land-disturbing activities (such as roadway and housing construction), maintaining forested buffers along stream banks, eliminating inputs of contaminants (such as fertilizers and pesticides), and maintaining natural patterns of streamflow. There are many opportunities to enhance and widen riparian zone habitats by [planting native trees and shrubs](#) along creeks and streams. The [Georgia Forestry](#)

[Commission](#) provides information on treatment options for hemlock wooly adelgid. Finally, ongoing monitoring efforts should be continued for this species.

Selected References:

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Author of Account: Byron J. Freeman and Brett Albanese

Date Compiled or Updated:

B. Freeman, 1999: original account

K. Owers, January 27th, 2009: Added picture, updated status and ranks, added fish atlas link, converted to new format, minor edits to text

B. Albanese, April 24, 2009: general update of entire account.

Z. Abouhamdan, April 5, 2016 : updated links