

FISHES OF THE LOWER SUSQUEHANNA (& Northern Chesapeake Tributaries), Part IX

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WHITE CATFISH (*Ameiurus catus*)

Dams, despite their many ecological and aesthetic drawbacks, can often be ideal locations to observe fishes that may otherwise elude the casual collector or observer of native fishes.

Everywhere along its course and particularly at its lower end, the Susquehanna River is a beautiful though heavily dammed river that winds its way through some of the most picturesque and agriculturally fertile countryside anywhere. The river itself is very shallow and in many areas is littered with huge boulders that apparently have broken away from the cliffs that rise, sometimes dramatically, along its east and west banks. Islands, often rocky and fairly small, are, along with dams, typical features of this river in Pennsylvania. These islands and the sometimes chaotic appearance of the numerous boulders combine to give the Susquehanna a unique character that significantly adds to the aesthetics of the river experience.

From its mouth at the Upper Chesapeake Bay near Havre de Grace, Md. to a location only 22 miles northwest, near the town of Safe Harbor, Lancaster Co., Pa., no less than three dams work to mar this river and impede its flow on its final leg to the bay. The first and most formidable of these dams is the Conowingo, where U.S. Rt. 1 crosses the Susquehanna between Cecil and Harford Counties, Maryland, just ten miles northwest of the river mouth. This dam towers 99' above the river bed and boasts a length of 4,648'. Indeed, it is every bit as impressive as its operators boast. The Philadelphia Electric Co., which owns and operates the dam, has accommodated fishermen by building fish ladders and a fishermen's platform on the dam's downstream side. It is from this platform that we sometimes see seldom encountered fishes such as the American Shad (*Alosa sapidissima*), the Quillback Carpsucker (*Carpionodes cyprinus*), Stripped Bass (*Morone saxatilis*), the Sea Lamprey (*Petromyzon marinus*) and the White Catfish (*Ameiurus catus*).

While not rare, the White Catfish has never turned up in the seine of either author\* and, with this exception at the Conowingo Dam, we have yet to find it in the Susquehanna River drainage. This fish tends to occupy stream situations intermediate between the deeper and faster runs preferred by the Channel Catfish (*Ictalurus punctatus*) and the slower, quieter water preferred by other bullheads. The habitat preference of this fish is incompatible with the one-man, one-4'X4'-seine technique employed by the casual seiner.

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\*Bruce Gebhardt authored some parts of this series.

At Conowingo the White Catfish is sometimes seen as an occasional catch among the numerous Channel Catfish that fisherman take from the fish platform. While the White Catfish can reach 2' in length, the fish we've seen at Conowingo usually do not exceed 10"-12" in total length. They are distinguished from the Channel Cat by their lack of dorsal lateral spots, noticeably less forked caudal fins, and wider and blunter heads. Coloration is similar to that of Channel Cats of similar size in that they are, dorsally, a grayish blue that abruptly gives way at about midbody to a lighter, silvery color. The ventral area tends to be a dull white. We have only seen about half a dozen of these fish taken here, but that is primarily because neither of us are particularly comfortable asking fisherman if we can examine their catch by rooting through their five-gallon fish buckets. Some fishermen throw their catches onto the concrete fish walk where they are more easily observed.

Originally a fish restricted to Atlantic Coast drainages, the White Catfish has been widely introduced with varied success. It is more tolerant of brackish water than other catfishes, and has probably always been associated with the lower Susquehanna via the Chesapeake Bay.

One of the authors (WME) kept for about 2 years a 4" White Catfish caught on hook and line in another drainage. This fish was housed in a 30-gal. aquarium with other fishes and did quite well till it was released. It grew to about 8" during this time. Perhaps the most notable difference observed between it and other bullheads maintained in the aquaria was that the White Catfish did not seem to be nearly as uncomfortable in a lighted aquarium.

This is a fish that is about as forgiving as will ever be found in the home aquarium. It seems to require only clean water and plenty of food of almost any kind.

