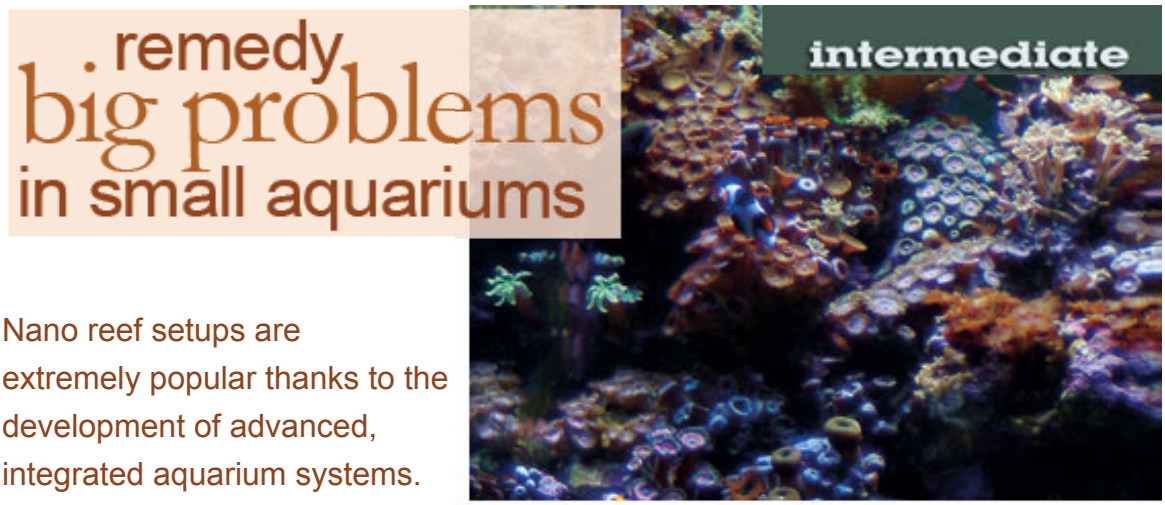
Nano Reef Aquarium Emergency

Drs. Foster & Smith Educational Staff



Nano reef setups are extremely popular thanks to the development of advanced, integrated aquarium systems.

The following is a true account… one of the many interesting aquarium events that we have encountered. A Drs. Foster and Smith employee, new to saltwater aquariums, recently experienced a nano aquarium crash but knew the Aquatic Services Staff was busy with customer calls. We begin with a first hand account of the system crash and then proceed to address what additional steps our nano reef "newbie" may have taken to remedy this nano reef aquarium crash.

"I have a nano reef setup in a 24-gallon compact integrated aquarium system. It is a relatively young system, established for about a year. The aquarium is lightly stocked and contains Mushroom Corals Mushroom Corals Colony Polyps, Tree Corals, and Starburst Polyps. I also have smaller invertebrates including Sexy Anemone Shrimp, Hermit Crabs, Turbo Snails, and Cerith Snails. As for fish, I have a pair of Black and White Ocellaris Clownfish, one Clown Goby, and three Red Neon Eviota Gobies.

On Monday I came into work at 8:00, and didn't notice anything amiss. The lights don't usually come on until around 8:10 or 8:15. After about 8:20 or so, I wondered what was happening with the lights because they hadn't come on yet. I glanced down at the switch for the Coralife Power Center and it was in the OFF position. I flicked it on and the lights illuminated this cesspool in my aquarium. I thought, "Oh no, the filtration has been off all weekend." I went into a panic.

I ran down to the warehouse to the RO saltwater vat and filled two 5-gallon buckets. I lugged them up the stairs and grabbed an empty bucket. I siphoned 2 buckets of the filthy water out and as much dead stuff as I could get with the siphon. I slowly poured in the clean water.

I had lost nearly all of my mushroom and polyp corals and one Sexy Anemone Shrimp was clearly dead. The Neon Tree and the Taro Tree Coral looked terrible. The remaining 2 shrimp were basically frozen in position; I didn't know if they would make it. My clownfish and my gobies seemed to be OK. I don't know why I hadn't noticed the stench of the aquarium when I first came in, because it stunk, even after the water change.

