



by James Starr-Marshall

## On the Rocks

Among the many current trends in aquascaping is the hardscape dominated layout, in short this is an aquascape where the overall shape is provided almost entirely by rockwork and sometimes wood. Planting is usually sparse in these setups and takes the form of highlights in areas that the prominent hardscape allows. This style of layout has given rise to much debate on social media as in recent years they have frequently appeared in the top 100 places of the International Plant Layout Contest. In the context of this competition, I can see why many people are reluctant to accept them given that it is a plant layout contest rather than a rock layout contest. However, within the arena of general aquaria I think this type of aquascape is as legitimate as any other style of layout. I have, after all, seen some truly stunning Tanganyika and Malawi Cichlid setups that consist of just intricately placed rockwork. As I am a fan of rock-based aquascapes I decided to try and set up a low energy hardscape orientated layout with minimal planting.

## Challenges

There are, of course, challenges with any aquarium but with this one there was the glaringly obvious issue of a very low plant mass. The usual advice to anyone setting up a planted tank would be to plant heavily from the outset, particularly when not using CO2. In a densely planted tank nutrient uptake will be higher and the plants stand a good chance of out competing algae. To combat algae in a sparsely planted tank stock an efficient cleaning crew and be meticulous with maintenance.

Another cause for concern was the amount of exposed rockwork. Even aquariums that are full of healthy plants will suffer from slime algae on rockwork that receives light. It is unlikely that any cleaning crew will be efficient enough to deal with this and the rocks will have to be scrubbed regularly with a toothbrush. This can be very time consuming but worse than that it can cause a collapse of the carefully arranged hardscape. The smaller the tank the more likely a collapse will be as the rocks be lighter in weight and less resistant to brushing without moving. Placing rocks so that their shapes lock together will help prevent movement, alternatively sticking them to each other with epoxy putty will make them very secure. However, the putty is hard to remove and looks unsightly so it may render the rocks unusable for future aquascapes.

## The Layout

For this aquascape I wanted to try something different, I had previously acquired a large box of what is commonly sold as Pagoda Stone and this seemed like the ideal opportunity to use it. This rock has an interesting surface texture and consists of vivid orange layers interspersed with softer layers of beige. The deep grooves of the strata combined with the colour contrast seem to make the stones appear much larger than they are, which is perfect for creating a sense of scale. The rocks reminded me of the Grand Canyon so I thought that a canyon style layout would look most natural. When arranging hardscapes of this complexity I find it best to do a dry run outside of the tank, that way I can tweak at my leisure until I am satisfied I have found the best arrangement. I made a model of the tank from an old cardboard box and filled the base with gravel to carry out my practise runs, see pictures below.

## Planting

As the planting would be sparse, I tried to add interest by using numerous species. The finer textured plants were to some extent used at the back of the tank and the broader leaved varieties used towards the front. Tropica Taxiphyllum 'spiky' was tied to some small pieces of lava rock and placed where I felt it would creep naturally across the stones in the upper portion of the scape. Next, I added some Tropica Eleocharis parvula which was planted in a rather unusual manner. I had no substrate where I wanted to place the Eleocharis and I did not think it would grow well tied to lava rock. Instead, I wrapped the roots in small portions of filter wool and pushed them in between the gaps in the stones until only the plant was visible. I considered leaving some of the mineral wool attached and pushing that between the rocks, but it disintegrates easily and I thought the shrimps might pull it apart. I also used this filter wool method to plant some Tropica Pogostemon helferi and Tropica Staurogyne repens amongst the stones. Without their roots in the substrate, I was afraid they might lack sustenance so I dosed 8ml of Tropica premium liquid fertiliser every day to compensate. At the front of the tank, I planted conventionally into the substrate with Cryptocoryne albida 'brown', Pogostemon helferi and Staurogyne repens. Some Anubias 'petite' was tied to lava rocks and used to fill the gaps on the far right and left of the tank.

## Stocking and maintenance

In order to keep algae to a minimum the tank was initially stocked with 5 Amano shrimps (Caridina multidentata) and 4 dwarf suckermouth catfish (Ottocinclus affinis). Also instrumental in keeping algae at bay was the ability to adjust the intensity of the light. This is particularly important in tanks without CO2 injection as you can't simply increase the CO2 levels to match the lights. The dimmer on the Aquabar 'T' series LED lighting was sensitive enough to allow for accurate control. After the scape had been up and running for about 6 weeks and I was sure the plants were growing well I added 12 small neon tetras (Paracheirodon innesi).

The maintenance schedule was more grueling than it has been with my other low energy setups. That said I still feel that it was less work than is needed for a high energy system. I carried out one 60% water change each week at which point I also changed the filter wool, cleaned the tank glass and pruned the plants. This style of layout required the plants to be kept small and not obscure the hardscape so pruning was more regular despite the slow growth rates. The most time consuming aspect was, as I had anticipated, cleaning the rocks. They very quickly became covered in green slime algae and needed to be scrubbed with a toothbrush every week just before the water change. It took roughly 30 minutes to complete the task and on a couple of occasions, I wished I had stuck the rocks together. However, I did not cause a total collapse during the layout's 16-week lifespan and I feel that the aesthetic of the aquascape benefited from having clean rocks. Whilst this setup might not be for everyone, given that a weekly maintenance session took 60 minutes, it is still achievable for beginners and I think it has a different and eye catching look.

## Plants used in this layout

A)	Taxiphyllum sp. 'Spiky Moss'	(003G TC)	3 pcs.
B)	Eleocharis parvula	(132C)	2 pcs.
C)	Cryptocoryne albida 'Brown'	(126B)	2 pcs.
D)	Pogostemon helferi	(053H TC)	2 pcs.
E)	Staurogyne repens	(049G TC)	2 pcs.
F)	Anubias barteri 'Petite'	(101H)	2 pcs.

## Technique

Aquarium:	GLASS TANK50 X 34 X 34CM
Volume:	57 L
Light:	TMC Aquabar 'T' series ultra daylight 380 mm twin
Substrate:	(Rena Smart heater 100 Watt)
Gravel:	Unipac fine Fiji sand 12.5 Kg
Decoration:	Pagoda stone 10 kg
Filter:	Interpet CF1 filter
CO2:	Rena Smart heater 100 Watt
Fertiliser (weekly):	Tropica Premium Nutrition
Maintenance (hours per week):	½-1