



Minimising Disease

**In Your
Saltwater
Aquarium**

by Andrej Brummer

One of the most frightening moments of being a saltwater aquarium owner is waking up one morning and discovering one of your precious pets distressed and showing obvious signs of a nasty disease.

What most aquarists don't realise is that Fish disease does not have to occur in your aquarium at all, contrary to popular belief it does not have to be a "fact of life" in a saltwater system.

Although disease causing organisms are usually present in all saltwater aquariums most of the time, they do not reveal themselves (by causing disease symptoms) until our pets immune systems are compromised by poor environmental factors or nutrition. That said, there are some specific nasty disease causing pathogens and parasites that you definitely want to avoid getting into your system.

It is completely possible for savvy, educated aquarists to avoid diseases in their marine life altogether and today I'm going to briefly introduce some of the major diseases and tell you how you can avoid disease outbreaks in your aquarium altogether.



Disease is basically defined as a deviation from a normal healthy state and not all marine life disease is caused by nasty bugs specifically.

First of all there are different causes of disease in captive marine life from different causative agents, it really helps to know which of these is causing the symptoms you are seeing in order to effectively diagnose and correct the condition:

1. Environmental disease:

This arises from incorrect chemical and physical water parameters in your aquarium causing massive stress and so disease. You need to check water parameters regularly, especially after you have noticed any disease symptoms.

2. Nutritional disease

This results from marine life not receiving the correct nutrition for good health, another cause of stress. This usually results from certain food types and nutrients being left out of their diet that the particular species requires.

3. Social disease

This results from a lack of compatibility of marine life in the aquarium and the fish in question is having problems with members of its own or other species in terms of its social interaction (or lack of interaction) with them. Numbers of fish present (overstocking) and sexes of fish play a role in this too. Bullying is a very good example of this and causes a lot of stress, which can result in disease symptoms if not rectified.



4. Parasitic disease

Parasites are small organisms such as crustaceans, protozoan and worms that live inside on other species and cause harm such as saltwater Ich or marine velvet.

5. Infectious disease

The culprits here are microorganisms such as viruses, bacteria and fungi. In almost all cases the infection has resulted from environmental or nutritional problems.



Major marine fish diseases we see in saltwater aquariums

Head and lateral line erosion (HLLE) disease

This disease mainly affects the lateral lines (tubular sensory organs believed to be involved in electro-sense and echolocation) around the body of fish and presents itself as a pitting around the head and lateral lines. The disease itself is not fatal but the open wounds allow for secondary infection, which can kill the afflicted fish. HLLE seems to be generally caused by environmental conditions.

Marine Velvet (aka Oodinium, Coral fish disease)

This “Ich” type disease is caused by the dinoflagellate (algae like organism) *Amyloodinium Ocellatum* and can easily cause the demise of an entire aquarium as it reproduces and spreads rapidly. It appears as a fine white powder (hence the name velvet) upon the bodies of infected fish.

Whitespot disease (aka Saltwater ich) this is the most common “Ich” disease in saltwater aquariums caused by a ciliated protozoan parasite *Cyrtocaryon Irritans*. It has a complicated lifecycle and is most easily treated for in its free swimming “Tomite” stage. Again this parasite infestation is in the form of white spots on the fish mostly around the head, gills and base of the fins. Other signs are excessive mucus production, cloudy eyes, flashing and scratching and rapid respiration.

Brooklynellosis (aka Clownfish disease) is caused by another protozoan *Brooklynella hostilis*. This infection is commonly associated with Clownfish and other damselfish but infects other species as well. The symptoms include skin lesions, thick white mucus, gasping near the surface, lethargy and paling in colour. Like the above 2 “whitespot” diseases it can spread to other fish fast and can be fatal if left untreated.

Black spot, Black ich or Tang disease is caused by a flatworm parasite called *Paravortex* and is usually found on tangs or Surgeonfish. The flatworms resemble black spots on the fish’s body and are fairly easy to get rid of. However they can be difficult to completely remove from the infected aquarium.



Key strategies to avoid disease

1. Minimise environmental stress

Environmental stress is actually the cause of the majority of all fish disease, just like in us people stress lowers the immune systems defences of the afflicted fish making it susceptible to any pests or pathogens floating around that it would normally be able to ward off. If you eliminate environmental stress to the best of your ability and effectively keep disease-causing organisms out of your display tank then you have given yourself the best possible chance of disease free aquarium keeping possible!

