

Chilodonella

What is Chilodonella?

Chilodonella species are single-celled, microscopic organisms. They are ciliates, meaning that their bodies possess small hair-like structures called cilia. Most are free-living and are not parasites. However, *Chilodonella hexasticha* and *Chilodonella piscicola* are external parasites (ectoparasites) that infect a wide range of freshwater fish species.

They are found on the skin and gills of fish, and can multiply rapidly in both cold (5-10°C) and warm water. Both can be very damaging to fish and cause serious disease.

What does Chilodonella do?

Chilodonella damage the skin and gills of fish. Infections can lead to emaciation, loss of condition, hypoxia (lack of oxygen), lethargy and even death. During heavy infections the parasites can cover almost the entire surface of the fish. They break down the surface of the skin and gills, feeding on the debris.

Heavily infected fish increase mucus production and have a grey, mottled appearance to the skin. Hyperplasia (an excess of tissue cells) occurs within the gills. The gill lamellae can fuse, reducing the area over which respiration can occur. In severe cases the gills eventually become necrotic, causing the fish to suffocate.

Minimising the threat of Chilodonella- what can I do?

Once an outbreak of this parasite occurs there is little that can be done to stop the damage it causes. Chemical treatments are impractical in a fishery and largely ineffective. The best way of avoiding disease problems is through good fisheries management. Measures include:

Reducing stress within the fish population

Stress is an important factor that can allow parasites to successfully infect fish. Stressors include high stock densities, poor habitat and poor water quality.

Taking care when introducing new fish into a fishery

Care should always be taken to limit stress to fish during stocking. Particular care is needed during spring and summer. This period can be stressful to fish and favours rapid parasite reproduction.



Chilodonella viewed under a high power microscope



A carp with heavy Chilodonella infection, displaying excess mucus

Careful management of stock levels

High stock densities are a common cause of parasite problems in fisheries. This makes it easier for the parasite to find a fish to infect.

Regularly monitoring water quality

Regularly monitoring water quality, including dissolved oxygen content and ammonia levels, helps to detect the early signs of problems.

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