A Natural Freshwater Aquarium

by Jennie Lawrence, Wyoming, USA.

When was the last time someone uttered the words, “You’re doing that wrong,” as they watched you do something? Keeping an all-natural, freshwater aquarium is one of the things that seem to make many people tell you, “You are doing that wrong!” Even worse, one hears that all the fish are going to die, and if not die, at least be tortured by less-than-optimal water conditions.

I have always believed there are 100 ways to do something, and 99 of the ways will work. This applies to everything in life, including keeping freshwater aquariums. I run an all-natural tank and have for years. It is the second one I have kept in my lifetime.

My all-natural tank has no filter, no heat, and no artificial lights. The first one I had came about by accident. It was a very large tank, 135 U.S. gallons. At that time, I had a pair of Jack Dempsey cichlids (*Cichlasoma octofasciatum)* in the tank, along with a nice filter system, two heaters, and a good bank of lights, along with natural light from a nearby window.

These particular fish are large, and reach a length of seven to eight inches, (18-20 cm). Their common name refers to an American boxer popular from 1914 to 1927. The fish are extremely aggressive and may not take kindly to company.

Such was the case with the pair I had. The male bullied his partner to the point that she had to be removed from the tank. As if that were not enough, he then destroyed both heaters and the filter system. Being a responsible fish owner, I replaced everything, to the tune of a couple hundred American dollars. Mr. Fish proceeded to destroy it all again. I had read a book one time about all natural aquariums, and decided, since I did not have a bottomless pocketbook, that I would see about letting the tank revert to a natural state.

It was not overcrowded, based on the rule of thumb of an inch of fish per gallon of filtered water. In its unfiltered state and size, the aquarium was supporting an inch of fish per 16.875 gallons of water. Every few weeks I siphoned off approximately fifteen gallons of water and replaced it with fresh.

Mr. Fish lived for a number of years in this tank. His diet consisted of a quality cichlid pellet, and he seemed content in his world. For some odd reason, my Pomeranian liked to sit in front of the tank and watch Mr. Fish. One morning, she was standing on her hind legs, trying to see into the tank. I had not yet fed Mr. Fish, and when I opened the lid of the tank to do so I discovered Mr. Fish had gone to his watery rewards.

I then sold that tank, and was eventually gifted (read, “Here, I don’t want this anymore,”) a forty-gallon aquarium. I set it up in the traditional manner, and had assorted tetras, guppies, *Plecostomus*, and *Corydoras* catfish. With the exception of one cory cat, and numerous guppies the fish eventually died over the years. For the past ten years or so, this tank has reverted to a natural fish tank. The heater stopped working and based on previous experience I did not replace it. The filter quit and was replaced a couple of times. The last time I delayed ordering a new one. I noticed the guppies and the lone cory seemed to be doing just fine without the added

equipment. Finally, the ballast went out on the lights, and I decided to have a natural tank once more.

So, what makes a natural tank possible? The fish, plants, and any other living thing in the environment produces some form of waste. Those waste products break down into ammonia (NH_3) and ammonium (NH_4). Once established, *Nitrosomas* bacteria break down ammonia into nitrite (NO_2). This product is still harmful, but not as much as the ammonia. Then *Nitrobacter* convert the nitrites into nitrates. The latter are used by live plants as a form of fertilizer. I do have live plants in this aquarium at various times. The fish like to eat them, and my cory catfish likes to burrow among them. My preference is for Java Ferns (*Leptochilus pteropus*), but I have used other plants as well. That is one way to remove nitrates from an aquarium. The second way is through water changes. I do water changes every few weeks. I siphon out 10-15 gallons of water, and I do siphon quite a bit of debris from the bottom of the tank. This water is then used when I water my house plants. I also check the water quality on a regular basis with simple test kits that can be acquired on-line or through pet stores.

Each phase of this cycle is dependent on the one before it. There must be a balance between the bio load of fish, plants, etc. and the *Nitrosomas* and the *Nitrobacter*. It does take time to achieve this balance and is best done by slowly increasing the bio load. It can also be done by using a "tank starter" solution, available at pet shops. Some people talk their friends out of some gravel from an established aquarium to introduce the nitrifying bacteria.

Some fish are better suited to living in this type of environment than others. I had a betta, or Siamese fighting fish (*Betta splendens)* in the aquarium for almost three years. I moved him in when snails arrived on plants. The snails threatened to overrun the tank in a very short time period. The betta controlled the population to the point of nonexistence.

The main population in my aquarium are common guppies (*Poeciliidae reticulata*). I also have the elderly cory catfish, who is in his late teens. Other fish that do well in this environment are goldfish (Superfamily *Cyprinidae*), White Cloud minnows, also in the *Cyprinidae* family (*Tanichthys albonubes*), and Zebra danios, another *Cyprinidae, (Danio rerio).* Next time someone tells you that you are doing something wrong, do like I do. I simply say, "There are 100 ways to do something, and 99 of them work. Watch me!"

Comments to the author Jennie Lawrcnce welcomed, email - misssjennae AT yahoo DOT com. Published in the May 2022 edition of Micscape magazine.

www.micscape.org