

HEROS PASIONIS: AN INCEDENCE OF SPAWING

Written by Russell McAndrews

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Heros pasionis (Rivas 1962) is a lovely and timid cichlid of the *Thorichthys* subgenus, otherwise known as the "Firemouth Complex". The native habitat of this fish is known to include its namesake the Rio de la Pasion in north central Guatemala but according to Rivas (1962) the total range of *H. pasionis* is unknown. The original description can be found in the JOURNAL OF THE FLORIDA ACADEMY OF SCIENCES 25(2), 1962, pp 147-156 by Luis Rene Rivas with the University of Miami.

As expected *pasionis* is similar to other *Thorichthys* in many respects. To the hobbyist, the most obvious difference is its color scheme which is delicate in that it disappears under the slightest stress. The resultant fish, as one might expect to come across it, is metallic silver with a mid-lateral black blotch and faint vertical gray barring in the upper half. Once this fish has settled into its habitat, its coloration is beautiful. The eyes are each capped with a gold crescent. The snout is pointed and fairly long. From the snout to the edge of the gill cover is a pale gold sprinkled with blue dots. The basic background color of the body is yellow, the intensity of which is greatest in the ventral portion, fading slightly as it progresses up the flanks. In the dorsal region the yellow shows between vertical barring, as the barred pattern lightens, the appearance is of striking yellow stripes. The female while guarding fry, and both adults while upset, show seven vertical gray bars in the upper half of the body. Along a horizontal line from the rather large eye there is a prominent black spot slightly more than half way back on each flank. Between the eye and the mid-lateral spot, and also in line, there is a long black horizontal stripe connecting the lower most expansions of the anterior vertical bars. The trailing edge of the gill cover sports a small black spot outlined with blue spangles. At the very base of the caudal fin there is a laterally compressed black spot. Throughout the ventral flanks each scale is flecked with blue and along the base of the dorsal fin are several rows of metallic silver scales. The most frequently changed, and most vibrant colors are in the underbelly and throat. The fish's "keel", if you will, is at times bright yellow, sometimes black, and once, I observed the male with a red throat and stark might underbelly. The finnage seems two sizes too large for the fish and is generally transparent. All unpaired fins are outlined in black and the dorsal fin is tipped with red. The pectorals extend past the mid-lateral spot and seem quite huge.

The first opportunity I had to see *H. pasionis* was at the 1986 ACA Convention. I was roaming the fish room as is the custom, when I noticed several empty tanks with the names Socolof and

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de Greef on them. I must admit I was anxious to see what would show up. In they trooped, hauling what looked to be tons of fish. Not wanting to get in the way, I was forced to retreat. While they were putting their fish away I treated myself to another lap around the fish room. The circuit complete, I peered without bending (the racks were nice and tall and I'm not), at an assortment of unknown cichlids. All sorts of names were being whispered in the chatter surrounding these tanks. As it turned out, some were right but most were wrong, and not once was the name *pasionis* mentioned. During the course of the convention, I believe it was Dr. Loiselle who I heard describing *H. pasionis* for what it was to a fellow hobbyist. I was intrigued.

Auction day finally arrived and as exciting as it was, it would not make terribly interesting reading. Guess you had to be there. I did manage to procure a bag of *H. pasionis* that day. There were ten juveniles and they handled the return flight to Phoenix well. Over the next several months they grew rapidly. Unfortunately, my tap water at the time is atrocious (8.9 pH & 3600ppm TDS). All but four individuals were lost to systemic bacterial infections presumably induced by the stress of periodic water changes. The *pasionis* were not the only fish affected in this manner. I have since put in a well and no longer have that problem.

Two of the remaining individuals are at this time 2.5" SL while the other two are 3.5 & 3.75 SL. Despite the size difference there was no blatant sexual dimorphism. As I later found out the largest two are a pair and the smaller two are both females. Predictably the largest individual is the male. It was not until the largest female ripened up and became visibly distended that I knew I had a pair.

The *pasionis* were in a tank with half a dozen other fish. Their tank mates were purposely less aggressive to maximize their chance of spawning and minimize the chance of injury to the *pasionis*. The water had a pH of 7.3, and temperature of 83 degrees F, and was extremely hard. The only objects in the tank were an under-gravel filter, two inches of gravel, snails, and some duckweed covering the surface. The male commenced to dig a pit. (Presumably the pair

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would have preferred to spawn on the filter plate rather than the glass side of the tank.) This was the sign I had been waiting for. The female was ripe, the male was digging, and the other inhabitants were cowering. Their tank mates were removed and the pasionis were given a clay flower pot tipped on its side. The pot was placed in the afore-mentioned pit. Despite my short-lived anxiety over interrupting the pair with the flow pot, it worked. The eggs were laid two days later on the inside circumference of the pot from the one o'clock position to the four o'clock position. The majority of the eggs were above the vertical such that they overhung open water. The male was the only parent seen tending the eggs, but I should point out that the pair was skittish and would usually abandon the nest when I entered the room. The pasionis eggs were nearly invisible against the clay pot and my attempts to photograph them failed. I would estimate the clutch at two hundred to two hundred fifty eggs. On the third day post spawn the eggs were gone. When I entered the room the female had been positioned over what was now the only pit in the tank, and although a search was conducted, no fry were found. As this was the pair's first spawn I assumed that they had eaten it and was not surprised. Two days later I was surprised.

A glance at the tank found the female hovering near the bottom in the middle of an impressive cloud of free swimming fry. They were extraordinarily small for Heros fry and although I'm usually quite good at spotting fry, I could see how I must have overlooked the wrigglers in the gravel. I was curious and immediately tried to feed some live baby brine shrimp. As I suspected, the pasionis fry were too small to take the nauplii. A pinch of flake food was smeared between my finger tips under water to create a soup on which the fry commenced to feed. This was only required for two days as most of the fry had gained enough size by the end of the second day to take the newly hatched shrimp. When the fry showed up free swimming, I also noticed that the female's color pattern had changed subtly. The vertical barring in the dorsal region became more prominent.

Approximately one week post hatch I noticed the male in a corner of the tank. After a few minutes observation of the pair's behavior it became obvious that the female would not let the male out of the corner. If he did not remain perfectly still she would charge him with the branchiostegal membrane flared and he would cower. No physical contact was observed. Up until this point both parents had appeared to share the school tending equally. Now, she would not let him near the school. I would guess that this change in behavior was abnormal and was most likely the direct result of the male's having eaten one or more of the fry. It would not be

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the first time that a female beat on a male, even a larger one, in the defense of her brood. One and a half weeks post hatch, with the male still cornered, the adults were removed to another tank. At two weeks post hatch some of the brood is beginning to out grow the nest. In fact these fry seem to be growing faster than any other cichlid fry of my experience. The temperature is 84 degrees F, the pH is 7.4. They are fed twice daily and water changes up to twenty five percent are made frequently.