#### YELLOW BULLHEAD (*Ameiurus natalis*)

A common catfish throughout most of our area, the Yellow Bullhead (*Ameiurus natalis*) has turned up in our seines only twice in the Lower Susquehanna and environs, and then only at two separate sites on Muddy Creek in southwestern Lancaster Co., Pa. Our inability to collect this fish probably has more to do with our technique rather than with this fish's scarcity, as evidenced by our failure to collect even a single example of the much more common Brown Bullhead (*Ameiurus nebulosus*) from these same waters. Yellow Bullheads (and Brown Bullheads) tend to occupy the deeper, quieter pools where they effectively scour the bottom in search of practically anything digestible. These pools, in addition to their depth, are often in difficult-to-maneuver areas where collecting is an experience best avoided.

Catfishes of all sizes make use of the natural cavities often found in stream banks, especially the tangles of exposed tree roots, where they are very difficult to collect. Not

infrequently, the only evidence we have had that catfish even inhabit a stream is during our initial approach when we have seen the mad dash into deeper water of a single unidentified catfish that was feeding in the shallows near the shore.

Larger fish would probably be caught in most, if not all, of the lower Susquehanna's tributaries (especially those containing the muddy and weedy pools that these fish prefer) using traditional catfishing angling techniques, something neither author does.

The Yellow Bullhead is easily differentiated from other catfishes occurring throughout the lower Susquehanna by its snow-white chin barbels. It is one of the few fishes whose overall adult coloration is truly representative of its vernacular name. Dorsally it is olive-yellow, while the sides tend to be even yellower. Ventrally it varies from white to a brighter yellow than found on its sides. Young fish may somewhat resemble the adults, but dark brown specimens with white ventrals and some with pinkish-brown coloration are also caught. The place where they are found is an important determinant.

The caudal fin of the Yellow Bullhead tends to be rounded at its posterior where that same fin in the sympatric, similarly colored Brown Bullhead is much more flattened. The predatory feeding habits of this fish are interesting. On a particularly dark August night in the New Jersey Pine Barrens, on a low bridge crossing over a small, shallow, tea-colored stream, several friends and I, armed with a flashlight, observed a trio of Yellow Bullheads about 4" in length. They independently stalked and attacked several widely dispersed Banded Sunfish (*Enneacanthus obesus*) that were resting in a exposed area about midstream.

The catfish obviously could not see the resting sunfish. The cats swam in very rapid, irregular search patterns downstream of the sunfish, with heads on the bottom and tails elevated approx. 20°. It would become apparent when one of the catfish picked up the scent of one of the resting sunfish. The catfish would almost stop on a dime and in an even more frantic manner redirect its search pattern upstream as it began homing in on the unsuspecting sunnie. As a catfish came to within few inches of the sunfish, the sunfish began twitching and generally became much more alert; they were now obviously aware of the catfishes' presence. In each of the three instances that we observed, the sunfish stood their ground until the catfish appeared to swim right into them, at which time the catfish would open its mouth wide in an attempt to grab the now fleeing sunfish. Of the three attempts we observed, none of the catfish were successful (the sunfish may have been a little too large for the catfish to hold onto). It was always a one-to-one situation and there was no obvious coordination or even apparent awareness among these catfish of each other's presence, though at times they were all within a few feet of one another.

The Yellow Bullhead has been known to reach 18" in total length and to weigh well over three pounds. Our fish have never exceeded 12" and are usually in the 4"-7" range.

As an aquarium fish, the Yellow Bullhead is a very satisfying choice for those of us who appreciate the unique characteristics of catfishes. Certainly not a beautiful fish, and one not very likely to pass up making a meal of any tankmate smaller than itself (except when very small, these fish are best housed alone), the Yellow Bullhead does very well in captivity. When provided with even basic care such as a tank large enough to adequately accommodate it, clean water, and plenty of food (this fish will eat virtually anything), it grows rapidly, and quickly adapts to low-light tank situations, when it will freely swim in search of food. It remains timid, however, and will quickly dart into one of its many lairs when it is startled.

BROWN BULLHEAD (*Ameiurus nebulosus*)--Not yet collected by the authors in the Lower Susquehanna area.

