

Hexamita

I. Causative Agent and Disease

Hexamita is a pyriform-shaped protozoan (6-12 um long by 3-5 um wide) with eight (6 anterior and 2 posterior) flagella. This is largely an intestinal parasite of salmonids which can cause fatal tissue and systemic visceral infestations (hexamitosis) in other fish species.

II. Host Species

Members of the genus *Hexamita* parasitize wild, farmed and aquarium freshwater fish and amphibians worldwide. In cold and temperate waters many fish families are potential hosts. *H. salmonis* most commonly parasitizes salmon species.

III. Clinical Signs

Fish parasitized with *Hexamita* may not have any clinical signs. However, when parasites are numerous fish may show signs of anorexia, emaciation, weakness, listlessness, pale gills, abdominal distention, fecal casts, a hemorrhagic vent, exophthalmia and/or dark body coloration.

IV. Transmission

Transmission occurs horizontally in the water by the fecal-oral route where ingestion of cysts or vegetative stages (trophozoites) occurs by a fish host.

V. Diagnosis

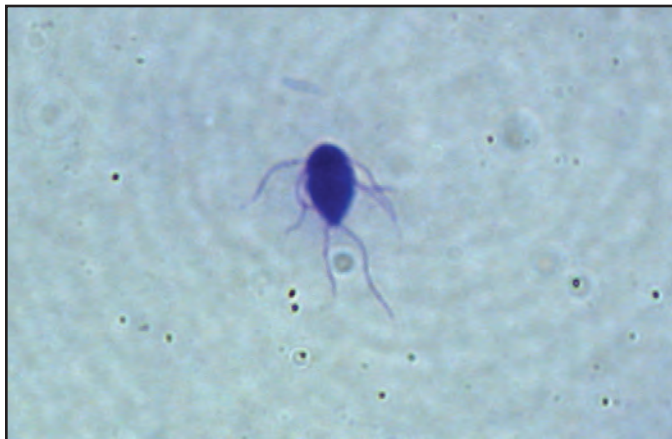
Diagnosis is made by observation of the protozoan in fecal contents of the gastrointestinal tract or, if systemic, from visceral smears of parasitized fish. Confirmation is by morphological identification of the parasite based on body shape, size, number and location of flagella using phase contrast or bright field microscopy.

VI. Prognosis for Host

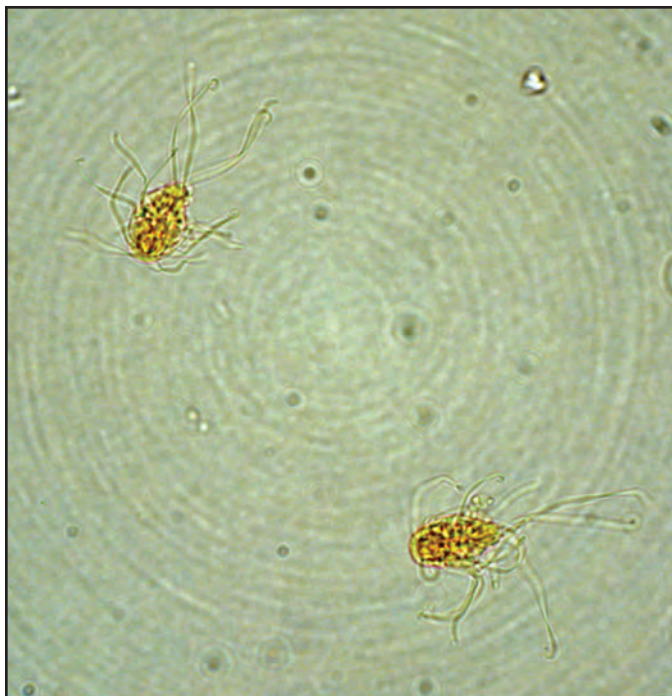
Prognosis for fish host is dependent upon tissue affected and degree of infestation. Mortalities are associated with heavy, systemic infestations of *Hexamita*. Damage to the intestinal epithelium, intestinal obstruction and anemia contribute to pathological changes in the fish host. Dietary administration of 3% magnesium sulfate has been an effective treatment for purging the organism from the intestine in salmonids.

VII. Human Health Significance

Hexamita is not known to be a human health concern.



Single *Hexamita* stained with Giemsa, X 400.



Two *Hexamita* stained with iodine showing posterior and anterior flagella, X 400.