So how do you minimise environmental stress?

(a). Ensure your water quality is optimal at all times, this means regular maintenance, partial water changes and water parameter testing.

(b). Ensure you are keeping compatible marine life, too much aggressive behaviour such as territoriality and bullying causes stress. To learn more about selecting compatible marine life [click here](#).

(c). Keep a good handle on environmental fluctuations especially temperature and pH fluctuations; even gradual shifts in pH and temperature over time can cause stress. Ensure you have adequate ventilation for coral lighting set-ups, the aquarium isn't too close to windows (which can cool it down or heat it up more than you might think) and consider purchasing a chiller if things are getting a bit hot (more than 28°C).



2. Quarantine ALL new marine life before it goes into your aquarium

If you don't currently have a quarantine tank you should REALLY get one!

So many people do not quarantine their new pets and then wonder why they are experiencing disease outbreaks and the fish deaths in their display tank.



Not only does it provide a stress free environment for your new marine life to acclimate to your aquarium conditions and get over the shock of vastly differing water conditions (water from capture and shipping followed by fish store holding aquarium then polluted transport water to your aquarium) it provides a perfect environment in which to keep a sick individual and specifically and effectively treat it without worrying about spread of disease, excessive stress to the already ailing fish or medication chemicals being diluted out and/or affecting the rest of the aquarium inhabitants. For example effective copper treatments for Ich are highly toxic to corals and other invertebrates.

A quarantine tank only needs to be small (10 to 50 gallons) and simple. Basic biological filtration, heating and water moving devices are all that is needed. Lighting only needs to be enough to light the aquarium to see how the fish is doing. Putting a few bits of PVC piping in the tank will give the stressed/sick fish somewhere to hide.

A relatively small investment here will save you a lot of potential problems. You really don't want to gamble with your marine life.

3. Be careful what you put into your aquarium water at all times

This means not putting any live rock or livestock into your aquarium without quarantine first and/or a series of methylene blue and/or freshwater dips (freshwater effectively "pops" saltwater parasites and micro-organisms). Anything do don't do this to you are running the risk of introducing disease/parasites by placing them into the display tank.

To keep stress to a minimum you also need to be aware exactly what chemicals you are adding to your aquarium through the use of additives, unfiltered tap water, excessive food, medications or any anything else you may add. For example some types of activated carbon used in chemical filtration contains excessive amounts of phosphates that corals really wont tolerate. You need to read labels and think about everything that goes into your water trying to minimise excessive nutrients (anything that isn't absolutely necessary should be avoided) and chemicals.

4. Acclimation

A correct acclimation procedure (as per your last Eclass) is absolutely necessary to keep stress and thus disease to a minimum in the new addition to your aquarium. Adding a new fish to an aquarium is the most likely scenario for disease to occur in saltwater aquariums.

5. Selecting healthy fish

If you can learn to spot signs of sickness and disease in marine life before you purchase your new pet, this is effectively stopping most incidences of disease before they even get close to your aquarium. This is a valuable skill and is easier than you may think. To learn how to go about this [click here](#).



6. Optimal nutrition for your fish

You need to know if your fish is a herbivore, carnivore or and omnivore. What are its feeding habits (for example; sand-sifter or grazer) and what specific dietary requirements each of your individual fish have (if any). Feed a good balanced diet with all the correct nutritional components accounted for and lastly don't overfeed. To learn the correct feeding is found in my book [Ultimate Secrets to Saltwater Aquarium Fish and Corals](#).

7. Learn how to identify and treat disease symptoms

If you can become educated to diagnose early and know how to treat your fish you are giving yourself a massive advantage over the majority of aquarists who cant. In all cases this should involve immediate removal to a quarantine tank to stop the spread of disease and effectively treat the symptoms. The next Eclass will reveal identification and treatment of common, potentially deadly marine fish diseases.

So the key to avoiding disease in your marine aquarium is being conscientious about livestock going in and doing all you can to reduce environmental, nutritional and social stresses which all can easily cause disease symptoms.

To your saltwater success

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