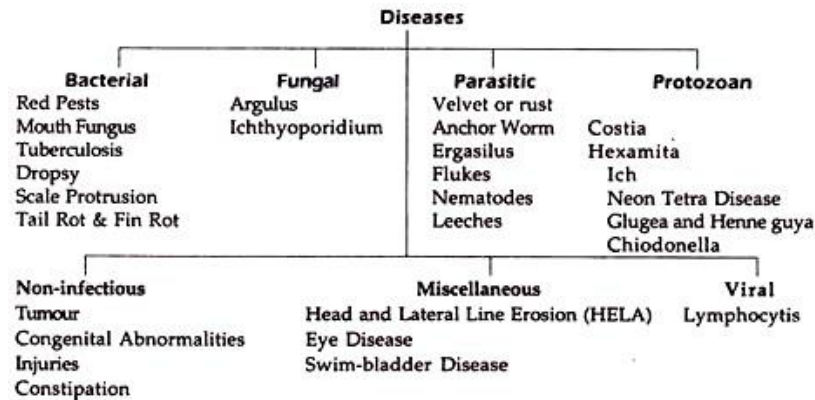


# MAJOR FISH DISEASES, SYMPTOMS & TREATMENTS



## 1. Bacterial Diseases of Fishes:

Bacterial diseases are usually characterized by red streaks or spots and/or swelling of the abdomen or eye.

### i. Red Pest:

#### Symptoms:

Bloody streaks on body, fins and/or tail appear, so it is called red pest. In severe infection these streaks could lead to ulceration and possibly followed by fin and tail rot with the tail and/or fins falling off.

#### Treatment:

External treatments are usually not effective as the disease is internal.

#### At the appearance of disease:

1. Treat the tank with a disinfectant and clean the tank as best as possible.

2. To disinfect, use acriflavine (trypaflavine) or monacrin (mono-amino-acridine) using a 0.2% solution at the rate of 1 ml per litre. Both disinfectants will colour the water, but the colour disappears as the disinfectants dissipate.

3. Do not feed a lot while the fish is being treated.

4. If the fish do not appear to respond favorably, discontinue disinfecting. Then add an antibiotic to the food. 1% of antibiotic may be carefully mixed with flake food. If you keep the fish hungry they should eagerly eat the mixture before the antibiotic dissipates.

Antibiotics usually available in 250 mg capsules. If added to 25 grams of flake food, one capsule should be enough to treat dozens of fishes. A good antibiotic are Chloromycetin (chloramphenicol) and use tetracycline.

## **ii. Mouth Fungus:**

### **Symptoms:**

White cottony patches around the mouth. It looks like a fungus attack of the mouth, so it is called mouth fungus. It is actually caused from the bacterium *Chondrococcus columnaris*. In the beginning a grey or white line appear around the lips and later short tufts arise from the mouth like fungus. This disease may be fatal due to production of toxins and the inability to eat. Hence treatment at an early stage is essential.

### **Treatment:**

Penicillin at 10000 units per litre is a very effective treatment. Second dose should be given in two days, or use Chloromycetin, 10 to 20 mg per litre, with a second dose in two days.

### **iii. Tuberculosis:**

#### **Symptoms:**

Emaciation, hollow belly, possibly sores. Tuberculosis is caused by the Bacterium *Mycobacterium piscium*. Fish infected with tuberculosis may become hollow bellied, pale, show skin ulcers and frayed fins, and loss of appetite. Yellowish or darker nodules may appear on the body or eyes. The main cause for this disease appears to be over-crowding in un-kept conditions.

#### **Treatment:**

There is no known and effective treatment for this disease. The best thing to do is to destroy the infected fish and, if un-kept conditions or overcrowding is the suspected cause, it is required to take necessary measures.

### **iv. Dropsy:**

#### **Symptoms:**

Bloating of the body, protruding scales. Dropsy is caused from a bacterial infection (*acromonas*) of the kidneys, causing fluid accumulation or renal failure. The fluids in the body build up and cause the fish to bloat up and the scales to protrude.

#### **Treatment:**

An effective treatment is to add an antibiotic to the food. With flake food, use about 1% of antibiotic and carefully mix it. Antibiotics in 250 mg capsules if added to 25 grams of flake food will be sufficient to treat dozens of fishes. A good antibiotic is Chloromycetin (chloramphenicol), or use tetracycline.

### **v. Scale Protrusion:**

#### **Symptoms:**

Protruding scales without body bloat. Bacterial infection of the scales and/or body causes scale protrusion. An effective treatment is to add an antibiotic to the food.

