

AquaScapingWorld

Making Magic In Glass Boxes

Aquascape In Focus: My Nemesis
InterZoo 2012 Trade Fair
AquarioScaping Contest
Beginner's Perspective Part II
AGA Convention Adventure
Aquascaping Fluval Edge Aquariums



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Letter from the Editor

Inside our September/October Issue

On behalf of AquaScaping World and our community, I'm proud to present the next issue of AquaScaping World Magazine.

In this issue, you'll find a wide range of articles from trending news of aquascaping and aquarium events around the world like InterZoo 2012, the past Aquatic Gardener's Association Convention, and Portugal's Planted Tank Contest called AquarioScaping.

Our Aquascape in Focus for this issue comes from the San Francisco, California Aquascaper, Raymond Cogan and his "My Nemesis" layout. This layout encompasses a unique start called a "dry-start" method before submerging the layout in water.

Also, the Hagen Company continues to provide new and innovative aquarium systems to help hobbyists enter the world of planted aquariums and design. Their Fluval Edge series and the aquascaping potential is described in-depth by Australia's Jordan Ngoh, who has a unique opportunity to design multiple Edges at one time.

Finally, for anyone who is having difficulties keeping a planted aquarium, don't fret, we've all been there. Shawn McBride continues his Beginner's Perspective series and shows us how patience and experience can translate into a better aquascaping adventure.

Happy Aquascaping everybody!

John Nguyen
Editor in Chief
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Aquarium Fish

From the H

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By Seetharam Rai and Ashwin Rai

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e Fish Store



Have you ever wondered how aquarium fish are bred and how the steps they go through before they reach the shelves in your local fish stores?

Brothers Seetharam and Ashwin Rai, and their friend Ronald give us an inside look at their mass breeding facility, Aqua Bios located in Bangalore, India. They show us exactly how they breed stocks of fish ranging from Angel Fish, Koi, Gourami and various Cichlids species. The amount of work involved in producing healthy fish for our fish stores, and ultimately our enjoyment might surprise you.

Before we get into the details of your breeding facility, please tell us how you first got into the fish hatchery business.

I would like to introduce myself as Seetharam Rai, I am 29 years old residing in Bangalore, India. Well. I got into this hobby at the age of 8, because of my elder brother Ashwin Rai, I was totally into the hobby till I joined college after which I did not have the bandwidth to keep an aquarium, years passed by and the hobby took a backseat till 2007.

My brother Ashwin's obsession with hobby made him turn into a qualified professional in this sector and he went on to do his Graduation, Post Graduation and subsequently PhD in the field of Fisheries. Ashwin and his friend and college buddy Ronald went onto establish the Ornamental Fish Farm Aquatic Biosystems also called Aqua Bios for short in Mangalore, India in 2007. I joined them as head of Sales and Distribution. Apart from that I have developed a keen interest in Aquascaping and still learning the fine art of creating great aquascapes.

It's amazing to see aquarium passion turned into a full fledge business. Tell us about your breeding facility.

The breeding facility is located 14 kilometers away from the heart of Mangalore City, and located in a peaceful place in the midst of nature. It is four acres in size which holds the hatchery, grow out tanks, holding & conditioning tanks, quarantine facility, Live Feed cultivation Facility and packaging facility.



Seetharam Rai, the head of Sales and Distribution of Ornamental Fish Farm Aquatic Biosystems stands next to his planted aquariums.

What types of fish do you breed?

We breed a large variety of fishes our facility but we specialize in Angels and Gouramis. We constantly keep adding new varieties as and when we are able to get hold of a good strain. Breeding Tetras is our latest venture and have been successful so far in all the trial breeding.

All breeding pairs of fish are housed in dedicated Glass Aquariums or Cement tanks based on the suitability of the fish.

For example, our Angel Brooders are housed in 36 (L) x 15 (W) x 15 (H) Inches Glass Aquariums. The aquariums are bare bottom and the filtration is through a centralized filtration system to which a series of such tanks are connected. They are fed three times a day on a mixed diet of live and dry food.

Once they breed based on the ramp up of production required, we decide to let the parents take care of the young ones for a period of 20 – 24 days

or we separate the eggs and hatch it separately after which the young ones are shifted to grow out tanks. The young ones are fed on a rich diet of live food (Daphnia) 4 – 5 times a day. As they grow we move them to a mixed diet.

