

## MYSTERY DEATHS... C.S.I IN YOUR TANK

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I've written this article based on my own personal experiences. First I should explain that until very recently I personally did not like to talk about lost fish. It was just one of those things that happened and you got on with your day. Certainly I did not want to talk about a massive die-off in a very short period of time. However based on what recently happened in my show tank and also from information from other hobbyists I can safely say that this is something that nearly all of us have or will have to deal with at some point in time. Today it is time to share my recent and sad experience. What constitutes a mass die-off? To me it would involve better than 50 percent of tanks inhabitants and in some extreme cases over 90 percent or sadly even all of the fish in a tank. Imagine if you can, your tank fully populated with various species of fish. Top, middle and bottom dwellers or even a single species tank. Everything has been running along smoothly for several months or longer. I chose several months because after that period of time most freshwater tanks are considered well on their way to being fully matured.

You wake up one morning, have your shower, get ready for work and head downstairs to put the coffee pot on. While the aroma of freshly brewed coffee fills the room, you walk over to your tank, check the temperature of the water and suddenly you spot the first victim. Front and centre laying on the substrate dead! Whoa...what happened here? Okay, everything is plugged in, heaters are working and the filters are humming along!

If you're like me, this is most definitely not the way to start your day off. Up goes the lid, you grab the net and remove the dead fish. A quick smell of the water tells your nose there is no foul odour and this fish has not been dead long. Of course you knew that because all of the fish were accounted for last night when you were watching the tank. Okay, so what happened in the past 8hrs? You haven't got a lot of time before you head out to work this particular morning. The temperature of the water is good, the filters are running and everyone else in the tank is oblivious to this problem. All remaining fish are accounted for and are swimming around the tank normally looking just fine. As far as you are concerned it's just one of those things. It just plain happens from time to time.

9 hours later you return home from work, head straight to your tank and whoa...another 2 dead fish. Okay, so now this morning's statement that 'it happens every once in a while' has twigged my senses that much more. What is going on? Up with the lid again, in with the net and out with the 2 latest casualties. It's hard to see anything out of the ordinary, heck their bodies have already been nibbled on by some of the catfish and other fish in the tank. No bad smells are coming from the water so there is little if any chance of a rotting fish somewhere in the tank, the temperature is fine, and the filters are all running. What is going on here?

3 dead fish in less than 24 hrs! These last 2 were not even the same species as the first. Okay, so you immediately decide to break out your test kits. You check your water for Ammonia, Nitrites and Nitrates. These are 3 most common tests for freshwater aquariums. Everything looks fine and your left scratching your head. You double check your tests by performing them a second time. Again, everything shows your water is passing these tests just fine.

This is not good! I'm now focussing all of my attention on the rest of the fish in the tank. There are no visible outward signs of disease. No clamped fins, no white spots, not even a torn fin! Every single fish appears to be fine. Okay, we all know appearances can be

deceiving. Let me feed them and see how they react. I know my fish well and they're a ravenous bunch. No flake or pellet is safe in this tank. That I know well! In go some flakes and a few pellets and its total chaos. Everyone is eating like it's the last meal they are ever going to see. The expiration date on this food is almost a year from now. I'm now really baffled. I see nothing outward that lends itself to the previous 3 deaths; the remaining fish are eating and swimming like perfectly healthy fish. What do I do next? I'm off to a friends place with a small sample of water so I can compare my test kit to his results. Inside, I'm quietly hoping his results show something different. If they are indeed different, then that I can easily deal with. Geez...the results are identical. What now?

For the balance of that evening, I'm left wondering what is going on in that tank! A thorough look at the tank before lights out again shows nothing out of the ordinary. As the lights go out for another evening, I drift off hoping that everything will be okay in the morning. 7 hrs later, my alarm goes off and this time I bypass the shower and head straight to the tank. Ah...thank goodness, everyone looks okay and there are no dead fish to remove this morning.

Having completed this early inspection, off to the shower I go, get ready for work, have one last look at the tank and I'm out the door. 9 hrs go by and I walk into the house to hear my wife saying honey you better go look at your tank there is another dead fish! Huh...what the heck is going on here! Seems I've said that a few times in the past few days. That's 4 fish dead, and no easily detectable reason why. I remove this 4th casualty and cannot for the life of me determine what is happening in this tank.

Over the next 2 weeks, I lost over half of my tanks fish. Needless to say I was devastated. Here I was trying to give my finned friends the very best environment and care I could as a responsible hobbyist and it seemed like nothing I did was helping them. It's not the hard earned money that was being lost but little lives I had taken into my home to care for and enjoy were dying right before my eyes. Enough was enough; I had to stop this now. I set upon a course of action to try and stop this insidious and totally invisible killer.

First is a thorough gravel vac (which for the record) was being done each week. Given I do not overfeed; there was little if any detritus to deal with. Next was a 50 percent water change. This is much larger than the usual 30 gallons I had been doing each week. All water changed is treated as always for Chloramines. A call to some fellow hobbyists shows that perhaps I do not need to be doing weekly water changes but perhaps based on my bio-load every other week would suffice. Next thing mentioned to me is the use of aquarium salt. Have I been using it with every water change? Well to be honest no I haven't! Why? Well again to be honest I really don't have a good reason. The various species in the tank now really didn't have a solid requirement for salt to be added according to my research.

