Treating Marine Ich with Hypo-Salinity

Is hypo-salinity a safe way to treat marine ich?

By Jeremy Gosnell

Q. I occasionally have an outbreak of the ich parasite in my saltwater aquarium. The people at my local fish store have told me to treat ich with hypo-salinity. They claim this is better for the fish and said it doesn't cause as much stress. Also, they said that hypo-salinity is safe for corals and invertebrates. Is that true? How do I approach treating my tropical fish using hypo-salinity?
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A. I agree with the people at your local fish store that hypo-salinity is a good way to treat saltwater ich and a variety of other parasites that can harm tropical fish. Hypo-salinity, as they mentioned, is safer for aquatic animals (mainly fish) and does not stress the animal as much as many of the chemical solutions aquarists use. Also, hypo-salinity does not have the long-term effects that copper-based treatments can have, such as binding to aquarium décor and silicone, making it impossible to ever keep invertebrates in the aquarium.

I will have to disagree with the people at your local fish store that hypo-salinity is safe for corals and invertebrates. Because the majority of these animals require densities that match natural reef ecosystems and cannot osmoregulate the way that tropical fish do, I would think placing them in a hypo-saline environment would cause them to perish. I have heard the occasional story of a hermit crab or snail surviving in an aquarium where hypo-salinity was performed, but I personally think these stories are the exception rather than the rule.

The first step in treating your ornamental fish with hypo-salinity is establishing a hospital aquarium. Live rock and sandbeds are home to beneficial crustaceans, so hypo-salinity can wipe out animals we want along with the parasites we do not. This excess die-off can raise nutrient values in the display aquarium, causing more problems for the aquarist and leading to more health issues for the aquarium's inhabitants. A hospital aquarium used for hypo-salinity treatments needs only a sponge filter cycled in the main aquarium, heater and various decorations (I prefer clay pots). Start with a density that matches your display aquarium, say perhaps 1.025. On the first day you would remove enough saltwater and replace it with freshwater to drop that density two points, down to 1.023.

Continue this same routine daily, lowering the density two points until you have a density of 1.009 in the aquarium. One thing to check carefully is pH values. I recommend curing a large amount of freshwater with a pH value that matches that of your main aquarium's saltwater so that you don't get large swings in pH, thus stressing the fish. The theory behind hypo-salinity is that fish can adjust to a variety of water properties through natural osmoregulation. Parasites and invertebrates, being simpler animals, cannot adjust to this dramatic change in water composition and die. In my experience hypo-salinity has been effective in treating saltwater parasites especially in fish that are prone to outbreaks, such as surgeonfish. I normally recommend keeping an infected ornamental fish in a hypo-saline environment for one to three months. After 30 days slowly raise the salinity back to normal levels and see if the parasites return. If after a month of being in normal salinity the ornamentalfish shows no signs of reinfection then likely the parasite is under control.

When implementing this treatment method, one important consideration is that dip-style and floating hydrometers are far too inaccurate to allow safe treatment with hypo-salinity. I recommend a lab grade refractometer be used. These are highly precise and allow for a direct and easily read measurement of water density and salinity.

While hypo-salinity does place some stress on the animal, I personally think that when it's done correctly it is one of the more effective and better methods for parasite treatment.