They then reach a saleable size of 2 – 2.5 Inch (Body size) within 45 days. Then they are packaged and shipped.

We also have a program to breed endemic fishes of India; the program is currently underway with *Puntius denisonii* and *Etroplus canarensis*. This is primarily to reduce the pressure on native fishes by wild fish collectors catering to the international market.

The conservation program sounds very commendable. May I ask where you get your initial stock of fish to breed? Are they caught from the wild?

No, our stock of brooders are not from the wild. They are procured from reputed national and international breeders.

Can you provide us with an overall picture of the hatchery process, from breeding the original stock, raising them, to packing and distribution

Procuring and Conditioning the Initial Stock of Brooders

Once the brooders are procured from reputed breeders, we subject the fish to a quarantine program, where they are held for period of 3 -6 months in a facility far away from the farm complex. Initially the brooders are checked for parasites and fungal infections, based on the requirement suitable treatment is provided. Once they are free from these pathogens, they are checked for signs of bacterial infections and incase any are observed moribund fish are sent to the nearby lab to check the type of bacterial agent and appropriate treatment is provided.

In the near future we are planning to check the brooders for viral pathogens such as iridovirus, KHV, EUS etc. The long term goal of the company is to produce specific pathogen free (SPF) brooders and also vaccinate the fish grown in our farm against bacterial infections.

The brooders are conditioned on mixture live feed (blood worms, mosquito larvae, brine shrimp, daphnia) and dry



These aquariums contain a brooding stock of Angels, Gouramis, Gold fish and tetra species in various stages of development. Spawning mops, slate and pots serve as spawning areas in the aquarium, whereas some tanks are bare bottom only.

feed diets. Once the brooders are in prime they are used for breeding purpose (this applicable for goldfish, koi carp, tetras, gourami etc), but for cichlids and live bearers the same diet is given.

All cichlids are provided bare tanks for breeding; Angel fish are provided slates for spawning and other dwarf cichlids are provided with pots or rocks. Tetras, goldfish, koi carp and barbs are bred using spawning mops. The gouramis are given floating plants as a media to build nests.

With the exception of gold

and koi carp all the others are bred in glass aquariums. These aquariums are typically three feet wide and are provided with filtration system and aeration systems. Usually for cichlids once in three days 75% water exchange is done and 10% daily.

Hatching and Raising the Stock

Once the breeding is done, the hatching takes place within 48 hrs and larvae take about three days to utilize the yolk during this period they cling to the sides. Once they start to dart around, the feeding program

Angels	Gouramis	Cichlids	Live Bearers	Gold Fish	Others
Angels - Marble	Gourami - Pearl	Krebenensis - Albino	Mollies - Black	Black Moor	Coryadoras - Green
Angels - Marble Veiltail	Gourami - Moonlight	Krebenensis - Regular	Mollies - Red	Regular Gold	Coryadoras - Albino
Angels - Golden Veiltail	Gourami - Golden	Rami Raize	Mollies - Silver	Shubunkin Gold	Chinese Paradise
Angels - Snake Skin	Gourami - Blue	Oscars - Tiger	Mollies - Golden	Koi Carps	Tiger Barbs
Angels - Snake Skin Veiltail	Gourami - Snow White	Oscars - Albino	Guppies - Pineapple		Green Tiger Barbs
Angels - Leopard	Gourami - Dwarf	Firemouth Cichlid	Guppies - Neon		Cherry Barbs
Angels - Koi	Gourami - Red Neon	Convict Cihlids	Guppies - Albino		
Angels - Koi Veiltail	Gourami - Blue Neon		Half Beaks		
Angels - Platinum	Gourami - Honey		Platy - Mickey Mouse		
Angels - Zebra			Platy - Sunset		
			Platy - Black		
			Platy - Spear Tail		
			Swordtail - Red		
			Swordtail - Pineapple		

The Aquatic Biosystems Hatchery Facility breeds a number of fish species as listed in this chart. Angel fish and Gouramis continue to be their number one seller due to the hobbyist demand.