With flake food, use about 1% of antibiotic like Chloromycetin (chloramphenicol), or tetracycline.

#### **vi. Tail Rot & Fin Rot:**

##### **Symptoms:**

Disintegrating fins that may be reduced to stumps, exposed fin rays, blood on edges of fins, reddened areas at base of fins, skin ulcers with grey or red margins, cloudy eyes. It is caused by the bacteria *Aeromonas*. If tank conditions are not good an infection can be caused from a simple injury to the fins/tail. Tuberculosis can lead to tail and fin rot. Basically, the tail and/or fins become frayed or lose colour.

##### **Treatment:**

Treat the water or fish with antibiotics. A good antibiotic is Chloromycetin (chloramphenicol) or tetracycline. Treatment of 1%  $\text{CuSO}_4$  is also effective.

#### **vii. Ulcer:**

##### **Symptoms:**

Loss of appetite and slow body movements. It is caused by bacteria, *haemophilus*.

##### **Treatment:**

Give dip treatment in 1%  $\text{CuSO}_4$  for one minute for a period of 3 to 4 days. Antibiotics oxytetracycline and chloramphenicol may be useful in acute infection.

#### **Precautions during Treatment of Bacterial Diseases:**

Bacterial diseases are best treated by antibiotics such as penicillin, amoxicillin, or erythromycin. The most common parasitic disease called "Ich" can be treated most effectively with copper or malachite green in the right dosage.

Most medications contain copper as an ingredient. Many water treatments like "Aquari-Sol" will also contain copper as an ingredient. The copper may be harmful

to most plants and invertebrates, such as snails. Indeed, most snail removers are copper based.

Antibiotic may disturb biological filtration in the tank. Therefore, it is also recommended to monitor either ammonia and nitrite levels of water, or use an ammonia remover such as “Am-Quel” to be sure that the level of ammonia does not exceeds the desired limit.

## **2. Fungal Diseases of Fishes:**

### **i. Argulosis:**

#### **Symptoms:**

Caused due to Argulus (Fish louse). The fish scrapes itself against objects, clamped fins, visible parasites about 1/4 inch in diameter are visible on the body of the fish. The fish louse is a flattened mite-like crustacean about 5 mm long that attaches itself to the body of fish. They irritate the host fish which may have clamped fins, become restless, and may show inflamed areas where the lice have been.

#### **Treatment:**

With larger fish and light infestations, the lice can be picked off with a pair of forceps. Other cases can best be done with a 10 to 30 minute bath in 10 mg per litre of potassium permanganate or treat the whole tank with 2 mg per liter, but this method is messy and dyes the water.

### **ii. Ichthyosporidium:**

#### **Symptoms:**

Sluggishness, loss of balance, hollow belly, external cysts and sores.

Ichthyosporidium is a fungus, but it manifests itself internally. It primarily attacks the liver and kidneys, but it spread everywhere else. The symptoms vary. The fish may become sluggish, loosely balanced, show hollow bellies, and eventually show external cysts or sores. By then it is usually too late for the fish.

**Treatment:**

Phenoxethol added to food as a 1% solution may be effective. Chloromycetin added to the food has also been effective. But both of these treatments, if not watched with caution, could pose a risk to your fish. It is best, if diagnosed soon enough, to destroy the affected fish before the disease spreads.

**iii. Fungus (Saprolegnia):**

**Symptoms:**

Tufts of dirty, cotton-like growth on the skin, can cover large areas of the fish, fish eggs turn white. Fungal attacks always follow some other health problems like parasitic attack, injury, or bacterial infection. The symptoms are a grey or whitish growth in and on the skin and/or fins of the fish.

Eventually, if left untreated, these growths will become cottony looking. The fungus, if left untreated, will eventually eat away on the fish until it finally dies.

**Treatment:**

Use a solution of phenoxethol at 1% in distilled water. Add 10 ml of this solution per litre. Repeat after a few days if needed, but only once more as three treatments could be dangerous inhabitants.

If the symptoms are severe the fish can be removed and treated with small amount of providone iodine or mercurochrome. For attacks on fish eggs, most breeders

will use a solution of methylene blue adding 3 to 5 mg/l as a preventive measure after the eggs are laid.

