Avoiding Accidental Hybrids

By Jacqueline Kostich

The killifish hobby is somewhat unique in that it not only discourages cross breeding between species, but it also emphasizes the specific collection location and even collection trip of a given population. As such, strain purity is largely expected when known. Allowing multiple strains from different locations to hybridize produces offspring which can no longer be said to belong to either. To the casual killie keeper this presents no great problem, but many of us succumb to the hobby to the point of many tanks overflowing with many strains of these captivating creations. Consequently, we need to be alert to how accidental crossbreedings can occur, and take steps to avoid them.

There are three key components to maintaining pure strains of killifish: good covers, good labels, and a healthy dose of paranoia. Good covers are perhaps the most obvious factor, as many killifish are known to be capable, or even spectacular, jumpers. In a typical fish room, a fleeing killifish is just as likely to end up in the tank next door or below as he is on the floor. If that aquarium contains a similar species or strain, it can be extremely difficult to discern which fish doesn't belong, and the integrity of the whole tankful is now in question. Good covers fit tightly enough that no escapes are possible, and any holes made for access, tubing or feeding need to be filled or covered as well. It is amazing how many full grown killifish can find their way out of a dime sized hole in the cover.

Of course even the best of covers is ineffective when they are off the tank for feeding cleaning or other maintenance. In particular, when performing water changes on a rack of tanks, it is tempting to remove all the covers in that section for efficiency. However, all the commotion associated with such action often results in startled fish taking flight. While it is obviously necessary to remove the cover from the aquarium being scrubbed, drained or filled, having other nearby tanks uncovered is just asking for trouble.

Some hobbyists prefer to forego covers and simply keep the tank only half full. This can be quite effective for most species, although a few are such remarkable aerialists that they can hurdle their way out regardless. Fundulopanchax scheeli leaps, quite literally, to mind.

Lacking good covers, even the basic design of the fishroom can add to the risk of inadvertent crossbreeding. Many hobbyists build tiered aquarium stands and place aquariums end out in order to cram as many tanks as possible into a limited space. With this layout, any fish prone to jumping might find its way into any of a dozen different tanks, instead of being limited to only two options in a more traditional ladder-style rack. Similarly, our tank stocking habits can increase or reduce the chance of crossbreeding, even if fish are able to escape. If neighboring tanks contain fish that can be easily distinguished by color, species or size, any accidental introductions can be readily removed, hopefully before significant damage is done to the gene pool.

If we can keep our fish from muddying up the gene pool on their own, the next most likely cause of species contamination is the aquarist him or herself. Fish are often moved from tank to tank for larger housing, to make room for new acquisitions or just to combine multiple batches of the same strain. Especially when working with juvenile fish that are hard to identify, it is crucial that the labels are clear and obvious. It is equally important to promptly and properly label any eggs collected, for much the same reason. Detailed labels with collection and hatch dates, source and other data are nice, but big, bold lettering distinguishing the species or location is even more important. When working with multiple strains of Fundulopanchax sjoestedti for example, I have even use color coded labels; green for Loe, orange for Niger Delta, pink for dwarf red, and so on.

Like covers, labels are only useful when actually in proper use. I recently found myself with a dilemma: I had moved several groups of fry from 5 gallon up to 20 gallon tanks, As I moved each batch, I moved their existing labels along with them rather than waste a nickel by making a new one. Lo and behold, when I began draining the original tanks, I found a few fry that had gone previously unnoticed. Had I left the old labels intact, it would have been no problem whatsoever to simply move those few stragglers to the correct tank, but rather than trust my memory and risk mixing two strains, I ended up keeping those few in their old tank until they would became mature enough to distinguish.

And that brings us to the healthy paranoia. That is probably the most important step in keeping species and strains separated. I have found that it's best to just presume that Murhpy's Law (if something can go wrong, it will go wrong) is out to get me. Each move I make in the fishroom needs to take into account the possibility of contaminating species or locations. If I use a net to move fish or even remove duckweed or other debris, am I certain it is free of hitchhikers before proceeding to the next tank? If I put a foam block on the end of my syphon so it doesn't slurp up fry, do I make sure there are no fry stuck to it? Do I wash my hands and any instruments between each batch when picking eggs from mops? If I have a visitor, have I made sure they understand not to remove covers or move mops? No matter how unlikely the event, treating it as a potential problem can save a lot of anxiety

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