

## **Diagnosis and Treatment of Sick Fish**

This is a short course in the logical steps used to diagnose and treat problems with sick or dying fish. This guide will help quickly narrow down the cause.

### **Always check water quality first**

This is the most common cause of problems. If the water checks out good we have eliminated one category and then can move on to the next step in diagnosis.

PH shock is the most likely cause for newly added fish that die within a day of being added to the tank. If the pH of the aquarium is off more than .4 or .5 from the water the fish were used to this is a likely diagnosis. The fish cannot adjust to the sudden change and the rapid death is due to shock. Because the fish died so quickly, it is unlikely disease was the problem. PH may cause sickness or death in newly added fish, but is not the culprit in any scenario where fish are dying and some or all have been in the aquarium for more than a few days.

Ammonia and nitrite are the main cause of water quality problems causing illness, especially in new aquariums. Both can cause sickness and death quickly as their concentrations rise in the aquarium. High ammonia or nitrite may be the primary cause of illness/death or in lower concentrations may stress the fish enough to cause secondary illness. Use partial water changes, live bacteria additives (Nite-Out is best) and Ammo-Chips (in freshwater) to help get the water quality back to acceptable.

Another consideration in water quality is contamination, from any number of toxic substances. Suspect this when there is sudden, rapid loss of most of the tank inhabitants. It is almost impossible for us to test the water for this, except in the case of chlorine. If the tank was just set up and most or all of the fish die, check to see if de-chlorinator was used and how much. It can never hurt to add more if you think there may still be traces of chlorine in the water. The only cure for other types of contamination is high quality activated carbon (removes many contaminants) and water changes or a complete drain down and reset of the tank

### **Parasitic or Bacterial? ... and Their Treatment**

If the water quality is good, then we have a disease problem. The next step is to determine whether the cause is bacterial infection or a parasitic infection.

Bacterial infections are commonly limited to one species of fish. Remember this, because it is a great help in diagnoses. If numerous types of fish are dying, the cause is almost definitely NOT bacterial. There may be secondary (not the main cause) bacterial infections, as is common when fish have ich and rub a lot.

The raw spots get infected, but ich is the primary problem. Common symptoms of bacterial infections are

1. Red areas under the skin
2. Ragged, deteriorating fins (fin rot) Note: Clean notches out of a fin may be bites from another fish
3. White patchy areas on the skin or eyes

Bacterial infections are treated with antibiotics, such as *Ecological Labs Gram Positive/Negative*. It helps to do water changes, 20% every other day while treating for a minimum of five days. Treat until all symptoms are gone for at least two days.

Parasitic infections are those like Ich or Velvet (Cryptocaryon and Oodinium in saltwater). They spread rapidly to almost any fish in the infected tank. Common symptoms are white spots, rubbing (flashing) and scratching behaviors and gasping before death. The gasping is due to the scarring of the gill tissue from the parasites embedding.

Velvet or Oodinium are much more difficult to diagnose because they may not always produce visible signs on the outside of the fish. They are smaller and often attack the gills where the fish is more vulnerable. Diagnose this disease by the process of elimination and the more subtle clues. If the water checks out OK and there are no white spots or signs of bacterial infection and fish are dying in slow, but steady pattern over days, suspect this. Look to see if the fish are gasping right before they die or rubbing across the gravel. If the answer is yes, you can be pretty sure of your diagnosis.

The tank must be treated to eliminate the parasite, using treatments such as *Ich-Out*, or a similar formalin/malachite based green product. Another treatment option is an herbal expellant, like *Herbtana*. They drive off the parasite and preventing its return while stimulating the fish's immune system..

If the tank is cool, raise the temperature slightly with the heater to speed up the life cycle of the parasite and eliminate it faster. Use a heater to keep the tank at a constant temperature, even when treatment is complete, to help prevent this disease. Sudden temperature change is often the cause of an outbreak. Treatment for reef tanks is more complicated and we will not get into that here. Be sure to read [FishTalk #3: The Top Two of Marine Parasites](#) for more detailed information.

We left out fungal infections up to this point. Fungal infections are almost always a secondary infection. This means they come about on a fish where there is already a wound or a lesion from a bacterial infection. Usually if you treat the primary problem, the fungal infection will clear up. The eyes are a common area for fungal infections. There are treatments specific for fungal infections, such as *Maroxy* or Methylene Blue (usually used ONLY in treatment tanks), but the use of the antibiotics mentioned above will usually knock out a fungal infection, by eliminating a primary bacterial infection.

## **Aggression Problems**

If a fish, especially a newly added one, has peculiar behavior such as:

1. Will not eat
2. Hangs in a top or bottom corner
3. Has V-shaped notches out of fins

These behaviors indicate a fish is being picked on. Even if the bullying does not result in lethal physical damage, the constant stress wears down the immune system and may lead to other illness.

Often people will state that they have watched and no one is picking on the fish. When they approach the tank they change the behavior, as the fish now focus their attention on the person and the food that they expect will be coming. Sit back away from the aquarium and watch their behavior. You may be surprised.

Try solving this one by rearranging the tank. This will give the new fish a chance to get settled in on more even ground. It breaks up the known paths and hidey-holes that give the senior inhabitants a distinct advantage. If this doesn't help, someone has to go, either the new fish or the aggressor.

## **Intestinal Parasites**

A common problem in African Cichlids and other pond raised fish is intestinal parasites. An obvious symptom of this problem is pinched bellies. Often the fish lose their appetite, but others may continue to eat and not put on any weight. Treat infected fish with metronidazole. You can treat the tank by adding metronidazole to the water, but oral dosing is more effective. This is achieved by dissolving the medication in a small amount of water and then soaking some food in this solution. This works well with flake food, as the dry flakes absorb the medication rapidly and the fish do not seem to mind the taste. Feed the medicated food to the fish for 3-5 days.

With this guide and a little experience you will become very successful at diagnosing disease/sickness problems. If you are stumped or unsure, seek help and advice from one of our experienced staff.

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