These small outdoor breeding tanks are where the fish are kept until they reach a healthy size for harvest and distribution. Workers are seen sampling the tanks to check for growth. When the time comes, the fish will be placed into smaller aquariums to acclimate them to smaller spaces and higher fish densities.

starts. Initially rotifer are given as feed for around ten days. Once they are large enough, brine shrimp or daphnia is given as feed for the next 20 – 25 days along with some dry diet.

After one month the larvae are moved outdoor growing tanks (4mx4mx1m), where they are grown for one to three months based on species. During this period they are fed meat based and dry diets, three times a day.

An average of twenty-five percent water exchange are done daily and over eighty percent exchange every ten days. No water is reused in the facility to keep our fish healthy. Our growing tanks are provided with aeration and there are plans to put biofilters within these tanks.

Harvesting and Distribution

Once the growing period is over, the fish are sampled to check the size and overall conditions. If they meet the a healthy harvesting size for their particular species they are then harvested and moved to holding tanks and kept there for a period of ten days to acclimatize them to smaller spaces and higher fish densities.

Once conditioned, they are moved to small tanks where they are starved for a period of three to five days before they are packed and shipped to the clients based on order. This is to minimize the fish waste produced during the shipment. The packing is done with 1/3 water and 2/3 pure oxygen, for some anesthetics and water conditioners are used to enhance the travel conditions.

Please tell us more about the hatchery and the outdoor holding tanks.

The hatchery is 2400sq ft which is semi enclosed to encourage the free air movement and reduce the temperature. The hatchery has over 200 aquariums of 36 (L) x 15 (W) x 15 (H) Inches mounted on steel racks. The



This worker sorts the fish varieties according to size and specie. The fish will be moved to small aquariums for ten days before distributing to fish stores around the world.

water from a source is first settled for a day and then moved through a series of bag filters and then subjected to UV treatment. The water distribution in the hatchery is centralized and the water exchange is done with an auto siphon system in place. Aeration is also provided to each aquarium through a centralized system.

The outdoor tanks are around 80 in number (4MX4MX1M), to which settled and filtered water is sent through a water distribution system and 10% water exchange is done through overflow system. At this moment there are no internal filters only general aeration is provided.

The whole facility has been designed by civil engineers with our consultation. The facility is built to last over 50 years, the design is such to maximize production, minimize work and increase overall efficiency.

Apart from the grow out tanks there over 100 smaller tanks for other purposes. The cement tanks we used are cured over a 30 – 45 day period before we begin using them.

Does your hatchery use aquatic plants to help enhance the breeding environment or water quality in your breeding tanks?

We don't keep aquatic plants unless it's an essential part of the breeding process. Seventy-five percent of our tanks are bare bottom, another fifteen percent have gravel which is predominantly used to house Cichlids and the remaining ten percent have plants which house tetras and similar varieties. In some outdoor ponds floating plants have been provided to reduce the effect of sunlight



Ashwin Rai (L) and his friend Ronald (R) began their company, Ornamental Fish Farm Aquatic Biosystems in 2007. They are picture in front of their many outdoor holding tanks.

One can't help but notice that the larger tanks of the facility are mainly outdoors. How do you protect them from predators?

Fish predators cannot enter the breeding facility as it is an Indoor Facility. The grow out tanks located outside in the open are covered with nets to prevent the birds. The nursery ponds are cleared of predators with periodic use of soap-oil emulsion

How does the weather affect your hatchery? on seasons?

There is no major impact of weather in this region (the temp varies between 26-32 degrees centigrade except during the four months of monsoon season. The region is blessed with the best climatic and water condition for this activity, the temperature barely varies throughout the year even during the rains, so there no change in the species we breed throughout the year. During this rainy season the growth is slow but in outdoor ponds no water exchange is required as it rains almost throughout the day. It's almost self sustaining during this time.



Recently harvested Koi Angelfish are held in this conditioning tank until they are ready to be packaged.

In your experience is the market for aquarium fauna growing, remaining stable or stagnant?

The hobby is growing very fast in India and in the next few years the demand is just going to increase. Our most popular variety that we breed is Angels and the demand for that species remain steady.

As this demand increases for aquarium fish in general, and people gather more knowledge on the hobby they will be looking out for quality fish to buy. That is where we at Aqua Bios want to make a difference, by providing high quality Ornamental Fish to the hobbyist. 🌐

Aquatic Gardeners Association



The AGA Convention is the premier aquatic plant event of the world.

