

### ELEPHANTS' GRAVEYARD

by Bruce Gebhardt, Philadelphia, Pennsylvania

This story has haunted me for years. It has gone unshared because parts were obscure from the beginning. Time has clouded it further. Moreover, no one else known to me has written about such observations; it would inspire more confidence had some more careful, knowledgeable observer done so.

The species involved was the Common Shiner (Notropis [or Luxilus] cornutus). Its breeding colors have often been described in these pages, most recently by me in "Fishes of the Lower Susquehanna and Northern Chesapeake Tributaries, Part IV," AC, 3-6/88. When males reach five inches or so--this shiner hits eight-plus--the outer parts of the normally clear fins turn bright red in spring. The normally silver sides and silver or dark back turn steel blue. The combination makes the breeding male Common one of the brightest of fishes for a short time.

Females, like males, are silvery most of the year. As large males' backs turn blue-black, females' backs turn brassy, deep brown, or dark green. Their fins do not redden.

On two successive Memorial Days in the 70s, I went to Wissahickon Creek in northwestern Philadelphia, a tributary of the Schuylkill River, which is in turn a tributary of the Delaware River. The creek here is about 45 yards across. Depth reaches 3' near the east bank, but most of the creek at this point consists of shallow flats less than 6", with deeper pools. The eastern half of the creek flows swiftly over and between rocks.

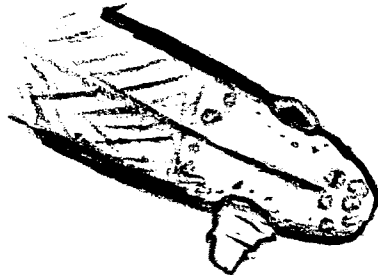
Memorial Day marks the height of Common Shiner color and breeding readiness at this latitude (exactly 40°N, according to a monument on a nearby hillside). In these two years, however, a substantial population showed characteristics I've never seen described.

Prime adults were apparently spawning, but in the shallows, many of the older ones, perhaps after spawning, were just lying there. They could be picked up by hand. Fins were even redder than those of prime males. Bodies tended to battleship gray, bellies were white. The color combination reminded me of the big Amazon Red-tailed Catfish sometimes seen in aquarium stores. Unfortunately, shiners with this color combination were mostly in poor health.

The most startling disfigurement appeared to be a kind of fungus ringing the eyes, as many specimens were more certainly and conventionally fungused on other parts of their bodies. The rings sometimes towered as far as three-quarters of an

inch away from the head. In some cases, the hideous cylinders were closed at the end, but many were open; the fish could apparently look out through them. They tower rings were hard, but sometimes snapped off.

The growths could justly be called "horns," since they stuck out a considerable distance from the head like the horns on a bull. The Common Shiner is called Notropis (or Luxilus) cornutus. Cornutus means "horned." While it had always been my assumption that this referred to the nuptial tubercles which adorn the breeding male's head, maybe it had another figurative meaning to the person who coined the species name (Samuel Mitchill, 1817).



Top view of Common Shiner  
with tubercles and horny  
"tower" around right eye.

Some of the red-gray-white fish were out swimming with the other big Commons. A few seemed in reasonable shape. Specimens brought home fared variably: some reverted to normal color, but most soon died.

The conclusion here was that these were the old male spawners. After their last excitement, they withered away like salmon.

Has anyone else seen a salmon-like spawning pattern with this or related species? Has anyone else seen transformation of colors to red-gray-white in this species? Has anyone else seen growths ringing the eye such as I have described?

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