The last occupants of this tank, a large colony of Tropheus enjoyed weekly huge water changes, and the addition of Cichlid lake salts mixed 50/50 with fine sea salt. This I did solely because I was mimicking the natural water of Lake Tanganyika and Tropheus are known to thrive in conditions like that. Once that colony was sold, the tank was completely torn down and had everything removed and scrubbed for very thorough cleaning. Even the white sand substrate was tossed and replaced with brand new gravel. All filters were cleaned thoroughly and some media was replaced.

Artificial plants, some older ones and 2 new ones, some previously used river rock and some previously used driftwood were put in the tank and it ran that way for a solid month before anything was put in it. The fish were all purchased from a reputable retailer and calls to him revealed nothing out of the ordinary in his tanks. I know he personally quarantines all of his new fish to reduce the chances of the hobbyist having issues. The one thing I was not doing

was adding salt on a regular basis. All of my fellow hobbyist friends, people on our clubs forum all said I should be adding salt as a regular part of my maintenance. That being said, I got out my sea salt and began to dose at a rate of 1 tablespoon per each 5 gals of water removed. My water changes were moved to every other week and the amount removed was also reduced. Next; my first sign that perhaps there was a reason behind this madness. Some type of coating was coming off the edges of some leaves on 2 new silk plants that had been in the tank since I first set it up for these fish. I had never seen anything like this before! Was the cause of all my problems? Was this the invisible killer? Knowing the wholesaler of these plants I contacted them immediately and asked the obvious. Had they seen this before?

Well, they had and it had not once caused any issues for any type of fish. Even species more delicate than mine were apparently doing fine with this particular silk plant in their water. Wanting to be extremely thorough and perhaps even doubting them a bit, both plants were removed soaked in vinegar and baking soda and given a thorough scrub and several hot water rinses. Once that was done, clean water and salt were added to the tank. My fingers were crossed that I had found the culprit and this was over and put behind me. Wrong! My fish were still dying off!

Did my water have some type of fast acting killer parasite or bacteria present? Were their deadly toxins present? We hadn't cleaned the carpet other than regular vacuuming and no commercial cleaners are ever used near the tank. Can you see how this can drive hobbyist nuts! Probably the number one agent used to remove toxins of all sorts from aquariums is fresh activated carbon. That and diatom/micro or UV sterilization will neutralize almost all parasites. Both of my canister filters had new carbon inserted and my HOB power filter had 2 new carbon filter pads installed. For the record the carbon that was in those filters was just shy of a month old. Along with this, I also made the decision to purchase a new Ultra Violet Sterilizer.

I'll be honest here. I've been sitting on the fence over purchasing a UV filter for a few years now. Most people I know use them to control algae outbreaks or cure green water syndrome also a type of algae outbreak. One other potentially beneficial effect of UV sterilization that is often overlooked is that these units can neutralize numerous forms of micro parasites. Not being an expert on parasitic life forms other than they do have the very real potential to be very nasty I went out and purchased one. A very large unit, easily capable of filtering over 500 litres of water per hour. This should turn my water over almost once each hour. UV sterilizers do not actually remove parasites from the water, what happens is as the water with parasites is drawn into the units chamber, it passes over special bulbs whose light spectrum has been tuned to the Ultra Violet band. As the parasite passes over the light it is rendered neutral and can no longer reproduce. Hence the cycle of life for these potentially nasty things is halted.

Many who read this article will wonder to themselves, why didn't he try this medicine of that medicine? Am I against the use of these substances? Absolutely not...but only when I know for sure what exactly it is I am treating. How can I go into the LFS and buy medicine when I have no idea why my fish are dying? Many hobbyists make the mistake of rushing out and buying all sorts of different medications for their fish. Soon the aquarium smells like a pail of Pine sol and you know what! The fish aren't getting any better. That I absolutely do not believe in.

It's now been 3 full weeks since the carbon was inserted and the UV sterilizer was installed and so far I haven't lost another fish. I'm still doing a head count every single day. Why? Well activated carbon or UV filter? You be the judge because I cannot say for sure which one solved my problem or if they even had anything to do with stopping the mysterious deaths in

my tanks. Given what has not happened since I started using them I am inclined to believe it was perhaps both of them. Regular carbon changes were already on my list and are part of a 6 week schedule on the filters. Certainly using fresh carbon will only help in the absorption of any fresh or new toxins. I'm more inclined to believe the UV sterilizer has had the most beneficial effect. Sadly I cannot say this with 100 percent confidence. But you know what! I feel a lot better and I have not lost any more fish which is what I wanted to stop. Do I know for sure what was killing my fish? Nope, but what matters most for me at the moment is that the daily routine of removing dead fish has ceased. I hope you found this article informative and perhaps maybe even helpful in helping you deal with and understand whatever strange unaccountable deaths have already or may occur in your tank.