Convention



By John Dinh

Two years have passed since my first attendance to the AGA Convention and low and behold, it was that time of year again. The Aquatic Gardeners Association 2010 Convention was held on the week of November 11-14, 2010 in Ft. Lauderdale, FL. With my luggage packed, I was set to head my way down to the warm weather of southern Florida to enjoy a weekend with planted aquarium enthusiasts from all around the world.

Like conventions in the past, Thursday was a day for hanging out in the hospitality suite meeting up new and old planted aquarium enthusiasts, bagging plants, and relaxing before beginning the fun weekend ahead. I made my way up to the hospitality suite to pick up my name badge, grabbed a few snacks to eat and met up with new and old friends.





Florida Aquatic Nurseries Tour

After a big morning breakfast, we gathered in the lobby area and prepared for our trip to Florida Aquatic Nurseries (FAN) for a tour. I was excited for this event and thank you to AGA and FAN for being able to make this happen.

If you do not know, FAN is the leading supplier of aquatic plants in the United States and is probably where most of our pet stores get their aquatic plants. Both of their facilities contained hundreds of plants in propagation, which ranged from pond plants to aquarium plants. Many types of lilies, Echinodorus, Cryptocorynes, and stem plants were found throughout.

After spending most of the morning touring both facilities of the nursery, FAN was kind enough to provide us with Cuban lunch and also gave a presentation on Lily hybridization, which showcased some of their award winning lilies.

Inside the Florida Aquatic Nursery



Dr. Michael Kane discuss tissue culture.

Following the presentation a hands on workshop allowed participants to dissect and analyze plant tissues for themselves.



Tissue Culture Workshop with Dr. Michael Kane

After the FAN tour, we returned back to the hotel for a presentation given by Dr. Michael Kane on Plant Tissue Culture for the Aquarist: A Hands-on Experience. Dr. Michael Kane is

currently a professor and assistant chairman of environmental horticulture at the University of Florida. Dr. Kane was also a convention speaker at the AGA 2008 Convention where he gave a similar talk on Tissue Culture for Aquarists.

Following the presentation,

we were now able to get a hands-on experience with attempting our own tissue culture. Although I've had some prior knowledge on tissue culture, I have not yet tried for myself, so this was a first time experience for me.



plants, which may have contributed to many of his great aquascapes that he has accomplished throughout the years.

To answer the question, what exactly is the Iron Aquascaper Competition? The Iron Aquascaper Competition is an event held at the AGA Convention where two aquascapers go head to head to create an aquascape right in front on you.

Both aquascapers were given an equally amount of hardscape materials, aquatic plants, and substrate to create an aquascape in an ADA 60-P rimless aquarium. They were given a one-hour time limit to utilize their skill and experience in aquascaping to create a display that will need to impress the judges and the audience.

Now I must say that even the most experienced aquascapers in the hobby can have a difficult

ADG Iron Aquascaper Competition

Following the tissue culture workshop was the Iron Aquascaper Competition hosted by Aquarium Design Group, another event of the weekend that I looked forward to. At the AGA 2008 Convention, the reigning champion, John Ciotti was to return back this year to defend his title against the challenger, Frank Wazeter of

ADG. However, Ciotti was not able to make it to this year's convention, so another Aquascaper was chosen to go head to head with Frank. That chosen one would be a great friend of mine that I met at the AGA 2008 Convention, Luis Navarro.

Luis is an experienced planted aquarium enthusiast who has been in the hobby for quite a long time. He has an eye for good layout design and usage of



Luis Navarro and Frank Wazeter go head to head in the Iron Aquascaper Competition sponsored by the Aquarium Design Group (ADG). Each aquascaper has one hour to impress the judges and audience with a world class aquascape.



time creating an aquascape that matches their skill and knowledge of aquascaping. Being in the spotlight with given only an hour, it sure isn't an easy task as the pressure builds up. Needless to say, both combatants remain composed as they worked their way through until time was up.

In the end, both combatants did a great job creating an aquascape given such a limited amount of time, hardscape materials, and plants to choose from. In a situation like this, these are the things to take in consideration when being on the other side of the aquarium and judging both aquascapes.