The next day I came in early, around 6:00. I didn't think much about the aquarium until the lights came on at the usual time. When I looked in to check everything out, I saw my 2 clownfish gasping near the top rear of the tank where the water is pulled through to the filtration, and another Sexy Anemone Shrimp was dead. I panicked again. I changed one more 5-gallon bucket of water, added some Instant Ammonia Remover, and also put in

Q I am having a difficult time maintaining low nitrate levels in my nano reef aquarium. What can I do?

A. Many nano reef aquariums with integrated filtration systems employ mechanical filter sponges. Over time, accumulated organic debris in these filter sponges can contribute to persistent nitrate levels. Keep these filter sponges free of organic buildup and perform regular water changes to help maintain low nitrate levels.

Combining efficient filtration and lighting, these high tech systems allow both experienced hobbyists and dedicated beginners to enjoy the wonderful hobby of reef keeping. However, if the life-supporting equipment should fail, these compact nano reef aquariums are extremely susceptible to rapid and dramatic decline.

To reestablish proper aquarium conditions, be sure to pace any corrective measures. Even if you are anxious to "fix" the aquarium, rapid or drastic changes can place additional stress on the aquarium

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a powerhead with an air intake to get some bubbles going for air exchange. The aeration immediately made the fish happier. I also removed the filter sponge and rinsed it in RO water… it was filthy. All the dead stuff had become trapped in it. I also added new carbon. I wished I had done all those things the day before because I might've saved the shrimp.

It took several days for the last shrimp to begin moving around in a normal manner. Most of the soft coral died. I have 2 tiny mushrooms that made it, and a couple of frags that fell off from the 2 tree corals have begun to re-grow. After about a week, my large colony of star polyps decided it was safe to reopen. What else could I have done to minimize losses?"

EMERGENCY TIPS:

- Have prepared saltwater on hand.
- Practice patience. Do not rush corrective measures or take drastic steps.
- Test, test, and test again.
- If possible, divide vital electrical equipment between two outlets with different electrical circuits. For example, lighting and filtration can be powered through one electrical circuit and heater and circulation pumps in another to prevent total system shut down if one of the circuit breakers should trip.
- Invest in emergency equipment and supplies such as abattery backup air pump, digital thermometer with an alarm feature, and water conditioners.

additional stress on the aquarium inhabitants. A systematic approach involving gradual changes and monitoring aquarium conditions is the key to restoring balance. The following provides supplemental information for the corrective steps to be taken to help our readers if they should experience a similar event.

Assess the Situation

Conduct a quick systems check to confirm proper equipment function. Verify pump and filter operation as well as heater function. Make sure this vital equipment is running properly. After careful evaluation of the situation and the aquarium inhabitants, maintain subdued lighting to reduce additional stress.

Test Before Taking Corrective Steps

Test water parameters to determine which parameters are not within an acceptable range. Test Strips can quickly confirm the presence of toxic ammonia and nitrite. Having a supply of prepared saltwater allows timely intervention. However, be sure to measure specific gravity and temperature before performing a water change. The prepared saltwater should have the same specific gravity and temperature as the aquarium to prevent harmful shock to aquarium inhabitants.

Monitor Ammonia when Restoring Temperature

After a power outage or similar event, be sure to test and monitor ammonia level. A system with excess organic material (i.e., dirty filter sponge or decaying material) and compromised biological filtration can

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experience persistent levels of toxic ammonia. Pay particular attention as the heater raises aquarium water temperature. Ammonia toxicity will increase with the warming water temperatures.

Improve Water Movement

Though not commonly employed in reef systems, some situations may warrant the use of the air intake feature of the powerhead.

If you use a powerhead to improve water movement and aeration, be sure to direct the water flow away from the corals to avoid stressing them with air bubbles.

Evaluate Outcome

After taking any corrective steps be sure to carefully monitor the health of the aquarium inhabitants. Continue to test vital water parameters and perform partial water changes as needed until the system is stable and on a steady course to recovery.

Keep in mind that aquarium keeping is truly an on-going learning experience. Unexpected events can and do occur. It is a dynamic, interesting, and engaging hobby.

PRODUCTS WE RECOMMEND

Fan-Cooled Nano Cube Aquariums

Koralia Nano

Coralife Digital Thermometer

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