

Sustain the Reefkeeping Hobby

Learn how to relieve some of the financial and ecological burdens associated with keeping a reef aquarium.

By Jeremy Gosnell

There are several factors that prohibit many would-be reefkeepers from entering the reef aquarium hobby, or converting a fish-only tank into a reef tank. Some worry that they are not experienced enough to keep sensitive invertebrates alive, while others fear that reefkeeping will have too great an impact on natural reef ecosystems. When looking at prohibitive factors, however, cost is nine times out of 10 what keeps a person away from reef aquariums. Just paying the electricity bill for a reef aquarium can be expensive, not to mention the high cost of livestock.

This concern is unfounded, however. With a little attention to detail and an innovative mindset, any aquarist can turn their hobby into a self-sustaining venture, or at least a less-expensive prospect. Breeding several marine fish, fragging and trading corals and even propagating rare or specialized marine animals can all serve to not only increase a hobbyist's awareness of coral reef aquariums, but also make the hobby more attractive in terms of cost.

1. Breeding Marine Fish

The old saying, "You have to spend money to make money," certainly applies to reef aquariums. Most marine fish require separate setups if you hope to raise fry to juveniles that can be traded or sold. Luckily, these setups don't have to be expensive. Often a 5- or 10-gallon aquarium with a sponge filter and heater will work just fine.

By far the easiest-to-breed fish in the reef aquarium hobby today is the Banggai cardinalfish (*Pterapogon kauderni*). These mouth-brooding cardinals keep their fry safe in their mouths, only releasing them once they are a decent size. This takes away the hassle and complexity of trying to raise fish from a larval stage.

Typically, Banggai cardinalfish juveniles will accept a variety of easily cultured foods like brine shrimp. They eventually graduate to pellet, prepared or frozen foods with ease. The pajama cardinalfish (*Sphaeramia nematoptera*) is another easy breeder, though in my experience it isn't nearly as prolific as *P. kauderni*.

Some advanced marine hobbyists are breeding and raising orchid dottybacks (*Pseudochromis fridmani*). While these fish can be raised in the home aquarium setting, they prove far more difficult and yield much lower survival rates than do the many species of cardinalfish. Often, copious amounts of tiny live food, mainly *Artemia*, must be provided and hatched in order to yield good offspring.

Culturing that amount of live food and having such an advanced setup is not only costly but time-consuming. However, once the system and equipment are established and the breeder has acquired some trial-and-error skills in breeding orchid dottybacks, they would likely yield a profit.

False and true percula clownfish are bred by aquarium hobbyists all the time. While not quite as easy to raise as cardinalfish, these animals can turn a decent profit and are not as hard to breed in captivity as dottybacks.

A simple setup for fry and a good regimen of nutrition and water changes can easily translate into a successful clownfish breeding operation. A quick Internet search for "breeding clownfish" will yield lots of articles with information on how to breed and raise these popular species.

2. Fragging and Trading

Coral frags are one of the most popular trends in reef aquariums today. They are basically the saltwater equivalent of plant cuttings. The theory behind this is that if you break off a small fragment of a parent colony of coral and place that piece in stable aquarium conditions, it will eventually become a colony of its own. Large polyp stony corals (LPS), single polyp stony corals (SPS) and even soft corals can be fragged.

Many hobbyists have dedicated "frag tanks" that utilize egg crate and bright metal halide lighting to grow out coral fragments. Again, some initial investment on the part of the hobbyist will have to be made. In order to ensure success, especially where SPS corals are concerned, either a dedicated tank or special arrangement must be made. This way you can be sure your fragments are getting enough water flow as well as lighting, and they have a sturdy place to sit and grow.

One cheap way to get a coral that will reproduce quickly and can yield some profit is to purchase several colonies of pulsing xenia (*Xenia umbellata*). Xenia grows stocks, and if aquarium conditions are right, within months you can literally have more xenia than you can handle. I know several hobbyists who sell and trade xenia with their local fish stores (LFS) for money, discounts or even livestock.

