



Hornyhead Chub



CANDIDATE

The Real Hornyhead Chub

by Rob Criswell photos by the author

Horned Chub or Hornyhead Chub—This confusing cluster of names has been applied or more often misapplied to a small group of interesting minnows that occurs in Pennsylvania. Some anglers who seine up a spawning Central Stoneroller, with its head and body festooned with sharp, raspy knobs, believe they have caught this fish. Others think it is the River Chub, who has a swollen “helmet head” and spikes similar to those on the head of the stoneroller. Most Pennsylvanians, including those who spend an extensive amount of time on our waterways, have never seen the true owner of this strange appellation.

That’s because the Hornyhead Chub (the correct common name) is one of our most rare species of fish, and it is a candidate for listing as threatened or endangered. A victim of siltation, pesticide applications and a drop in normal flow rates in creeks it once inhabited, this medium-sized minnow now hangs on in small populations in only two streams, both in the northwest section of Pennsylvania.

This chub requires relatively clear, small to medium-sized creeks with stony bottoms, and most importantly, gravel. It prefers slower riffles and runs, in combination with some pools that have escape cover consisting of jumbles of rock, downed trees or other woody debris. Our two populations survive in a stream that is less than 10 yards wide in most places and another that may be 20 to 30 yards wide.

Males begin to grow their tubercles in the spring, in anticipation of the spawning season that may last until the end of July. Their first order of business is the construction of nests. Unlike many fish that simply spawn over gravel or some other bottom material, or that fan out shallow nests, Hornyhead Chubs and River Chubs belong to a group of species that construct nests of pebbles and stones. Some species, like the Fallfish, build monstrosities as large as 4 feet in diameter and include stones that weigh $\frac{1}{3}$ of a pound. Hornyhead Chub nests are usually less than half that size, but may occasionally reach 3 feet.

There are several possible uses for the male’s armament, which consists of 40 to 60 tubercles that are confined to its head. It may be used for stimulation and contact with a female during spawning, as well as territorial defense.

Often, a relationship with the Common Shiner occurs in which both species use the same nest without dispute. According to a 1920 report, the shiner is “most active in driving off small intruders such as shiners, while the Hornyhead Chub brings his sharp horns into use in driving off larger egg-marauders, such as the Hog Molly (an old name for the Northern Hogsucker).” The same author observed a Hornyhead Chub repeatedly dealing blows with its snout to an encroaching hogsucker and chasing it for more than 10 feet. The hogsucker was more than 4 times the length of the pugnacious chub.



River Chub

Central Stoneroller

Hornyhead Chubs are not particularly large. Although big individuals in a few western populations may reach 10 inches, those in Pennsylvania are almost always less than 5 inches. The males are generally a bit larger than the females. They are nearly round in cross section and have a rather large snout. Hornyhead Chubs are dark olive above and pale yellow or whitish below. Most specimens have a dark band along the sides that ends in a round spot at the base of the tail. Males have a small red spot behind the eye that is bright during spawning season and pale the rest of the year. Females sometimes show a brassy spot at the same location.

Their similarity to River Chubs, along with the fact that they may occupy the same streams, has resulted in many misidentifications and erroneous reports of Hornyhead Chubs in Pennsylvania. Spawning males are easy to separate. Hornyhead Chubs have the red spot and tubercles covering the entire head area while River Chubs, in addition to the swollen head, lack the spot and have practically no tubercles beyond the eye. Females and juveniles are another story, and experience is needed to identify them with confidence.

This chub is not a persnickety eater. It dines on a wide variety of animals. Preferred table fare includes crayfish, snails, small fish, aquatic insect larva and worms. It may also eat algae, seeds and other plant remains, although with a short digestive tract the food value of these items is questionable.

The Hornyhead Chub has a limited distribution in Pennsylvania. Its range includes the Lake Erie drainage, one tributary to French Creek in the Allegheny River drainage and the Beaver River drainage. It has also been documented in Erie, Crawford, Mercer and Lawrence counties. Unfortunately, it has disappeared from much of this range. Today, it is known from only two relatively short stream sections—in one tributary to Lake Erie and in another stream in the Beaver system.

Threats to its continued existence in Pennsylvania include the use of pesticides, siltation and sedimentation from various sources and loss of stream flows. A small Lawrence County stream that once held one of Pennsylvania's best populations apparently no longer maintains enough flow through the year to support them. Another historic stream is now heavily silted, and the chubs may be limited by pesticide treatments. A few historic stream sections appear to be suitable, but the Hornyhead Chubs are no longer there.

A status survey of this species by the Pennsylvania Fish & Boat Commission and Pennsylvania Biological Survey is currently underway to determine whether it deserves threatened or endangered species status. Although the survey is not yet complete, recent fieldwork suggests that there is little optimism that additional populations will be found. If that is the case, maintaining and recovering the Hornyhead Chub will require its listing, conservation actions and the development of recovery goals. ☐