I believe both aquascapers did an amazing job, however, in the end I gave my vote to Luis Navarro. His use of minimal plants and a creating a striking hardscape made an overall better composition. Frank's aquascape looked great at the start, however, as he progressed, too



Luis Navarro's stone aquascape (top).
Frank Wazeter's driftwood inspired aquascape (bottom).

many plants were used and the placement of rocks in the foreground made it distracting.

On the bright side, I do give my hats off to Frank Wazeter for putting up with the challenge and I look forward to see more work from him.

Leading Guest Speakers

The AGA has done a great job of selecting experienced guest speakers for this year's convention. There are a lot of aspects when it comes to keeping planted aquariums, and they have done a good job diversifying this year's guest speaker line up presenting a range of different topics related to the planted aquarium hobby. This year's guest speakers line consist of the following:

- Jason Baliban – Photography & Aquascaping Contest Preparation
- Claus Christensen – How to Make Plants Happy & Avoid Algae
- Michael Kane – The Secret Lives of Amphibious Plants
- Karen Randall – Modern Aquascaping Design
- Ghazanfar Ghori – Cryptocorynes

Jason Baliban – Photography & Aquascaping Contest Preparation

It was early in the morning and sure enough most of us were probably tired from the day before. Unfortunately, Jason was first in line to begin the day with his presentation on photography and aquascaping contest preparation. Jason shared some tips and tricks on shooting with a point and shoot camera, which may be what most people use

today to photograph their aquariums. He has also written a helpful article on Planted Aquarium Photography with a Point and Shoot Camera, which I recommend reading if you are using one. He also covered some tips on more advanced photography methods like using flash strobes to add more light to

avoid algae. Claus Christensen is a former executive for Tropica, and is currently spending most of his time traveling the world to discover new aquatic plants. In his talk, Claus emphasized many times that the plants we see in nature today may not be growing in optimal conditions, so therefore he suggested that we do not try



Jason Baliban presents advanced techniques in aquatic photography.

an aquarium for better photos. Other tips include cleaning glass, taking out equipment, adding a lot of light, and using a hair dryer to create the ripple effect. Near the end of the presentation, Jason showed us some quick Photoshop tricks he uses to slightly enhance his photos. Although I have heard Jason give this similar talk at the Aquafest 2009, there is always something new that I learn each time.

Claus Christensen – How to Make Plants Happy & Avoid Algae

This was the first time that I've met Claus, and was interested in hearing his talk on how to make plants happy and

to mimic the conditions of where plants are found in nature. Throughout the presentation, he showed us many photos of the places he's been and the condition of environment of plants grown in those environments throughout the year. Unfortunately, I was getting hungry and end up spending the next couple of hours going out touring the city and then head my way back just in time for

Ghazanfar Ghori's talk on Cryptocorynes.

Ghazanfar is another friend of mind that I was fortunate enough to also meet at the AGA 2008 Convention. Ghazanfar Ghori is no stranger to the



Judges of the AGA 2010 Aquascaping Contest

planted aquarium hobby, and definitely not one to the crypt collectors. Most people would recognize him through his experience with growing *Cryptocorynes*.

He has quite of a collection *Cryptocorynes* of which he not only grows submersed or immersed, but also through tissue culture. In his presentation, he shared some background information on *Cryptocorynes*, and showed us some photos of places of where crypts can be found.

There are currently 55 species of *Cryptocorynes* and less than 10 of the 55 are being commercially produced. He also shared what he uses to grow his crypts followed by photos of his freshwater and black water setups.

Auction Day!

After the past couple days of fun-filled events, the convention ended with an all day auction! There were common to rare plants available for bidding and even some were released to the hobby for the first time at the auction. Like at most auctions, a lot of heavy bidding was at the beginning and near the end; plants were going for dirt-cheap! And by cheap, I mean \$1 cheap. I end up winning some *Rotala nanjenshen* and *Eleocharis flaverencis*, a new plant released. So here is a small tip, if it is not obvious already. Wait until the end if you are on a budget to get great deals on plants.

As the auction was coming to an end, so was the weekend. People were getting ready to pack their bags and head out on their way back home.

Final Thoughts

First and foremost, I want to give credit to the board members and sponsors for making the convention possible. There is a lot of work that goes into organizing and planning a convention like the AGA, and I just want to say thank you for the all hard work that you guys do for us to be able to expand our experience and knowledge in the planted aquarium hobby at this event. It was definitely a pleasure to meet new people and also catch up with old friends.

