

Going to Pieces

Six methods of soft coral fragging that won't lead to a nervous breakdown.

By Dan Theisen

FROM TOP TO BOTTOM: 1. After the Ricordia crown is removed, it is cut into four or five pie-shaped wedges. 2. This donor colony of Ricordia yuma is doing well after a successful fragging. 3. When cutting a Ricordia yuma frag take the entire crown off of the stalk.

4. After a frag is cut into sections, each piece is dropped into a rubble-bottom tank like this one. 5. Here is the same tank after two months of heavy stocking with Ricordia and a few Xenia frags. Coral fragging is always a little scary at the beginning. The first time you take out the scissors and cut into a coral is always a bit nerve-wracking. The fear lessens once you realize that the coral isn't going to up and die just because you removed a couple branches. However, cutting with the scissors is the easy part. Now you have to attach the frag!

Most corals are pretty easy to attach. Many soft-branching corals can be easily attached with a rubber band to a piece of rubble until they grow and form their own attachment. Fragments (frags) of stony corals, such as Acropora spp. and Montipora spp., can be easily attached with a dab of Superglue.

Unfortunately, not all corals are this easy. Some "beginner" corals are the most challenging to attach. Mushroom corals, Xenia and colt corals are soft slimy creatures. Once cut, they deflate and begin to ooze slime. Superglue won't stick for any length of time, and most other methods result in at least partial failure.

Fortunately, soft corals are hardy and fast growing. Pruning these corals will likely be necessary to control their growth. Parent colonies can recover quickly, giving you plenty of opportunities to practice your fragging techniques. There are many proven methods for attaching fragments of soft coral to rubble. Success or failure is often a product of choosing the best method for the species of coral you are propagating.

Rubble-Bottom Frag Tanks

The best way to propagate difficult to attach corals, such as mushrooms, Xenia and colt corals, is with the use of a dedicated propagation tank. However, a propagation tank for these corals does not need to be anything elaborate. There is no need to build frag racks or raceways.

In fact, the best type of propagation tank for these corals is one where the bottom is simply covered in rubble. All you need is a small tank, a powerhead, heater and an adequate light source. The tank's powerhead needs to be large enough to keep the water in the entire tank circulating with no dead spots. The rubble that covers the bottom can be broken up chunks of dead base rock, homemade frag plugs or small pieces of live rock. It doesn't really matter.

Simply drop branches of colt coral or stalks of Xenia down into the tank, and allow them to attach to the rubble on their own. The cuttings may get blown around the tank for a while. But they will eventually settle into the rubble and begin to attach. A sponge on the pump intake will protect fresh-cut pieces of corals from impeller damage.

For mushrooms, snip the head off the donor coral, remove the head and cut it into quarters (see sidebar). Cut right through the center like you were cutting a pie. Drop the wedges into the rubble and allow them to attach. Not only will each wedge develop into a new mushroom; the original stalk will also quickly regrow a new head. You can easily get five mushrooms from one!

This works well for common mushrooms (Actinodiscus spp.) and even hairy mushrooms like Ricordia yuma. I recently did a major pruning of these mushrooms in my display tank. The cuttings were dropped into a propagation tank, and two months later I have a tank full of new Ricordia. The parent colonies in the main tank have completely recovered and are nearly ready to be pruned again.

Setting up a rubble-bottom propagation tank is not expensive — I put mine together from spare parts. It isn't difficult to care for either. Rubble will need to be replaced as you harvest corals for sale or trade. If you use a sponge on your powerhead/pump, it will need to be cleaned periodically. Also, you will need to occasionally siphon out the detritus that settles out amongst the rubble.

A few snails will help with algae control, but you may not need them depending on how frequently you are harvesting your corals. Fish will only add to the maintenance required on your frag tank. Still, corals will benefit from the daily feedings and waste associated with having fish in the tank. If you do not mind the extra maintenance (either in extra water changes, or added filtration), your corals will likely respond with better growth and coloration.

Allowing these slime monsters to attach themselves is the easiest method with the highest success ratio. A rubble-bottom tank is effective for other types of coral as well, including leathers, devil's hand, zoanths and toadstools. There are alternatives for those who don't want, or aren't able, to set up a propagation tank.

Rubble-Tray Method

This method still allows for corals to attach themselves. A tray filled with rubble is placed in the main tank or an illuminated sump tank. Coral fragments are then dropped into the rubble and allowed to attach. This method can work well for *Xenia*, colt and mushroom corals, or just about any other soft coral.

The trick is finding a spot in your tank with enough current to keep the corals alive, but not so much that they are blown out of the tray. A piece of a bridal veil or fiberglass window screening can be used as a cover to keep the frags from flowing out of the tray. Yet, even this is not foolproof.

The bridal veil also blocks water flow. Without enough flow, corals are more likely to succumb to infection or just waste away. Also, some corals (especially *Xenia*) are just as inclined to attach to the sides of the tray as they are to the rubble. Still, this method can be effective if you just have a few frags to attach and don't want to mess with a propagation tank.

