



Common Name: STARGAZING MINNOW

Scientific Name: *Phenacobius uranops* Cope

Other Commonly Used Names: none

Previously Used Scientific Names: none

Family: Cyprinidae

Rarity Ranks: G4/S1

State Legal Status: Threatened

Federal Legal Status: none

Description: The stargazing minnow is a very long, slender, silvery fish with small scales and a prominent snout overhanging a sucker-like mouth. It attains a maximum total length of about 120 mm (4.7 in). There are five species in this distinctive genus, which also includes the fatlips minnow (*P. crassilabrum*) and the riffle minnow (*P. catostomus*) in Georgia. The stargazing minnow is olive dorsally with a brassy mid-dorsal stripe. The prominent mid-lateral stripe is variously flecked with silver to metallic blue and is narrower than that of the fatlips minnow. The lower portion of the body is white, and the pelvic and anal fins are yellowish-olive to white. The dorsal, caudal, and pectoral fins are light olive. The stargazing minnow exhibits no sexually dimorphic coloration. The name "stargazing" refers to the upward tilt of the eyes.

Similar Species: This species is very similar to other members of *Phenacobius*, but none of these co-occur with the stargazing minnow in Georgia. The bigeye chub (*Hybopsis amblops*) may appear similar and is often co-occurring. In contrast to the stargazing minnow, the bigeye chub has a less-elongated body and does not have fleshy, sucker-like lips. The stargazing minnow can be separated from members of the sucker family (Catostomidae) by having an anal fin that is located closer to the pelvic fins than the caudal fin (vs. an anal fin that is located much closer to the caudal fin).

Habitat: This species prefers riffles and shallow runs in moderately sized streams and

small to medium rivers. It is found in warmwater streams with clean gravel and small cobbles. Younger fish have been collected from more slowly-flowing habitats.

Diet: Primarily benthic aquatic insects, especially fly and caddisfly larvae.

Life History: Stargazing minnows spawn from late April to early June in Virginia, according to results of collections of individuals in spawning condition during those months. Individuals in spawning condition have been collected in the same macrohabitat as they are found in during the rest of the year, so presumably spawning also occurs in gravel-cobble riffles and runs. Life span is estimated to be about two years, due to the absence of individuals two years of age after the spawning season. These minnows have been observed foraging in groups of 10-20 individuals, sometimes in association with other fishes such as chubs. They feed during daylight hours and use their sensitive lips to find food on top of and around rocks.

Survey Recommendations: This species is vulnerable to kick-seining and backpack electrofishing upstream of a stationary net.

Range: The stargazing minnow occurs in the Tennessee, Cumberland, and Green river drainages of Alabama, Georgia, Kentucky, Tennessee, and Virginia. It occurs within the Ridge and Valley and Highland Rim physiographic provinces, but does not occur within the Blue Ridge. The stargazing minnow has been collected in Georgia in the West and South Chickamauga creek systems in Catoosa County. Check the [Fishes of Georgia Webpage](#) for a watershed-level distribution map.

Threats: All fishes that are dependent upon clean gravel substrates are vulnerable to changes in habitat from excessive sedimentation. Several species of fishes have apparently been extirpated from the West and South Chickamauga creek systems. Although stargazing minnows are found in streams and habitats that may currently have some slight amount of silt, the clear preference for non-silty gravel-dominated substrates suggests that they may be vulnerable to habitat modification. Main potential threats to the stargazing minnow in Georgia are degradation of tributary streams and the mainstems of South Chickamauga and West Chickamauga creeks. Stream degradation resulting 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 further threatens the stargazing minnow.

Georgia Conservation Status: The stargazing minnow is only known from a handful of sites in the West and South Chickamauga Creek systems. The species is known from relatively recent collections (i.e., post 2000) in both systems, although collections typically comprise only a few individuals.

Conservation and Management Recommendations: Conserving populations of the stargazing minnow depends on maintaining and restoring habitat and water quality in streams in the South and West Chickamauga creek systems. It is essential to eliminate

sediment runoff from land-disturbing activities (such as roadway and housing construction), maintain forested buffers along stream banks, eliminate inputs of contaminants (such as fertilizers and pesticides), eliminate chronic discharges of industrial effluent and sewage, and maintain natural patterns of stream flow. Watershed clearing and urban development can lead to unnaturally flashy storm water runoff, which scours stream channels and results in lower baseflows. For these reasons, practices that promote infiltration of runoff will help protect the stargazing minnow.

Selected References:

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Date Compiled or Updated:

- B. Freeman, 1999: original account
- K. Owers, Jan 2009: updated status and ranks, added fish atlas link, converted to new format, minor edits to text
- B. Albanese, July 2009: Added picture, similar species and conservation status, general update of account.
- Z. Abouhamdan, April 2016: updated link