

ACCIDENTAL DISCOVERY INCREASES KILLIFISH BREEDING SUCCESS



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Every so often one stumbles upon a discovery (one that works, of course) simply by fate rather than by good, solid deductive reasoning or research of either the literature or sweat-equity type. I was so blessed in the late 1980s. I had been keeping killifish since the mid-60s, always with African or South Americans, when the opportunity to collect and maintain North American killies presented itself.

My first-captured victims were Gulf Killifish (*Fundulus grandis*). These were followed quickly by Diamond Killifish (*Adinia xenica*, now *Fundulus xenicus*) and Sheepshead Minnow (*Cyprinodon variegatus*). Additionally, I was able to acquire through friends Flagfish (*Jordanella floridae*). The *grandis*, being nearly “moose size” when captured, went into several 40-gallon breeder tanks with Eheims while the school of *Adinia* went into a 15 gallon with...now wait for it...a still-working Dynaflo external filter and a large box filter. The *Cyprinodon* were housed as pairs in 2.5-gallon aquaria while the *Jordanella* were divided into trios and dispatched to 5-gallon aquaria. The smaller aquaria were serviced by box filters.

All the fish acclimated very quickly to “unnatural foods” and settled in to captivity in good fashion. The *grandis* were the first to breed and produced large quantities of eggs that apparently provided “quality caviar” to the group as noticeably fewer were present on my collecting days than I remembered seeing during daily feedings. The sunken mops always had a few eggs undiscovered and thus uneaten but very few in the sand/gravel mix. The *Adinia* too seemed to eschew the mop, trailing on the aquarium floor; and, while I usually had several fry in the tank, I seldom located any eggs. The *Cyprinodon* gave mixed results in their pairs setups with mops. The *Jordanella* were an entirely different story altogether. They simply lived at Casa Leuterman, showed up at the front of the tank whenever I walked into the fish room, devoured any meal offerings, grew to maturity, colored/displayed, and then passed away after several years. I never saw a single egg from these supposedly “reasonably easy” to breed natives of Florida.

As it so happens we had family, in-laws and out-laws, coming for the Christmas holidays and my wife wanted the house “spruced up.” This included getting the external decorations up with all lights working, the wreaths refreshed with new berries and pine cones, and new door mats purchased to replace the aging, “ratty-looking” ones. I was “voluntold” by my spouse to get this handled before the arrivals darkened the proverbial doorstep. Upon returning from Ace Hardware with my needed supplies and completing the assigned “honey-do’s”, I escaped to my fish room for relief, i.e., weekly fish maintenance chores. One of the turf doormats that was originally destined for the trash can was secreted to the garage for potential other uses (never ever throw anything out before its time, no matter how bad it looks!).

After checking the sunken *grandis* mops for eggs I decided to simply sink the mat, after resizing, in one of the *grandis* tanks to supplement the almost useless mop using decorative rocks to prevent the fish from hiding under it and the mat floating around in the aquarium (Figures

Photos by the author.

Arthur Leuterman has collected and husbanded fish since his early years, more than six decades ago. His first aquarium, a sealed wood container with a glass porthole, held whatever could be caught in the local ditches, creeks and lakes. He graduated to tropical fish in primary school and was set on pursuing a career in ichthyology by junior high. The dream expanded and he earned his doctorate in Bio. Oceanography and was hired by Dresser Industries. All the while, the number of aquaria continued to rise, much to the consternation of his spouse, three sons and local youth employed occasionally to feed the fish. He had the good fortune to be employed for 37 years in the oilfield, which took him to all the continents but Antarctica and thus afforded him numerous opportunities to explore and collect, as well as meet and learn from local fish enthusiasts. He currently maintains only 40 aquaria, primarily housing killies (focused on *Scriptaphyosemion* and *Rivulus*), Tanganyikans, *Ancistrus* spp. and dwarf cichlids. He is retired and lives in Houston, Texas.



Figure 1. Pieces separate.



Figure 2. Breeding mat ready for aquarium.

1 and 2). My thinking was born of frustration and that maybe it would remind them of the marshy area where they were captured. It was simply worth a shot; plus, it added some green to an otherwise fairly drab aquarium (note that in all freshwater aquaria I use live plants along with mops in many).

Lo and behold, on egg collection day I discovered an old mat full of eggs. I began picking the eggs by hand and after a few moments determined that this was going to be a gargantuan time expenditure. Therefore, I picked up a six-gallon bucket and the newly invented breeding mat and went looking for the hose and hose gun. Once I had assembled the hose and gun, I simply hosed the eggs from the mat into the bucket. I then placed these eggs in an aquarium with a box filter, mysid shrimp, and small snails.

After finding the same success in terms of viable eggs the next several collection days, I hit the “after the Holidays” sale at Ace and picked up several new turf mats and cut them to size. Additionally, I improved the ease

of sinking and securing with PVC pipe modified—i.e., cut—to lengths that fit the various sizes of aquaria. This ex-doormat allowed me to successfully breed and raise killifish that heretofore had presented a problem.

Are there other methods that can be successfully used? Yes, of course there are. That said, this method is the one that works for me.

Over the decades this “stumbled upon” process has worked well—or reasonably well—for the following species:

- Gulf Killifish, *Fundulus grandis*
- Diamond Killifish, *Fundulus xenicus*
- Sheepshead Minnow, *Cyprinodon variegatus*
- Flagfish, *Jordanella floridae*
- *Fundulopanchax gardneri* Mamfense
- *Fundulopanchax gardneri* Makurdi
- *Fundulopanchax gardneri* Innidere
- *Fundulopanchax gardneri* Misaje

Give it a try. Maybe it will work as well in your setups as it has in mine!

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