

Fungal infections of fish

Fungal infections are among the most common diseases seen in tropical fish. Because fungal spores are found in all fish tanks, they can quickly colonize and create problems in stressed, injured, or diseased fish. Poor water quality can also lead to an increase in fungal infections in an otherwise healthy fish population. Most aquarium owners easily identify external fungal infections. Most fungal infections have a characteristic white fluffy appearance and are commonly known as 'cotton wool disease.' As the fungal infections worsen, they may take on a gray or even red appearance.

Fortunately most fungal infections only attack the external tissues of fish and eggs. Most infections are usually associated with a preexisting infection or injury and this is why a two-part treatment is often necessary to completely cure these infected fish. There are a few fungal infections that will infect the internal organs of fish and they will be touched on a little later.

Fungi are present throughout most aquariums, but certain conditions increase the possibility of fungal infections including: Poor water quality, poor hygiene, dead fish or large amounts of decomposing organic material in the tank, fish that are injured, old, or have other diseases.

Tanks with fish that have reoccurring fungal infections need to be examined for tank hygiene, filtration and water quality. Healthy tanks should rarely have fish with fungal infections.

Cotton Wool Disease

'Cotton wool disease' is a general term applied to the most common fungal infections that infect the skin, fins and mouth. The fluffy white growths often colonize areas where there have been previous infections, parasites or injuries. The most common types of fungi in these infections are *Saprolegnia* and *Achyla*. Other fungi may also cause these infections and there may be more than one species at the site of an infection.

Treatment for cotton wool disease includes salt baths or the antifungal agent phenoxyethanol. In some instances, the entire tank is treated, but if

individual infections are present, treating the fish in a separate hospital tank is preferable. Individual topical application of the antifungal and antibacterial agent Gentian Violet is also a treatment option.



Egg fungus

If the aquarium owner has fish that are actively breeding, the eggs can become infected with a fluffy white fungal infection. The *Achyla* and *Saprolegnia* fungi are the species that cause the most problems. These fungi are present in most aquariums and will often infect damaged, diseased, or infertile eggs, and the fungus can then spread to healthy eggs. Since many egg laying species protect their eggs and will pick out diseased eggs, this is primarily a problem in situations where the parents have abandoned the nest or in artificial rearing situations. Once an egg has become infected there is no practical treatment. Infected eggs should be immediately removed with a pipette, needle, or forceps. It is important the aquarium owner does not confuse a healthy opaque egg with a fungally infected egg.

Gill rot

Gill rot is an uncommon fungal infection but if it does occur, it can be deadly if not treated. An infected fish usually gasps for air and has gills that are covered with mucus and are mottled in appearance. The infection is usually caused by the fungus *Branchiomyces* and can cause the entire gill to rot away. Infections usually occur in stressed fish that are living in tanks with high levels of ammonia or nitrate. While treatment is difficult and usually unsuccessful, some cases have been cured with long-term

therapy of phenoxyethanol baths and increased oxygen levels. Prevention and good husbandry are important in preventing this disease.



Systemic fungal infections

Systemic fungal infections in tropical fish are rare and generally considered to be difficult to diagnose and treat. As a result, not much is known about these conditions. A fungus that can cause systemic infections is *Ichthyophonus*. Infected fish show generalized poor health. Diagnosis is often made only through a post mortem examination. Stressed fish in poor quality water and environments are more susceptible to this disease. Some infected fish have been successfully treated with malachite green immersion baths.



How to Treat Fungal fish disease:

- 1- Identify your fish's disease. Fungal infections show up in a variety of different ways. Sometimes, and most commonly, your fish will develop a white film or white patches over parts of its body. This may seem like discoloration, but a closer look often reveals a white, fungus-like growth. Another sign of a fungal infection is pop-eye. The fish will have enlarged, filmy-white eyes that may face upward or seem non-functional. Fish will usually swim awkwardly and lie on the aquarium's bottom, or gasp for breath at the top of the water. They may stop eating, but not always.
- 2- Separate your fish. Since fungal infections are extremely contagious, the first thing to do is to move your sick fish into a treatment tank or bowl. There you can monitor its behavior and treat it without polluting the rest of your aquarium and throwing off its pH balance.
- 3- Choose a treatment option. Usually, fungal treatment comes in the form of a tablet or liquid, which should be administered carefully, following all instructions and warnings on the packages. Holistic remedies rarely work with fish, so strong antibiotics/medicines are usually required. Along with specific medication, salt baths can help fish with fungal infections. Using one tablespoon of aquarium salt per gallon, add the salt to your fish's quarantine tank. Next, mix until it has dissolved. Finally, add your fish and let it sit for ten to fifteen minutes before removing it and replacing the salt-water with clean, de-chlorinated water.
- 4- Create a specific diet. Good diets for sick fish must be balanced and complete, as well as regular. Never feed carnivores a herbivore's diet and vice versa. Feed fish 2-3 times a day depending on size, species, and age. Once you have a diet established, do not change it or add food, as it can kill an already stressed and possibly bloated fish.
- 5- Consider the fish's current state of comfort. If your animal is in pain or unable to swim at all, you may need to consider euthanasia.
- 6- After your pet has been cured, it's time to move it back to its permanent home. Make sure your fish is completely free of fungal growth, is swimming, eating, and acting normally, and has been

given at least five days after the infection has receded to rest and recoup energy.

Summary

Most aquarium owners will have to deal with a fungal infection at one time or another. Most infections can be successfully treated if caught early. Fungal infections are notorious for developing in unhealthy or injured fish, particularly in poorly-cared for tanks. If you see a fungal infection in your fish, make sure to check the water quality and insure that your tank is providing a healthy, safe, natural environment for all of your fish.



Dr.

em

