



## Toxic Effects of Ailments of the Fish Pathology and Its Risk of Loss due to Infectious Diseases and Breeds

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### DESCRIPTION

Research on the pathology of aquatic animal species has gained worldwide attention over time and has increased over the last 25 years due to the strengthening of aquatic production systems and global climate change. One of the first descriptions was reported in 1939 in the sponge due to a fungal infection called "debilitating disease". Since then, it has been affected by a large-scale epidemic and has undergone dramatic changes in community structure [1].

The most important time to be aware of these ailments is before you bring the fish home. This is an alphabetical list of the most common problems and ailments that can affect fish and their environment.

#### Ammonia poisoning

Ammonia poisoning is one of the biggest killers of aquarium fish and can occur frequently during new aquarium installations. Also, if too many fish are added at once, if a filter fails due to an electrical or mechanical failure, if a bacterial colony is killed by the use of chemicals, or if water conditions suddenly change. It can occur in established tanks. No increase in ammonia is seen, so regular monitoring is required. Frequent water testing can detect levels of non-ionized ammonia (NH<sub>3</sub>) long before it becomes an invisible fish killer [2].

#### Columnaris

Columnaris disease (also known as cottonmouth) is a symptom of a fish disease caused by an infection by the gram-negative, aerobic, rod-shaped bacterium *Flavobacterium columnare*. Formerly known as *Bacillus columnaris*, *Chondrococcus columnaris*, *Cytophaga columnaris*, and *Flexibacter columnaris*.

#### Fin rot

Fin and tail rot is one of the most common and most preventable diseases of aquarium fish. Fin and tail rot is caused

by several types of Gram-negative bacteria and often occurs with other illnesses. Fin and tail rot can be difficult to heal, especially in the more advanced stages. If left untreated, it will eventually kill the sick fish and infect all other fish in the aquarium.

#### Ich

Ich is one of the most common diseases in aquariums with tropical fish. Symptoms include small white spots on the body and gills that resemble grains of salt, frequent scratching of surrounding objects, loss of appetite, and abnormal hiding behavior [3].

#### Nitrite poisoning

Nitrite poisoning, commonly referred to as "brown blood," is an environmental disease Conditions affecting many of today's food-cultured fish species, including canals catfish. The cause is an increase in nitrite levels in the water of the pond or culture system or the presence of unusually high concentrations of nitrite has resulted in losses over the years millions of pounds of catfish and millions of sub lethal stresses.

#### Velvet

Velvet disease in fish is caused by the freshwater fish Dinophyceae parasites *Piscinoodinium pillulare* and the saltwater fish *Amyloodinium ocellatum*. These two parasites show the same clinical symptoms, but they are treated very differently. The epidemic of this parasite, also known as "rust" or "gold powder" disease, it can kill fish very quickly if not properly diagnosed and treated [4].

Host-pathogen interactions are very complex and can be established at multiple levels, from molecular, cellular and physiology to population and ecosystem levels. The host-pathogen interaction begins when the host organism is attacked by the pathogen. Eg, Viruses, bacteria, prions, fungi, viroids or parasites. This provokes a biological reaction. The pathogen then causes a defensive reaction. This interaction means bilateral

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induction of gene expression and protein synthesis, and ultimately if the infectious process can occur in the host and the host's response or defense system cannot counter the attack of the pathogen. It will lead to death. However, it provides a broader perspective on host-pathogen interactions that extend these interactions to the relevant microbial populations [5].

## CONCLUSION

The demand for animal protein consumed by humans is exponential growth of the world population. Aquaculture is increasing an important source of protein that humans can consume as an industry providing solutions to feed a rapidly growing population and reduce poverty in many countries. To achieve this, with the scale of aquaculture production, the range of breeding species has increased dramatically over the last two decades. Live Production always carries the risk of loss due to infectious diseases and breeds due to livestock practices in aquaculture, fish are more vulnerable than wild fish Diseases from a broad spectrum of bacterial, viral, parasite and fungal infections. Again, Trends towards high-density production systems, ecosystem disruptions balance related to pollution and climate change.

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