If you have never attended an AGA Convention, I highly recommend that you make plans to attend one in the future. This is a great event to meet up with other hobbyists, as well as learn and share our knowledge and experiences on planted aquariums. This was my second time attending the AGA



Convention and I plan on making an appearance to more in the future.

If you have missed this year's convention, you're not out of luck! The AGA is currently working on a DVD set that is available for purchase. I have received a copy of the AGA 2008 Convention DVD, and it always brings me back to the fun times. I highly recommend purchasing a copy to get a feel of what the convention is like. You will get a full coverage of the events that happened during the convention, and maybe some extra footage. Support the AGA!

The next Aquatic Gardeners Association 2012 Convention is scheduled in St. Louis, Missouri on November 1 - 4, 2012. 🌐

For more information please visit:

www.aquatic-gardeners.org
www.aquascapist.com





Photo Credit <http://www.fluvalblog.com/>

Unlimited Aquascaping Possibilities Fluval Edge Aquariums

By Jordan Ngoh

Introduced in 2009, Hagen's Fluval Edge Aquarium touts an all-in-one 3D aquarium system that has quickly taken a steady foothold in the aquatic hobby for its innovative modern design and integrated equipment features. Fluval Edge aquariums offer six-sided views of the aquarium with water contained seamlessly from edge to edge. In our aquascaping art, this element is a key feature in establishing unhindered realism and focus on our layouts.

The Fluval Edge appears floating magically in the air as the main aquarium sits on its pedestal. The hidden compartment for the built in filter and lighting system only adds to this floating illusion. When paired with a planted aquarium aquascape, the possibilities of designing beauty and natural aquatic landscapes within its

Introduction

My Name is Jordan Ngoh, I am a 22 year old aquascaper from Melbourne, Australia in the final year of a marine biology degree. Ever since I can remember, my family has kept aquariums and they have always fascinated me as well as all organisms associated with the aquatic environment. When I was young I was always catching tadpoles and fish at the creek near my house and coming into contact with lizards, snakes, water birds and all kinds of animals. As I grew older I began to keep my own aquarium, starting with goldfish and slowly changing to tropical fish and then into marine.

It was only in 2009 when I discovered aquascaping, I bought a pot of hairgrass for my aquarium and it started to grow and carpet. I thought it looked

really good and I wanted to learn how to grow more plants. While searching, I found beautiful pictures of aquariums by Takashi Amano and other great aquascapers. From then on I have been slowly accumulating knowledge about aquascaping and experimenting with different plants and layouts.

In 2011 I started working at what I think is the best aquarium store in Melbourne, Subscape Aquarium. I am in charge of aquascaping and maintaining all of the planted display tanks and I gained a lot of aquascaping experience in a very short amount of time because of the number of tanks I was setting up for the shop and for clients. It was around this time when I setup my first "properly aquascaped aquarium" at home with pressurized CO2 and it was a great success. It was an Iwagumi



Fluval Edge Aquarium displays at Subscope Aquarium in Melbourne, Australia.

aquascape that ended up coming 3rd in the 60-120L category of the 2011 AGA International Aquascaping Competition. After that in 2012, my tanks and I were filmed and interviewed for an aquascaping segment on an Australian television program called “Better Homes and Gardens”.

The Fluval Edge

Fluval Edge tanks have quickly become one of the most popular aquariums because of its innovative design. It is particularly appealing because it appears to be a completely sealed aquarium which allows for top down viewing of the aquascape. With the light and filter hidden away in the back, it has a very minimalist look with nice clean edges and barely noticeable silicon. They are a great aquascaper’s

aquarium but there are a few challenges with setting up and maintaining one of these tanks.

Limitations and Hardscape

By design, the Edge has only a small opening for access to the inside of the tank. This limits the size of hardscape material that can be used. It also means that some water needs to be taken out prior to trimming, moving around hardscape, catching fish etc. so that it does not overflow. The sealed up top also means that upon filling the tank, air bubbles are trapped at the surface, but they are removed easily by a flexible brush bent at 90 degrees (a trick from George Farmer).

