Eyeballs On Oddballs: A Prehistoric Monster

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Wandering the local aquarium stores is a hobby in which I sometimes revel. Often I have no rhyme or reason for a trip, rather just looking to see what is available, and to see if anything piques my interest.

Recently I made a pair of trips to Lucky Aquarium (www.luckyaqurium.com) in the Market Village next to the Pacific Mall in Markham, Ontario. If you've never been, I highly recommend a trip as their stock is in excellent condition, and they usually have several tanks of rare and unique oddballs. On my two recent trips, I came across a fish that was so unique that the store staff had no idea what it was, labeling it simply as "Monster Fish". With a moniker like that, I was intrigued and after several diligent hours of research, I came to appreciate what was sitting in their tank.

They had about ten fish contained in a large breeding trap hung on the interior edge of a larger tank. They are rather difficult to describe, but at the same time very simplistic in appearance. The fish on hand measure about 5 centimeters (2 inches) in length, and have a mottled grey/brown skin. From above, they are tear-dropped in shape, but it isn't until you examine them closely that specific characteristics become apparent. They have two very small eyes located on the top of the head that are hard to distinguish, two very short barbels (a barbel is a whisker-like organ found near the mouth found in some fish and turtles) and large pelvic fins, which are forward of the pectoral fins, and are located under the gills. There are two separate dorsal fins, the first smaller and with spines, and the second longer with 15 to 25 soft rays. But by far the most noticeable characteristic is the large (and I mean large) mouth. Apart from the eyes and pelvic fins, they look like a stone with a mouth lying on the bottom of their enclosure, and I can honestly say that I have never seen such an ugly fish for sale. The best description I found on the internet was "*a clumsy-looking fish with a big head, tiny eyes (and an) enormous mouth*".

Photo credit: practicalfishkeeping.co.uk

But, as mentioned, it wasn't until I had done some research that I came to realize what a unique creature this ugly fish was.

I eventually determined that the fish they had for sale as "Monster Fish" were in fact *Thalassophryne amazonica*, and are commonly sold not only as monster fish, but also as prehistoric monster fish and Amazon toadfish. A member of the *Batrachoididae* family, they are commonly called toadfishes. (In fact, the Latin family name is derived from the Greek word *batrakhos*, which means frog.) The majority of toadfishes are actually marine fish, with some living in brackish conditions. *T. amazonica* one of very few toadfishes known to live exclusively in a freshwater environment.

Found in tributaries of the Amazon River in Ecuador, Peru and Brazil, they are known as a "*benthic ambush predator*". For those like me who have no idea what that means, benethic means "*happening on the bottom under a body of water*", and an ambush predator is a carnivorous (meat eating) hunter that captures it's intended prey from an ambush position. Ambush hunting means that it kills by stealth or cunning, not by speed or strength. Therefore it means a bottom-dwelling predator fish that kills prey in a sneaky manner.

T. amazonica is nocturnal, and spends most of it's time buried in the sand or mud with it's eyes sticking out of the substrate. Occasionally they will hide in rock crevices or among vegetation, but most sources agree that they by far prefer to burrow in sand or mud. The camouflage provided by the grey/brown colouration also assists in it remaining undetected.

However, the most important aspect of this fish is something that was not noted at Lucky's, and is something that anyone thinking of keeping this fish ***must*** consider. Both the dorsal fin spines and the opercular (or gill cover) spines are hollow and are connected to venom-producing glands. Any pressure exerted on the spines will cause poison to be pumped out of the spines and into any flesh they are in contact with. In nature, these poison producing spines protect the fish from other predators (such as eels and other large fish), but in captivity they can sting the owner. This must be of consideration when performing maintenance on any tank in which these fish are kept. Sources on the internet inform that the poison is not very potent, with a suggestion that they are similar to a bee sting. However, I was speaking with a fellow club member who had in turn spoken with a Lucky's employee who was stung. The employee informed that the pain was excruciating. If you are unfortunate (or careless) enough to be stung, immediately wash your hands under warm water and, if the pain or irritation persists, seek medical attention.

The other important consideration when keeping the Amazon toadfish is it's dietary requirements. As

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mentioned, it is an ambush predator, which essentially means that it waits for an opportunity to capture unwary prey. The Amazon toadfish buries itself in the sand or mud, with only it's eyes and barbels exposed. Once potential prey touches the barbell, the Amazon toadfish opens it's mouth, creating a vacuum that pulls the prey towards the mouth. The Amazon toadfish then clamps it's jaws around the prey and holds it until it dies. The prey is then swallowed whole, or if too large, bitten in half. *T. amazonica* actually has two rows of teeth. The first row is used to hold the prey (as mentioned above), and the second row, further back in the mouth, is used to cut the prey in pieces. From an evolutionary standpoint, this makes a lot of sense. The front row holds the prey while the back cuts it into pieces of suitable size to be swallowed. Once the back portion is swallowed, the front portion still remains in the Amazon toadfish's grasp, ready to be eaten. Remember that the Amazon toadfish is a rather clumsy and lazy fish, and any energy used to chase down a piece of prey that floats away would be wasted. While holding onto the second portion while the first is eaten, the Amazon toadfish does not need to waste energy, and can remain in it's burrow.

