How to Identify & Prevent Saltwater Ich (*Cryptocaryon irritans*)

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Saltwater ich (ick), or "white spot disease" is one of the most common diseases that infect marine fish in home aquariums. It is caused by *Cryptocaryon irritans*, and is similar to freshwater ich. Infection with *Cryptocaryon* is often confused with another common saltwater disease called *Amyloodinium* (velvet). Therefore, proper identification is necessary for correct treatment and prevention of this disease.

What is *Cryptocaryon*?

Cryptocaryon is a fully ciliated protozoan that is present in all saltwater environments. It is prevalent in marine aquariums, aquaculture ponds, and in import and wholesale holding environments. This widespread protozoan penetrates the skin and gills of the fish. Depending on the immune status of the fish, it can cause symptoms as mild as just a few small white spots to more severe symptoms including severe irritation, loss of appetite, lethargy, severe respiratory distress, and death.

Why do fish get *Cryptocaryon*?

Most wild fish are exposed to low levels of this parasite but are able to effectively fight off the infection without becoming seriously ill. In contrast, due to a relatively small volume of water and a concentrated population of fish, the number of *Cryptocaryon* has the opportunity to explode in the home aquarium. High levels of stress caused by poor water conditions, improper diet, or aggression from existing tank mates can further aggravate the situation. As a result, even low, non-problematic numbers of *Cryptocaryon* protozoan can rapidly cause serious infections.

Identifying *Cryptocaryon*

Cryptocaryon is not too difficult to identify because of the characteristic white spots. The white spots are 0.5-2.0 mm in size and have a tendency to appear first on the pectoral fins. As a result, infected fish may swim with folded or clamped fins. As the disease progresses, the spots will become more wide spread and the eyes of the infected fish may become cloudy. A secondary fungal infection may also appear on the skin. If the infection is concentrated in the

gills or is in the early stages, the fish may show irritation, respiratory distress, and lethargy without having any visual spots.

Treating *Cryptocaryon*

The treatment for *Cryptocaryon* is fairly straightforward provided the cause of the stress is corrected. By far, the most popular and effective treatment is copper. There are a variety of copper products available for use in the home aquarium. These copper-based medications will provide proper treatment, if used at the correct dose. Even at very low amounts, copper is very toxic to invertebrates and can never be used in reef aquariums or aquariums with invertebrates. To ensure proper treatment, move the infected fish to a bare bottomed quarantine or treatment tank. It is essential to follow the manufacturer's instructions and use a copper test kit to monitor and maintain therapeutic levels of copper. Other methods that are sometimes used to control both freshwater and marine ich are high wattage UV sterilizers and diatom filters. The very fine diatom filters can help strain *Cryptocaryon* out of the water during its free-floating stage. A properly sized UV sterilizer will also kill the free-floating *Cryptocaryon*.

Preventing *Cryptocaryon*

The old saying that "prevention is the best form of medicine" is very true of all marine disease. It is especially true of *Cryptocaryon*. All new fish should be placed in a quarantine tank for at least 2-3 weeks to make sure they are eating, free of disease, and are able to recuperate in a stress-free environment. Properly treat any sick fish before introducing them to the main display aquarium. Keep in mind that the quarantine tank must be clean, appropriately sized with efficient filtration, and have proper water parameters. Provide adequate hiding places to further decrease fish stress.

Remember, stress is the enemy of fish health. *Cryptocaryon* will target stressed fish with lowered immune systems. Reduce fish stress to decrease disease incidence. Good husbandry practices such as maintaining water quality, correct nutrition, stable temperature, and meeting habitat requirements contribute to the overall health of your aquarium inhabitants.

RELATED INFORMATION

- How to Promote Fish Health and Prevent Disease in Your Aquarium
- Treating Ich Without Harming Invertebrates
- Why Fish Food Alone May Leave Gaps in Aquarium Nutrition
- How to Prevent Ich by Maintaining Proper Water Temperature

Ich (pronounced "ick") short for *Ichthyophthirius*, is an external parasite often referred to as "white spot disease." Aquarium fish manifest symptoms when under stress or housed in improper aquarium conditions. Most often, it is brought on by fluctuating aquarium temperatures.

The symptoms of Ich can start with fish holding their fins close to their body. Progressive symptoms include fish hanging at the surface, as though it's hard to breathe, or fish trying to scratch themselves on rocks. Eventually, the parasites grow large enough to be easily visible, and fish appear to be "salted." The white spots may first appear on fins or gills but can eventually cover the entire body.

Quick treatment is required to save the fish. However, prevention, in the way of proper fish husbandry including stable water temperatures, is much easier.

Effective against Ich, closed fins, velvet, body fungus, hole-in-the-head, and vibrio, without chemicals or pesticides

A buffered, active copper that is safer than copper sulfate or chelates for eradicating ectoparasites.

A necessity to monitor and maintain therapeutic levels of copper.