

## Rubble Zone Biotope

**Build your own rubble zone biotope fish aquarium.**

*By Scott Fellman*

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Beautiful examples of *Centropyge jocolator* can often be found foraging in rubble zones in the wild.  
Courtesy Michelle A. Lemech.

The stony coral *Pocillopora* is found in great abundance in rubble zone areas. This shot was taken in Hawaii.  
Courtesy Michelle A. Lemech.

The flame angelfish (*Centropyge loricula*) is a long-time aquarium favorite that is commonly associated with the rubble zone.  
Courtesy Michelle A. Lemech.

The “rubble zone” is commonly found on reef flats, leeward from the highest-energy reef crest. This zone consists of lots of calcareous rubble interspersed with sandy areas. Although this zone is protected from the heaviest wave action, there are still swirling currents found here. This is a dynamic environment, with lots of swirling water currents. Water quality and clarity is high and turbidity is minimal.

However, most rubble zones are challenging environments for marine life, as they receive a lot of light and are sometimes subject to temperature fluctuations with tidal changes. Sometimes, tidal fluctuations in this zone leave coral colonies “high and dry” for periods of time. The typical water depth in a rubble zone area ranges from 2 to 6 feet. Lighting is intense!

Despite the challenging environment, the rubble zone is home to many different fishes and invertebrates. As its name implies, this biotope is comprised of broken pieces of rock, coral skeletons and other calcareous materials, brought together over time by wave action and other influences, such as storms.

### Building Your Own Rubble Zone

To simulate this aggregation of materials, you have the wonderful (and “less expensive”) opportunity to use lower grades of live rock. No “premium” rock for you. In fact, you can use lots of so-called “base rock,” which although biologically live, doesn’t have all of that sexy coralline coverage that the more expensive “premium” rock does. Usually, “base rock” comes in all sorts of gnarled shapes, just perfect for our purposes! For those of you concerned about the lack of heavy coralline coverage on this rock, relax – it will develop on its own in due time under favorable conditions.

Since rubble zones are more-or-less random aggregations of rock and calcareous materials, try a different approach that the usual “symmetry” of sorts that we often see in a typical reef setup. Let the rocks “fall where they may,” as they say, and figure out how to place corals onto them – a bit different than the usual approach.

In the Rubble Zone biotope, you can utilize all sorts of substrate materials, ranging from the super-fine “sugar-sized” oolitic aragonite sand to more coarse “puka-shell” type materials. In fact, you can even smash up your own pieces of substrate from pieces of base rock to create your own custom-grade of substrate material. It’s an excellent way to work off the stresses of your busy life. Just watch those fingers.

In nature, this reef zone tends to have lots of swirling currents and movement, although not to the extent of a reef crest or other “high-energy” environments. However, fairly aggressive flow in your aquarium is needed to simulate this environment. The reason? Let’s face it – we’re talking about what essentially amounts to a pile of rocks in your aquarium; we need to employ thoughtful water movement to keep detritus in suspension and provide oxygenation to the tank’s inhabitants.

Since the biotope that we’re simulating here is a shallow-water one, lighting should be intense. In the aquarium, intense lighting is most economically achieved with the use of metal halide lighting or T5 tubes. There are lots of different systems out there to choose from, so do your homework in this area before opening your checkbook.

### Corals

When it comes to corals, this biotope has lots of cool candidates for you to choose from. Some of the common genera of corals found in this biotope are *Favia*, *Acoropora*, *Stylophora*, *Pocillopora*, *Seriatopora*, *Porites* as well as others.

With a variety of shapes, beautiful polyps and colors, faviids are an excellent addition to any Rubble Zone biotope display. In fact, they simply demand to be in a Rubble Zone biotope display. These corals are typically easy to keep, acclimate well and are relatively common in the trade. By the way, one thing that may be useful to biotope geeks like you and me is to study photos of natural reef rubble zones, and take notes about the forms that you see in these areas.

Of course, there are many other species of corals that are found in the Rubble Zone biotope. In this article, I focused on the so-called "SPS" corals, but there are certainly soft corals of the genus *Sinularia* and *Sarcophyton*, among others, found in this zone. If you were so inclined to keep these chemically aggressive "softies" in your system, I would refrain from keeping many stony corals as well. The potential for problems down the line is too great, in my opinion. Specialize, folks.

### Fishes

Let's face it – unless you're a complete dope, have some kind of phobia or are simply not being honest with yourself – you got into this hobby because you like all of the pretty fishes. The Rubble Zone biotope is home to literally dozens and dozens of different fishes, some of which are very common in the trade. There are so many different species of fishes that inhabit this zone that it would take a book to discuss them all (hey, that's an idea!).

The Rubble Zone environment is superbly suited to a number of small, colorful wrasses that are ideal for aquariums. Wrasses of the genus *Halichoeres* and *Pseudocheilinus* offer beautiful colors, charming personalities and a built-in hardiness. When you factor into the equation that their maximum length is typically less than 5 inches, you've got a near perfect group of fishes for our needs.

When it comes to "sexiness," blennies come up short every time. They're just plain geeky-looking. However, with their cute eyes, decorative cirri and oversized mouths in a perpetual gape, it's hard to dispute their charm. They are ideally suited to the Rubble Zone biotope and make a delightful addition.

For those of us who just have to have our angelfish fix, members of the genus *Centropyge*, commonly known as pygmy angelfish, are wonderful fits for a Rubble Zone biotope. Among the most popular, colorful and sought-after fishes in the marine aquarium hobby, the genus *Centropyge* consists of about 30 species. The members of this genus achieve an average size of around 4 inches, making them optimal for medium-sized aquariums.

These fishes absolutely love darting in and out of the rocks. The Rubble Zone biotope not only affords lots of hiding places and territories for these fishes, but it supports populations of small crustaceans and microalgae, which comprise a large part of their diet.