



# *Lamprichthys tanganicanus*

## The Tanganyikan Killifish

By jim kostich

It began, as a number of my killifish keeping adventures do, with Gary Greenwood. Many AKAers know Gary as a seemingly inexhaustible source of not only fine killifish, but of knowledge and encouragement as well. When Gary offered me a batch of *Lamprichthys tanganicanus* eggs a while back, I couldn't pass them up. "The Tanganyikan Killifish" has been on my wish list literally for decades, and the few specimens I had even seen in that time were not long for this world, clearly in shock from the trials of shipping. Gary dropped off a nice batch of eggs a few days later, and after a few trials of my own, and another couple of batches of eggs, I now have a nice breeding colony. TTK males are spectacular, 4 to 5 inches long with rows of sky blue metallic dots, golden yellow fins and a turquoise silvery sheen. Females are less striking: an inch shorter and half as tall, silver with a hint of green, more closely resembling a pizza topping than they do the males.

The maintenance/breeding setup isn't very sophisticated: a 38 "gallon" tank (36x12x20) with a sponge filter, half an inch of aragonite gravel (as frequently used in saltwater aquaria) and two hand-sized pieces of lace rock. It is unheated, so averages in the low 70s F in winter months and high 70s F in summer. The aragonite makes the water somewhat harder and more alkaline, although hardly enough to differentiate on a standard aquarium dip test. Hardness ends up at about 150 ppm and pH about 7.6; I add a tablespoon of salt per 5 gallons of water as I do with most killies. There are 14 fish in total, 8 males and 6 females, currently about 8 months old. They eat ravenously, anything including flake, pellet, freeze dried, frozen and live foods, but their enthusiasm seems to be in direct proportion to their distance from the tank surface. They thrash the water when the food is first introduced, but as it sinks, they eat more deliberately, and when it gets to the bottom inch or two, the fish show only a passing interest.



My *Lamprichthys* spend most of their time in the top 4 inches of the water waiting for food and acting like teenagers at the homecoming dance. There is continuous interaction, with the boys all dressed up, fins erect and strutting their stuff, trying to catch the attention of the girls. Periodically, the dominant male, with noticeably more yellow coloration than the others, will entice a female to follow him down to the rocks, and the pair will dance, circle, and gyrate, culminating in a brief embrace during which an egg or more is presumably tucked up against the rock. As they are about to break away, the female's anal fin is vibrating rapidly, as if to propel any ejected egg into the crevices. Most of these encounters seem to be dry runs; while I have watched this courtship many times, I have never been able to discern an egg being released. On the other hand, I'd swear on several occasions that I've seen a solo egg dropping down out of the school, free-falling quickly to the gravel below.

Egg collection is not difficult, but I manage to make it quite labor-intensive. Using a standard

wide-end six foot aquarium vacuum (preferably one without the customary self-clogging valve), I siphon into 5 gallon buckets, cleaning the gravel as I go. Healthy eggs are unfortunately only a little less dense than the aragonite gravel, so that gravel tornado has to reach the top of the wide tube. If I don't get gravel in the bucket, I don't find many eggs in there either. I carefully pour off most of the water from the bucket, leaving an inch or so of gravel/sludge/eggs, then repeat the process. Interestingly, even though almost all the spawning activity I witness takes place on the two rocks, some eggs are harvested on the other half of the tank as well. Maybe there is more to those free-falling business than meets the eye,; more likely some eggs just get swept there in the cleaning process.. I understand that in nature TTK are found in pelagic shoals as well as among the rocky shores.



I typically harvest 30-60 good eggs from this procedure, plus another dozen or two that are already dead or fungused. It doesn't seem to matter much if I harvest them every two days or two weeks, I still get about the same number of eggs. There are undoubtedly ways to make this process more efficient, starting with using a more dense gravel in the tank so the eggs will be easier to separate, with perhaps the aragonite in a filter. Or using a tray under the rocks and removing it to harvest eggs. Or using a battery vac or canister filter to collect eggs without removing water. I might likewise increase egg production by adding more rocks, so additional males might stake out their territories.