### **3. Parasitic Diseases of Fishes:**

#### **i. Velvet or Rust:**

##### **Symptoms:**

Yellow to light brown “**dust**” on body, clamped fins, respiratory distress (breathing hard). This disease has the appearance of a golden or brownish dust over the fins and body. The fish may show signs of irritation, like glancing off aquarium decor, shortage of breath (fish-wise), and clamping of the fins.

The gills are usually the first thing affected. Velvet affects different species in different ways. Danios seem to be the most susceptible, but often show no discomfort. The disease is highly contagious and fatal.

##### **Treatment:**

The best treatment is with copper at 0.2 mg per litre (0.2 ppm) to be repeated once in a few days, if necessary. Acriflavine (trypaflavine) may be used instead at 0.2% solution (1 ml per liter). As acriflavine can possibly sterilize fish and copper can lead to poisoning, the water should be gradually changed after a cure has been effected.

#### **ii. Anchor Worm (Lernaea):**

##### **Symptoms:**

The fish scrapes itself against objects, whitish-green threads hang out of the fish's skin with an inflamed area at the point of attachment. Anchor worms are actually crustaceans.

The young are free swimming and borrow into the skin, go into the muscles and develop for several months before showing. They release eggs and die. The holes

left behind are ugly and may become infected. The anchor worm is too deeply imbedded to safely remove.

**Treatment:**

A 10 to 30 minute bath in 10 mg per litre of potassium permanganate, or treat the whole tank with 2 mg per litre, but this method is messy and dyes the water.

**iii. Ergasilus:**

**Symptoms:**

The fish scrapes itself against objects, whitish-green threads hang out of the fish's gills. This parasite is like the anchor worm, but is smaller and attacks the gills instead of the skin.

**Treatment:**

Treatment can best be done with a 10 to 30 minute bath in 10 mg per litre of potassium permanganate.

**iv. Flukes:**

**Symptoms:**

The fish scrapes itself against objects, rapid till movement, mucus covering the gills or body, the gills or fins may be eaten away, the skin may become reddened. There are many species of flukes, which are flatworms about 1 mm long, and several symptoms that are visible. They infest gills and skin much like Ich, but the difference can be seen with a hand lens.

You should be able to see movement and possibly eyespots, which is not found in Ich. Gill flukes will eventually destroy the gills thus killing the fish. Symptoms of heavy infestations are pale fish with drooping fins, rapid respiration, glancing off aquarium decor, and/or hollow bellies.



**Treatment:**

Treatment can best be done with a 10 to 30 minute bath in 10 mg per litre of potassium permanganate. Or treat the whole tank with 2 mg per litre, but this method is messy and dyes the water.

**v. Nematoda:****Symptoms:**

Worms hanging from the anus. Nematodes (threadworms) infect just about anywhere in the body but only shows itself when they hang out of the anus. A heavy infestation causes hollow bellies.

**Treatment:**

Two treatments have been suggested. First treatment: soak the food in para-chloro-meta-xyleneol and give the fish a bath or treat the aquarium with 10 ml per litre. The bath should last for several days. Second treatment: find special food containing thiabendazole as a nematode (threadworm) cure and hope the fish will eat it.

**vi. Leeches:****Symptoms:**

Leeches are visible on the fish's skin. Leeches are external parasites and affix themselves on the body, fins, or gills of the fish. Usually they appear as heart shaped worms (they are just curled up) attached to the fish. Since leeches are sucking and borrowing into the surface of the fish, removal with forceps can cause great damage, if not death, to the fish.

**Treatment:**

If the fish is bathed in a 2.5 percent solution of salt for 15 minutes, most of the leeches should just fall off. Those that do not will be affected enough to remove

with forceps with minimal damage. Another treatment is to add Trichlorofon at 0.25 mg/l.

#### **4. Protozoan Diseases in Fishes:**

##### **i. Costia:**

###### **Symptoms:**

Milky cloudiness on skin.

###### **Treatment:**

This is a rare protozoan disease that causes a cloudiness of the skin. The best treatment is with copper at 0.2 mg per liter (0.2 ppm) to be repeated once in a few days, if necessary. Acriflavine (trypaflavine) may be used instead at 0.2% solution (1 ml per litre). As acriflavine can possibly sterilize fish, and copper can lead to poisoning, the water should be gradually changed after a cure has been effected.

##### **ii. Hexamita:**

###### **Symptoms:**

Caused by intestinal flagellated protozoa that attack the lower intestine. As it is a disease of the digestive tract, characterized by the loss of appetite.

