

Planning an Aquascape

Spend time thinking about your planted tank. You'll be glad you did.

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As I've mentioned in this blog before, I'm planning to start an 80-gallon planted aquarium soon. Part of the planning process involves figuring out what I plan to keep in my setup. This, in turn, requires me to focus on how I'm going to maximize my use of space within the setup.

The General Theme

I've decided I want to incorporate a carpet of *Hemianthus callitrichoides*, also known as dwarf baby tears, into the setup. This plant is known to do best under higher-intensity lighting (it's often grown as a carpet plant in aquaria, which is how I would like to use it) in a CO₂-rich environment, and is known to be more difficult to keep. Because of its reputation I'm planning the parameters of my system around my most difficult plant.

I've also decided to use a compressed gas CO₂ system, so I have to plan my setup around the inclusion of CO₂. Carbon dioxide is really just another nutrient for plants, in that they require carbon to grow. Its addition is frequently overlooked and poorly understood in aquaria, and it is often a factor limiting plant growth in aquaria.

I'm going to use two 48-inch, 54-watt high-output T-5 lamps over my 80-gallon aquarium. I'll run two canister filters, a Fluval and a RENA. I'm also going to place two powerheads in the setup to ensure good water flow and proper distribution of CO₂ in the system. I'm either going to use ADA Amazonia or a mix of Fluorite Black and Fluorite Black Sand.

In general, I want to encourage faster plant growth and support a relatively large group of fishes and shrimp. I plan to do a lot of "aquatic gardening," pruning my setup and rearranging various plants and other components to best suit the evolving aquascape.

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This rough layout sketch should give you a general idea of what I'm going for in terms of the basic layout for my proposed 80-gallon setup. Keep in mind, the rear of the aquarium will be heavily planted, which isn't completely represented here, because I didn't want to obscure the other components.

I've included a rough preliminary sketch of the basic layout I'm planning. Except for the dwarf baby tears (illustrated in the foreground covering much of the aquarium's bottom), I plan to keep mostly easier plants that aren't as demanding as the dwarf baby tears.

Along with the *Hemianthus callitrichoides*, I plan to plant some pygmy chain swords (*Echinodorus tenellus*), some compact hygros (*Hygrophila corymbosa*) and possibly some micro swords (*Lilaeopsis* sp.) in the fore- and midground areas. The pygmy chain swords and the compact hygros should be relatively easy to care for, but the micro swords are more difficult to keep successfully, and I haven't decided on keeping them yet because I don't want to have to deal with two difficult plants at the same time.

In the mid- to background areas within the aquarium, I would like to plant *Bacopa caroliniana*, a tall stem plant; two tall crypt species with long, somewhat narrow leaves (*Cryptocoryne balansae* and *C. lutea*); and some *Egeria najas*, a stem plant with very narrow leaves. The mid- and background will be interspersed with these plants, and I'm sure I'll have to prune and replant as the flora grows and changes.

I'll also include rocks and driftwood into the setup. I've collected local rocks from my area that I plan to include, but I'm still searching for the right pieces of driftwood in local fish stores. I may go with a Manzanita variety, as it holds up well in aquaria and can be purchased online. This and many other aspects of the layout may change as I get closer to establishing my setup.

Initial Setup

Because *Hemianthus callitrichoides* often proves very difficult to keep in aquaria, I'm going to try an emersed growth or "dry startup" method with these plants.

What this means is, I'm going to prepare everything and get the setup ready to go, plant the aquarium substrate with the

dwarf baby tears and other plants, and put just enough water in the aquarium to cover a good portion of the substrate.

Then, I'm going to cover the setup completely to ensure that humidity stays very high in the aquarium and turn the lights on to establish a regular photo period. I'll also mist the plants daily and occasionally spray them with a regular fertilizer, though it will be at a much lower strength to start because the plants will be small with undeveloped roots and I don't want to harm them with too much fertilizer.

This should allow the *Hemianthus callitrichoides* to reproduce and cover the bottom areas of the substrate, assuming my setup is adequate and I carry everything out correctly.

Though I've never planted a tank this way, one of the tricks I've heard quite often from planted tank experts is to plant the aquarium very heavily to start. This supposedly contributes to more robust, even growth and also helps to limit algae early on. I'll be trying this when I begin to plant this setup.

Success From the Start

Transitions are often what cause problems in my other planted aquaria, when water is added or changed, where temperatures fluctuate rapidly, or other tank parameters are altered (intentionally or unintentionally) too quickly. This is another area I've discussed with several planted tank experts.

From what I've learned, the best course of action when establishing a planted tank is to plan ahead, have definitive goals in mind and make changes slowly. This will especially come into play as I learn to incorporate an automated CO2 system into my 80-gallon setup.

I'll elaborate on my progress as I get closer to planting my new setup. I'm sure I'll face setbacks and other challenges, but I can't wait to begin my new aquatic gardening adventure.

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