While SPS frags that become colonies would likely yield a better trade at an aquarium convention or profit at a fish store, they take a long time to grow into sizable colonies, where xenia will reproduce into a nice, impressive size very quickly.

Likely the easiest way to sell coral frags is to set up a small booth and offer them for sale. While at Washington Area Marine Aquarium Society (WAMAS) meetings, I have seen many local hobbyists with small aquariums sell their coral fragments. I have even purchased fragments from these hobbyists that have become small colonies with time.

3. Harvesting Macroalgae

If you, like me, are slightly impatient, you may not want to wait for coral colonies or fragments to grow before you can start gaining back some of that hard-earned cash you invested in your reef aquarium. A fast, easy and rather cheap way to turn over some profit is by harvesting marine macroalgae (see "Macroalgae Primer," page 58).

Macroalgae is easy to grow and can be obtained cheaply. It does not require the expensive actinic and white light combos or the metal halides that corals do. Often a bright compact fluorescent bulb from the hardware store will work just fine.

Some hobbyists just harvest and sell extra macroalgae from their refugium, while others have set up small aquariums just for that purpose. Amphipods, copepods and other beneficial crustaceans often live on and within macroalgae, so buyers often get a two-for-one deal.

By simply using a 10-gallon aquarium, powerhead, heater and cheap lamp, a reefkeeper can have thriving strands of *Caulerpa*, or one of the popular red macroalgae that are being used, in just a matter of weeks.

4. Breeding Seahorses

Raising animals like seahorses can prove to be a great way to help fund your reef aquarium. While seahorses themselves are not cheap, setups to house them are and many species can thrive in a large refugium. Many local fish outlets will purchase captive-raised seahorses from hobbyists, and because seahorses reproduce profusely in the aquarium you can find yourself earning quite a bit of extra cash as time goes on.

That said, seahorses are typically considered difficult to keep, and raising seahorse fry is by no means an easy task. These amazing animals must be given a constant supply of frozen Mysis shrimp. The babies feed only on freshly hatched brine shrimp until they are large enough for prepared Mysis. I've found that if adult seahorses are obtained from a reliable source, they prove to be easy to care for and are very hardy.

5. Helping Your LFS

It is no secret that just one year in the reef aquarium hobby can teach a dedicated aquarist a lot. In fact, I have found that a seasoned reefkeeper's knowledge can outshine that of many fish store owners. During my early years in the hobby, when I was not only young but close to broke, I found one way of obtaining reef animals: helping my local fish outlets.

Many fish store owners are new to the saltwater side of the hobby and very green when it comes to keeping reef aquariums. I found, at least on the local level, that these people were starving for knowledge, and a few hours helping them per week was turning into lots of free and reduced-price livestock for me.

A hobbyist could assist his or her LFS in setting up a nitrate-reducing filtration system, by providing information about what types of corals and invertebrates would work well for an in-store reef display, and even advising customers on areas of reefkeeping that the store owner is unsure about. Best of all, especially for younger reefers, is that this could turn into a full- or part-time job. Of course, not all fish store owners will need advice.

I have found as many fish outlets with owners who are also hobbyists and reef experts, as I've found stores with owners who were unknowledgeable about reefkeeping. Talking with a fish store owner will quickly fill you in on their hobby experience, and many will except the help of those who are more knowledgeable than themselves.

Final Considerations

The bottomline: reefkeeping is not a cheap hobby on any front. Even for those innovative reefers who make nearly all their own equipment, a great deal of expense is incurred not only on thriving livestock but on those animals with which we are unsuccessful. Even the tips and thoughts expressed in this article involve costs and will most certainly not pay all the

expenses of a large reef aquarium.

The hope is that you will enjoy and learn from taking part in these activities. In recreational scuba diving we say, "A good diver is always learning." The same can be said about keeping reef aquariums, because even the best aquarists are still taking in knowledge and growing as hobbyists. In their own small way, these activities help alleviate pressure on the environment. Imagine if the marine hobby reached a point where the bulk of the fish and invertebrates being kept were captive-raised. We have to start somewhere.