###### **Treatment:**

An effective treatment is the drug metronidazole. A combined treatment in the food (1% in any food the fish will eat) and in the water (12 mg per liter) is recommended. Repeat the water treatment every other day for three treatments.

##### **iii. Ich (Ichthyphthirious):**

###### **Symptoms:**

Salt-like specks on the body fins. Excessive slime. Problems in breathing (Ich invades the gills), clamped fins, loss of appetite. Ich, white spot disease, whatever the name, this is the most common malady experienced in the home aquarium.

Luckily, this disease is also easily cured if noticed in time. Ich is actually a protozoa called *Ichthyophthirius multifiliis*.

There are three phases to the life cycle of these protozoa. Normally, to the amateur aquarist, the life cycle is of no importance. However, since Ich is susceptible to treatment at only one stage of the life cycle, an awareness of the life cycle is important.

### **Adult Phase:**

It is embedded in the skin or gills of the fish, causing irritation (with the fish showing signs of irritation) and the appearance of small white nodules. As the parasite grows it feeds on red blood cells and skin cells. After a few days it bores itself out of the fish and falls to the bottom of the aquarium.

### **Cyst Phase:**

After falling to the bottom, the adult parasite forms into a cyst with rapid cell divisions occurring.

### **Free Swimming Phase:**

After the cyst phase, about 1000 free swimming youngs swim upwards looking for a host. If a host is not found within 2 to 3 days, the parasite dies. Once a host is found the whole cycle begins a-new.

### **Treatment:**

The drug of choice is quinine hydrochloride at 30 mg per litre (1 in 30000). Quinine sulphate can be used if the hydrochloride is not available. The water may cloud but this will disappear. By reducing the time (with raised temperature) of the phases, you should be able to attack the free swimming phase effectively. Most

commercial remedies contain malachite green and /or copper, which are both effective.

#### **iv. Neon Tetra Disease:**

##### **Symptoms:**

Whitened areas deep into the fishes flesh. Muscle degeneration leading to abnormal swimming movements. So named for the fish it was first recognized on. It is caused by the sporozoa *Pleistophora hyphessobryconis*. Even though it is named after Neon Tetras, it can appear on other fish. Whitish patches appear as if just below the skin.

In Neon Tetras it destroys the bright blue-green neon stripe. The organisms form cysts which burst and release spores. The spores penetrate further and form more cysts. Eventually, the spores migrate to the water and are eaten by other fish in the food. These spores migrate into the digestive tract, then the muscles, and a new infection starts.

##### **Treatment:**

There is no known cure. It is best to destroy the infected fish and clean the aquarium.

#### **v. Glugea and Henneguya:**

##### **Symptoms:**

Similar to Lymphocytes, the fish will have nodular white swellings on fins or body.

##### **Treatment:**

Glugea and Henneguya and sporozoans that form large cysts on the fish's body and release spores. Luckily, these diseases are very rare. The fish bloat up, with

tumour- like protrusions, and eventually die. No cure, as of yet. It is best to destroy the infected fish before the spores spread.

#### **vi. Chilodonella:**

##### **Symptoms:**

Dulling of the colours due to excessive slime, fraying of the fins, weakness, gill damage. This disease causes a blue white cloudiness on the skin and attacks the gills. Later the skin may be broken down and the gills destroyed. The fish may behave as if they have irritations.

##### **Treatment:**

Acriflaving (trypaflaving) may be used at 1% solution (5 ml per litre). As acriflavine can sterilize fish, the water should be gradually changed after a cure has been effected. It also helps to raise the temperature to about 80 °F.

#### **vii. Whirling Disease:**

##### **Symptoms:**

It is also a protozoan disease, caused by *Myxosoma cerebralis*. Blakeening of tail, caudal band and deformity of anal region are common symptoms.

##### **Treatment:**

Destroy all the diseased fishes by applying quicklime at the rate of 1kg/ha.

#### **viii. Knot Disease:**

##### **Symptoms:**

It is caused by protozoa, *Myxobolus exigus*. Salt knots appear on the skin.

##### **Treatment:**

There is no effective treatment. Therefore, all infected fishes should be removed immediately and killed.

## **ix. Bio-Disease:**

### **Symptom:**

It is caused by protozoa, *Myxobolus pfcifferi*. Large boils of varying size of nut appear in several parts of the body.

### **Treatment:**

Give bath in 3% common salt solution or in 1% formalin solution for 10 minutes.

## **x. Myxosporidiosis:**

### **Symptoms:**

It is caused by infection of Myxosorida. Cysts appear on the body, internal tissues and organs. Fish becomes weak. Scales become weak, perforated and fall off.