CHANNEL CATFISH (*Ictalurus punctatus*)

The Channel Catfish (*Ictalurus punctatus*) is a fish of our largest waters. We have seen or collected it only in Fishing Creek, Lancaster Co., Pa., at a location less than 1/8 of a mile above its mouth at the Susquehanna River. We have also seen it taken from several locations on the river itself where it is incredibly abundant, the principal gamefish of the numerous fisherman that fish the river. At the Conowingo Dam, this fish is the principal catch. We have seen several exceeding 24" that were taken by bottom fishing at locations where one of the dam's 54 gates have been opened. The resulting turbulence is tremendous and must effectively scour the river's bottom, providing food for the incredible numbers of fish, including Channel Catfish, inhabiting the pool below the dam.

The Channel Catfish prefers the deeper pools and deeper races with a moderate gradient that are formed by the large rocks and huge boulders characteristic of the Susquehanna River. While we have never found the young of this fish, it is said to ascend even the smallest tributaries to spawn.

Within our area, the only fish that the Channel Catfish is likely to be confused with is the White Catfish (*Ameiurus catus*). In adult and juvenile White Catfish, the dorsolateral spots of the Channel Catfish are lacking (these spots are also lacking in very young Channel Cats). Other characters include the blunter, rounder head of the White Catfish as well as its less deeply forked caudal. Coloration also differs, as adult Channel Cats tend to have bluish to olivaceous dorsals and silvery white to yellowish ventral areas. White Catfish, dorsally, range from a grey to dark blue with whitish ventrals, and have a more

distinctly bicolored appearance about them. Since the largest Channel Catfish can exceed 40" (and 50 lbs.) vs. the White Catfish's 24", size can sometimes also be a useful guide. The Channel Catfish is probably one of the most popular native fishes kept in the home aquaria. The fish has managed to find its way onto the pages of some of the most popular tropical-fishkeeping books and magazines.

It is very hardy and undemanding. As long as it is provided with sufficient food of any kind, plenty of room, and clean water this fish will take care of itself.

#### MARGINED MADTOM (*Noturus insignis*)

There are those of us who happen to believe that madtoms are among the most attractive and interesting of our native fishes. Their often boldly contrasting, intricately woven patterns, coupled with their various shades of black and white, often including the subtle and the vivid hues of umber, yellow, cream and (I guess that there is no way I can avoid saying it) grey, appeals to many of us.

Unfortunately, the Lower Susquehanna and its tributaries are home to only one species of madtom--the Margined Madtom (*Noturus insignis*). A member of the subgenus *Schilbeodes* and one of six madtom species found in the four states located within 30 miles of the lower Susquehanna (PA, MD, NJ and DE), the Margined Madtom is not one of those handsome little devils described above (which are usually members of the subgenus *Rabida*).

As with all madtoms of the subgenus *Schilbeodes*, the Margined Madtom has a mostly uniform ground color that varies from a yellowish to slate grey to a sometimes rich chocolate brown. While these colors are not very exciting, they are often matched very nicely with a very pleasing, very bright lemon yellow on all of its rayed fins. The outer edge of these fins are in turn edged with an intense black.

In York County, Pa., we have collected this fish from Muddy Creek, where it seems to be abundant; a single small fish (approx. 1") was collected from the shallows of Fishing Creek in Lancaster County, and several very nice fish were collected from the West Branch of Octararo Creek, also in Lancaster Co. In all of these streams, the largest fish (we've collected this fish up to 7") have always been found under rocks in the deepest, fastest riffles. We have collected a few very small catfish, about 1" in total length, under daylight conditions, under small rocks only a few inches from shore, and in water only an inch or two deep.

Most of the madtoms collected from Muddy Creek were afflicted with at least several fleshy tubercles growing on their dorsal and lateral surfaces. The largest tubercles were about the size of a

match head and were slightly lighter in coloration than the unaffected surrounding tissue. At the suggestion of NANFA member John Clairmont, several of these fish were successfully treated in mild salt solutions that were effective in making these tubercles disappear. These fish were isolated in freshwater, and small amounts of salt were added over several days (I don't remember the exact proportions) to the water. While the tubercles did disappear (after approx. two weeks), small, light-colored spots remained for several months where the tubercles had been.

Like most madtoms, the Margined Madtom adapts readily to the aquarium but never really seems comfortable in any but the lowest-light situations. At feeding time, if the tank isn't brightly lit, it will often venture out of its lair to feed in a rapid, erratic manner and then immediately return to its hiding place. Cover, of course, is necessary in keeping this fish happy. Feeding is no problem; they readily and greedily take even prepared foods.

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