

Ichthyobodo necator

What is *Ichthyobodo necator*?

Ichthyobodo necator is a common parasite that infects a wide range of freshwater fish species. It is a single-celled microscopic organism and has two flagella. These are thread-like structures that are used during movement. Found in both a free-living form and a parasitic, feeding form, it can multiply rapidly in both cold and warm water.

The parasite is found on the skin and gills of fish, most commonly attaching to the edges of the gills. Infected fish have a disease called ichthyobodosis (sometimes known as costiosis).

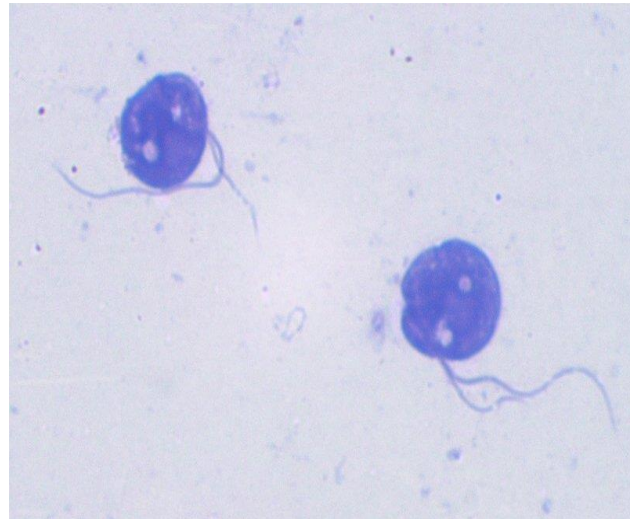
What does *Ichthyobodo necator* do?

Ichthyobodo necator causes damage to the gills and skin of fish. Infected fish can lose condition, become emaciated and be very lethargic. These symptoms can be seen in fish with only a light infection. The attachment and feeding of *Ichthyobodo necator* causes severe damage to skin and gill cells. Hyperplasia (an excess of cells) can occur within the gills, reducing respiratory efficiency.

The gills may also swell with fluid, and fish often die as they are unable to control the movement of water into and out of their bodies. The parasite also causes irritation and infected fish produce excess mucus. Young fish and stressed fish are particularly susceptible. Fish exposed to low temperatures, for example over-wintering fish, have a low immune system and are also at greater risk.

Minimising the threat of *Ichthyobodo necator*

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



A close up of Ichthyobodo necator, showing flagella



Carp with heavy infection of Ichthyobodo necator

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 rising temperatures. This period can be stressful to fish and favours rapid parasite reproduction.

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 and can help them to spread rapidly.

Regularly monitoring water quality

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

This factsheet has been produced by:

**National Fisheries Laboratory, Monitoring: Laboratories, Environment Agency,
Bromholme Lane, Brampton, Huntingdon, PE28 4NE**

Tel: 02084 745244; Email: fish.health@environment-agency.gov.uk