Photo credit: wetwebmedia.com

But the question then becomes, what to feed the Amazon toadfish? As with anything on the internet, there are contradictory theories on how and what to feed this fish. There are several claims that this fish is reluctant to eat anything other than live prey. Others suggest that the Amazon toadfish can be trained to accept meaty foods, with some suggesting food be held in tweezers and brushed across the aforementioned barbels. Should you be interested in keeping the Amazon toadfish, I would highly recommend that you plan in advance how to feed this fish and do some in-depth research on suitable food. For the purposes here, people note that any small fish (guppies, small mollies, platies and danios) would quickly become food if kept in the same tank, and it is also noted that river shrimp and various worms (earthworms, mealworms, etc.) may be accepted.

Other than the hazard caused by Amazon toadfish's spines and the restrictions imposed by it's predatory practices, it is actually a very easy fish to keep. It is highly recommended that only fish larger than the Amazon toadfish's mouth and than swim in the upper levels of the aquarium be kept in the same tank (such as larger gouramis, larger barbs, and cichlids that are not substrate territorial) and even more appropriate if you keep these fish in a species only tank. Remember that this fish has the built-in defense mechanism of the spines. If it is harassed, it may sting other fish. Therefore it would not be recommended to keep catfish or plecos as they may disturb the Amazon toadfish and be subject to the aforementioned stings.

It can be kept in both soft, acidic water, and in slightly hard, alkaline water. It is a true freshwater fish, and therefore no salt needs to be added to the aquarium water. Since it does spend the majority of the time buried in the sand, the substrate needs to be cleaned on a regular basis to ensure that there is no risk of bacteria. The substrate itself should be deep enough to allow the Amazon toadfish to burrow, and a 5 – 8 cm (2" – 3") layer of appropriate aquarium sand would be ideal.

As it does originate in the flowing waters of the Amazon tributaries, the water should have good aeration. Remember that the natural habitats of the Amazon toadfish would be somewhat dim, so the aquarium lighting should also be dim.

Since the Amazon toadfish is relatively inactive and spends most of it's time immobile, a large tank is not necessary, and an adult pair can be kept in a standard 30-gallon aquarium. Should you want to keep more, you can easily adjust the tank size upwards, with most sources implying (but not stating anywhere) that about one square foot of substrate space seems sufficient per specimen kept. In terms of actually decorating the tank, remember that these fish will burrow, so any rooted plants would likely be disturbed, and any other decorations may be burrowed under and in turn may shift, trapping the fish underneath. Therefore, I would recommend that any driftwood or rocks be deeply set into the substrate, and floating plants (which would assist in light reduction) rather than any rooted specimens be kept.

Of course, no introduction of a unique fish would be complete unless we looked at the potential for breeding. The only noticeable difference between the male and female is that when they are sexually mature, the female is larger. There has been one report of successful egg laying, but no fry were produced. Alan Finnigan of Leicester, England reported that the female laid eggs over a period of five days. The eggs themselves are large (about 7 millimeters in size, or about ¼"), and are non-adhesive, but have a large semi-adhesive filament on the underside. (It has been theorized that this filament helps hold the eggs in place in flowing waters.) The eggs are

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apparently either buried in the sand or laid directly on the substrate. It was reported that the male builds the nest, and then guards the eggs. The only other item of note was that the male apparently attracts the female by "singing", or releasing air by contracting muscles in the swim bladder. That sound has also been called a hum or a whistle.

I'm not sure if these fish are still available at Lucky Aquarium as I haven't been there since before the Christmas season. However, now that you know a bit about this ugly yet unique fish, should you decide to give the Amazon toadfish a try, you know where you may be able to get them. If you do, be sure to let your fellow club members know how it goes!

Species Profile

Latin Name:	*Thalassophryne amazonica*
Common Name(s):	prehistoric monster fish, Amazon toadfish, and monster fish
Size:	150mm (6")
Temperature:	24°C – 28°C (75°F – 82°F)
pH:	6.0 – 7.5
GH:	18 – 180
KH:	6 – 8
Diet:	Small live or frozen fish and shrimp
Distribution:	Tributaries of the Amazon River in Ecuador, Peru and Brazil
Source:	Various

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Got an unwanted fish? Know of someone who has an unwanted fish? Our Society will assist in trying to find homes for any unwanted fish.

Most aquarium fish, plants, crayfish, snails, frogs, salamanders and turtles are not native to Ontario. Releasing them into a lake, river, pond or wetland is not only against the law, but it could establish a new population which has environmental and economic impacts.

Most aquarium plants and animals sold in pet stores are imported from Florida, Central and South America, Africa, and Southeast Asia. Some of these species are tolerant of colder climates and can survive over winter in Ontario. Although you may think you are doing them a favour, releasing aquarium animals into Ontario waters is NOT a humane way to dispose of an unwanted pet. They may soon die due to predation or temperature extremes, or may die slowly due to starvation, parasites and diseases.