### **Treatment:**

Give dip treatment in 10% common salt solution.

## **5. Non-Infectious Maladies in Fishes:**

### **i. Tumours:**

Tumours can be caused by a virus or a cancer, but most tumours are genetic. The genetic tumours may be caused from too much hybridization, common amongst professional breeders. Practically all tumours are untreatable. If the fish is in distress, it should be destroyed.

### **ii. Congenital Abnormalities:**

Abnormalities usually occur when professional breeders are trying to acquire certain strains in breeds.

### **iii. Physical Injuries:**

As in the human world, accidents happen in the lives of fishes also. If the cause of the injury is obvious, it should be remedied. Then the injury should be treated.

Then injury should be touched with 2% mercurochrome, which is supplied commercially.

Also, depending on the fish's tolerance to water conditions, keeping the fish in slightly acid- water should speed recovery (pH 6.6). Minor injuries, if the water conditions are good, should just heal themselves.

#### **iv. Constipation:**

Some fishes are more susceptible to constipation than others. Usually fish with more compressed bodies like angelfish and silver dollars. Symptoms are loss of appetite and swelling of the body. The cause is almost always diet.

Usually, with a change of diet, the condition rights itself. But in stubborn cases try dried food that has been soaked in medicinal paraffin oil. Glycerol or castor oil may also be used. If the diet is changed on a regular basis and live foods offered are occasionally, this condition may never occur.

The intensification and further development of freshwater aquaculture in India urgently requires knowledge, research facilities and research and expertise on fish diseases and fish health protection.

### **6. Miscellaneous Diseases in Fishes:**

#### **i. Head and Lateral Line Disease (also known as Hole-in-the-Head disease):**

##### **Symptoms:**

Begins as small pits on the head and face, usually just above the eye. If untreated, these turn into large cavities and then the disease progresses along the lateral line. Head and Lateral Line Disease is attributed to a nutritional deficiency of one or more of vitamin C, vitamin D, calcium, and phosphorous.

It is thought to be caused by a poor diet or lack of variety, lack of partial water changes or over filtration with chemical media such as activated carbon.

**Treatment:**

**HLLE has been reversed by one or more of the following treatments:**

1. Increase frequent water changes.
2. Add vitamins to frozen foods.
3. Add flake foods, as they are enriched with vitamins.
4. Add green, either frozen or in leaf form, to the diet.
5. Decrease the amount of beef heart as it lacks many critical nutrients.

(This disease is often confused with another disease called Hexamita, because both these diseases are often seen simultaneously in the same fish. Hexamita is a protozoan disease that attacks the lower intestine).

**ii. Eye Problems:**

**Symptoms:**

Cloudy cornea, opaque lens, poor eye, swelling, blindness.

1. Cloudy cornea can result from a bacterial invasion. Antibiotics may help.
2. Opacity can result from poor nutrition or a metacercaria invasion (grubs).  
Try foods with added vitamins and change the diet to include variety.
3. Pop eye (exophthalmia) can result from rough handling, gas embolism, tumours, bacterial infection, or vitamin A deficiency. Gas bubble or bacterial infection can be treated successfully with penicillin or amoxicillin.



4. Blindness can be caused by poor nutrition or excessive light. Lowering the light level and a change of diet to include lots of variety may help prevent it.

### **iii. Swim-Bladder Disease:**

#### **Symptoms:**

Abnormal swimming pattern, difficulty in maintaining equilibrium.

Swim bladder problems usually indicate another problem listed here.

**If you suspect swim-bladder problems in a fish, first check and treat it for other diseases as listed below:**

1. Congenitally deformed bladder.
2. Cancer or tuberculosis in organs adjacent to swim bladder.
3. Constipation
4. Poor nutrition
5. Serious parasitic and bacterial infestation.

## **7. Viral Disease in Fishes**

### **Lymphocytis:**

#### **Symptoms:**

Nodular white swellings (cauliflower) on fins or body. Lymphocystis is a virus and being a virus, affects the cells of the fish. It usually manifests itself as abnormally large white lumps (cauliflower) on the fins or other parts of the body. It can be infectious but is usually not fatal. Unfortunately, there is no cure. Fortunately, this is a rare disease.

#### **Treatment:**

There are two suggested treatments. One treatment is to remove and destroy the infected fish as soon as possible. The other treatment is to simply separate the infected fish for several months and wait for remission, which usually does occur.