

## **MOST COMMON GOLDFISH DISEASES - PART 3**

Written by Anita Hovanesian, BAS, The Daphnian, January 1991

Sunday, 25 June 2017 01:51 - Last Updated Tuesday, 09 January 2018 01:37

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### **“ICK”, ICHTHYOPHTHIRIUS MULTIFILIS OR WHITE SPOT DISEASE**

By: Anita Hovanesian, BAS

Published in The Daphnian, January 1991

“Ick” or white spot disease is quite common among both goldfish and tropical fish species. It is usually associated with rapid temperature changes or stress. A fish may look totally asymptomatic when purchased, but within 48 hours may be covered with small, round, white spots. If heavily infested, he may also be gasping at the water’s surface.

This disease is caused by a large ciliate which in it’s encysted feeding stage is called a trophont (visible to us as a white spot on the fish). As the trophont grows and enlarges, it breaks through the host’s epithelium and drops to the bottom of the tank where it quickly fixes itself to the gravel or ornaments. In this stage it is called a tomont. The tomont begins to undergo mitosis and produces 250-1000 small, pear-shaped, ciliated swimmers called theronts (about 30 microns in size). The theronts actively pursue a host fish and penetrate his skin and gill epithelium. They then enlarge and become visible to us as a white spot and the cycle again repeats itself. The fish becomes weaker, and due to gill infestation slowly succumbs and dies if left untreated.

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The time required for the ciliate to complete one whole cycle (trophont to theront) depends entirely on water temperature. The lower the temperature, the longer it takes. (Example: at 45 degrees F the life cycle is approximately 40 days. At 77F the complete cycle is only 4 days). This is why it is recommended to increase water temperature during treatment.

Ichthyophthirius metafiles is only susceptible to treatment in the “swarmer” stage (theront). Therefore, increasing the water temperature reduces the length of treatment because the ciliate goes into the swarmer stage quicker. Pond fish can be easily treated during the summer, but if “Ick” is discovered later in the fall, treatment may have to be done inside, where water conditions can be better controlled, or held off until next spring.

Another point of interest is that “Ick” takes on a different appearance during the winter on pond fish. The encysted ciliate remains in the trophont stage much longer and due to the low temperatures remains hidden within the host’s epithelium. The cysts location is marked by large waxy bumps - not the little white spots we are all familiar with. This phenomenon is very well explained by Stephen M. Meyer in the December 1990 issue of Aquarium Fish magazine.

He suggests that treatment be withheld until Spring when water temperatures have reached around 69 degrees, otherwise the fish have to be exposed to medications for periods longer than a month and a half. This “bump” appearance is not explained in any of the books available to aquarists, as most of us only deal with aquarium fish. As the hobby grows, however, and more of us invest in ponds and pond fish - I’m sure it will be mentioned in the future.

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Treatment for "Ich" is quite simple. Increase the temperature in the aquarium and add any one of the following medications: Tetra Ponds' Desafin (made for ponds, but is just as effective in lower equivalent doses for aquarium fish), Kordon's Rid-Ick, or Mardel Laboratories Maracide. I personally have used Desafin and Maracide with excellent results by following their directions explicitly. For pond fish, Stephen Meyer suggests the entire pond be treated versus individual fish as the ponds' bottom is probably covered with the little "swammers". A fish which has been treated individually outside of the pond may get re-infected upon return to the pond.

Another way of treating Ick is by transferring the fish into a clean tank every day for 7 days at 78F - a self-cure should be effected in 7-10 days using this method. One must be very careful to maintain identical temperatures and pH so as not to unduly stress the fish. Diatom filtration can also cut down on active "swarmer" populations. These methods can be used if an aquarium is heavily planted and the aquarist does not wish to expose the tank to medications. The swarmers in the original infested tank will eventually die because no host fish is present.

Fortunately for us, "Ick" is usually not fatal and is only a nuisance. If treatment is initiated according to the manufacturers directions and the temperature is brought up to around 78F it will easily be cured. One must try to find out, however, what type of stress caused the outbreak. Most fish have a fairly good natural immunity to the little pest and only get it if stressed, or if a heavily infested fish is placed among healthy ones.

Next month: Drophy or "Pine Cone Disease"

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3. Fish Pathology, by Heinz-Hermann Reichenback-Kline and Marsha Landolt, TFH Publications
  
4. Aquarium Fish Magazine, December, 1990

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