The egg/gravel mixture is then poured into a plastic shoebox for inspection. If there's still a lot of debris, I add tank water and “pan for gold”, repeating until most of the sludge is washed away. One note of caution: while the egg density is conveniently in between that of the gravel and the muck, once an egg starts rolling, it travels faster than either, and can be inadvertently poured down the drain. Once the rinsing is complete, I leave about a half inch of water on the gravel and begin the hunt. Eggs are very large, colorless to a pale yellow or peach colored, but also almost eerily transparent. Their shell is rock-hard, but virtually invisible, the eggs resembling tiny clear marbles. A bright light source from the side helps make them easier to spot, as does occasionally stirring the gravel and watching for eggs rolling in the current. I remove eggs with a wide-mouthed eyedropper; they're too big to actually enter the dropper, but can be suctioned to the tip long enough to drop them into another container.



Eggs are stored in a half inch of water in a sandwich-sized plastic container with a loose-fitting lid. I have stored them in aged water with acriflavine or methylene blue but probably get the best hatch rate just using tank water and a teaspoon of the aragonite. They are somewhat prone to fungal outbreaks, and I do remove dead eggs and change their water every few days..

Eggs hatch in 10-14 days, and fry are large as one might expect – at least lengthwise. Fry are very elongated, with head and organs occupying only about the first fifth of the body length, the rest transparent body and tail. Once some eggs begin to hatch, I move

all fry and remaining eggs into a 2 gallon container with airstone, a handful of aragonite, and water from the parent tank. Unlike most other killies I have kept, aeration seems to be crucial to their proper development. On the occasions I tried to do without, I lost fry and some survivors seemed to have swim bladder problems. The aragonite increases pH and hardness, and is believed to affect sex ratio. I have never put this to the test, but too low a pH or hardness is said to produce all females.

Fry easily consume newly hatched brine shrimp and similarly sized foods within hours of hatch, and grow at a rate similar to other large killifish like *Fp. Sjoestedti*: an inch or so at 1 month, 3 inches and breeding at about 4 months. I try to perform weekly 50% water changes, and move them to larger tanks as they grow and become more competent hunters.

As mentioned earlier, TTK have a reputation as being difficult to transfer, and I have had several bad experiences, once losing all 8 fish within hours of moving, and another time ending up with half the juveniles with z-shaped spines. I suspect the cause of both was rough handling in the net, and have taken to gently pouring two week old fry from the 2 gallon tank directly into their final 30 to 50 gallon home. I start with only a few inches of water to help keep food concentrated, then add another few inches every few days until the tank is full.

Once in their home tank, Lamprichthys do not seem to be particularly delicate. They are quite robust, even hyperactive, and have the hearty appetites that go along with constant exertion. I was concerned at first that they would be one of those special fish that needs but hates water changes, but a 50% change with tap water, salt and dechlorinator leaves them more invigorated than ever.

When I'm not looking to harvest eggs, I have kept The Tanganyikan Killifish with shell dwelling cichlids like Lamprologus multifasciatus, whose bottom-dwelling nature complements that of TTK, and who shares a preference for hard, alkaline water. I've also kept mollies in with them, primarily as scavengers. I'm sure they would do well with other non-aggressive tankmates of similar size and water requirements.

#### Addendum: The Knotted Mop

Thanks to the suggestions from literally dozens of hobbyists across the country, I have finally achieved success with collection of TTK eggs far more efficiently. Since their eggs are totally non-adhesive, they just fall right out of conventional yarn mops for killifish. By leaving both ends of a thick mop looped, and tying (or rubber-banding) the mop every few inches, the yarn strands can be packed tightly enough that eggs get wedged in place. The killies accept the mop as a suitable substrate, and the mop can be periodically removed for easy egg extraction. After some trial and error, I came to appreciate the importance of the mop being both thick (about 200 strands) and tightly tied: if the mop was too sparse or loosely constructed, eggs were either swept away by the spawning activity or easily hunted afterward.