Rubber-Band Method

Rubber banding a coral between two pieces of rubble is very effective for many soft corals. Branching leather corals (*Sinularia* spp.), tree corals (*Nephtea* spp.) and devil's hand corals (*Lobophytum* spp.) are particularly suited to this method. You can either wedge the cutting between two pieces of rubble and then wrap it with a rubber band, or you can use one piece of rubble and attach the cutting directly to the rubble with a rubber band. Rubber bands can also work fine for *Xenia*, although it is more work than just dropping the cuttings into a propagation tank.

Also, there is always a chance the cutting will break free and get sucked into a pump or filter. This method is impractical for small pieces of mushroom coral and success rates for colt corals using this method are generally low. Colt corals are slow to create their own attachment, and they respond poorly to the constant restriction put on by the rubber band.

Fishing Line and Needle

I've attached many frags using monofilament fishing line and (shhhhh!) one of my wife's sewing needles. It's not pretty, but it works. Start by threading a strand of monofilament into a sewing needle. Smaller needles work best. Then, pierce the coral stalk and tie it to a piece of rubble.

This method is wonderful for branching leathers, leather cabbage (*Sinularia dura*), toadstool, devil's hand and tree corals. Toadstools (*Sarcophyton* spp.) are particularly suited to this method. If you are looking for an occasional frag, then take pie-shaped cuttings from the parent colony. For more severe pruning, cut off the entire crown and then cut that into quarters.

Like mushrooms, each wedge will grow into a colony, and the remaining stalk will also grow a new crown. Pierce the pointed tip of the wedge with the sewing needle, allowing plenty of tissue for attachment. When working with monofilament, the trick is to tie tight enough to hold the coral in place, but not so tight that you cut through the coral. It takes a bit of practice. For larger cuttings you may want to pierce the tissue in more than one place for a secure attachment.

Monofilament (sans sewing needle) works well for attaching star polyps, *Anthelia*, clove polyps (*Clavularia* spp.) and zoanths. Simply use the fishing line to tie the frag to a rock. It's that easy. However, the trick with these corals is obtaining the frag. Their encrusting growth is difficult to remove from live rock.

If you can remove the rock from your tank, you may be able to peel, pry, chisel or rip enough of the coral to propagate it. However, if the coral has encrusted onto your reef structure, then the chances of obtaining a frag are slim. Encouraging these corals to grow onto the back glass or bottom of your aquarium will make it easy to obtain a fragment.

At that point it is just a matter of scraping off the growth with a razor blade. Star polyps and zoanths are among the few soft corals that can be successfully attached using Superglue. Still, I've had higher success rates using monofilament.

After the corals have formed their own attachment to the rock it is time to remove the fishing line. Simply cut the string and then pull through the coral. It's a bit like removing stitches. The coral may close up for a day or two, but it won't be harmed at all.

Plastic-Toothpick Method

Aside from using a frag tank, this is the best method for attaching colt corals. Basically, a plastic toothpick is inserted

through the base of the frag. Then both ends of the toothpick are attached with a rubber band to a rock. Once the coral has attached, remove the rubber band and toothpick. This method has proven successful for many reefkeepers, although it fails occasionally. Colt corals are probably the most difficult corals to attach.

This method works great for most other soft-branching corals like leathers, devil's hand, Capnella, and Nepthea corals. Many of these corals can be attached simply with a rubber band and rubble. You may get higher success rates using plastic toothpicks. Though I haven't tried, I'm sure this method could also work for Xenia and even large mushroom frags.

Passive Fragging

The easiest method of attaching corals doesn't require rubber bands or Superglue. Passive fragging involves placing small pieces of bare rock in the path of an encroaching coral. The new rock will become covered in coral and can then be harvested.

This method is especially useful for encrusting corals like star polyps, Anthelia and zoanthids. Obtaining a cutting of these corals can be difficult. Passive fragging is an easy way to obtain frags of these corals and can help control their growth.

This method does not yield a large number of cuttings, but it can be effective for acquiring an occasional frag. Xenia and mushroom corals are also good candidates for this method. It can also work for large colt corals, if you have the patience. For colts, try propping a rock under a low-lying branch, or wedge the rock between two branches. Eventually the branch will attach to the new rock. At this point you will need to pull out the scissors and snip off the branch below the point of attachment.

The corals discussed in this article are capable of growing very fast. Fragging is in your future whether you realize it or not. Some of the slimy beginner corals like mushrooms, Xenia and colt coral are the most difficult to get attached. A rubble-bottom propagation tank offers the highest success rates for these corals.

Setting up such a tank does not require too much time or money. However, if you do not want to set up another tank, then the manual methods discussed in this article can help get even the most slippery of corals attached and ready for sale!

Bio

Dan Theisen has been keeping reefs and culturing corals for more than 15 years. He has published more than 20 articles on the subject. He is a stay-home father of three daughters, a writer and an addicted hobbyist.

Green star polyps can be removed from glass with the use of a razor blade.

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Pictured is a completed frag, after it has been tied down and placed in an aquarium.

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