When setting the hardscape in a Fluval Edge (or any tank), preparation is very important. I always start with more hardscape

material than is needed for the finished aquascape. It is good practice to get a mixture of different sizes of rock or wood, it makes it a lot easier to create a natural looking scape. Because of the small opening in the top, it is necessary to test that all hardscape can fit, particularly wood which tends to be long and branchy. Often new aquascapers are so enthusiastic about setting up their new tank and seeing it planted, that they do not spend enough time thinking about and arranging the hardscape which is the foundation of the layout. It is sad to say, but most tanks fail from the beginning. I always make sure that I am 100% happy with the dry layout before even thinking about planting or filling the tank. In some cases I spend a few days working on the hardscape to get it perfect.

Lighting and Plant Choice

The new LED lighting in the Fluval Edge is a big improvement to the halogen bulbs from the old Edge in terms of intensity and energy efficiency, but there are still some limitations to what plants will thrive. I use mostly low light, slow growing plants in Edges like mosses, java fern, *Bolbitis* and *Cryptocorynes* but I also use some more light dependant plants such as *Blyxa japonica* and *Cyperus helferi* in the centre where light is the most intense. Having the correct plant choice with an Edge is critical and can make or break the scape.

Since most carpeting plants will struggle under the stock Edge lights, I use moss as an alternative. By tying moss to small flat rocks "Amano style" you can create effective ground cover which requires less trimming than the regular fast growing carpeting plants like *Hemianthus callitrichoides* (HC), or *Glossostigma elatinoides* and gives the aquascape a darker, jungle feel. Of course, I also like using moss in the conventional way tied to the branches of driftwood and it looks great when it has grown in.

Cryptocoryne are an excellent choice for Fluval Edges and are probably my favourite group of plants. They are very versatile and are great "fillers". Crypts work well in the mid-ground and between rocks. Crypt species like *balansae* and *retrospiralis* can also be used as background plants and the low growing parva can be used as a foreground plant. Plants like *Bolbitis*, java fern and *Anubias* are also good mid-ground plants and can be attached to wood and rocks. I mostly use java fern species and *Bolbitis* on driftwood to get that "bushy look" a bit higher up where crypts cannot be used. *Anubias nana* is excellent

for wedging between rocks and wood and makes a good zone transition plant.

For height in the background, I usually use *Cyperus helferi* or *Valisineria* species but you can also use some easy to grow stems like *Hygrophilla* species. These background plants are more important in the taller 46L Edge, the 23L might not even need background plants if the hardscape has enough height.



46L Edge Scape

For this tall tank, I decided to use Malaysian driftwood as the main hardscape with blue stone scattered around breaking up the midground. Of course, symmetry is to be avoided so the arrangement is weighted to the left side with the wood pointed at an angle towards the right. Since the tank is in an aquarium shop I was required to set it up quickly and I would have liked more time to spend arranging the wood and stone.

Small flat stones tied with moss were used in the foreground and is trimmed about once a month to maintain the

bushy look. After trimming, some moss found its way onto the wood and attached itself on its own, I think this adds to the natural look of the aquascape. Crypts and *Anubias nana* grow in the midground and between rocks and wood to transition between zones. *Cyperus helferi*, a beautiful tall growing plant was used along the back of the tank behind the wood. After the initial setup, all leaves with algae or leaves that melt were trimmed

away. This is important in any new planted and promotes new healthy growth.

23L Edge Scape

For this aquascape, I wanted to do a very minimalist Iwagumi style layout. In these scapes the placement of the stones is the most important thing and for this reason I spent more time than usual on the dry layout. The five red rocks were arranged in a classic radial Iwagumi style using the golden ratio. In this style the angle of the stones, particularly the main stone is very important.

I only wanted to use two plant species in this aquascape to keep it simple to keep with the



46 liter Fluval Edge Aquarium offers twice the footprint for a larger aquascape at 43cm x 35cm x 59cm high.



The 23 liter Fluval Edge Aquarium is 43cm L x 26cm W x 22.4cm high providing a good structure for a minimalist-type layout like the above.

minimalist approach for this layout. The foreground was left bare with the white sand exposed and moss stones were placed around the rocks and in the midground. Bright *Blyxa japonica* grows in the centre where the light is the strongest to contrast with the dark green of the moss and to compliment the radial rock placement.

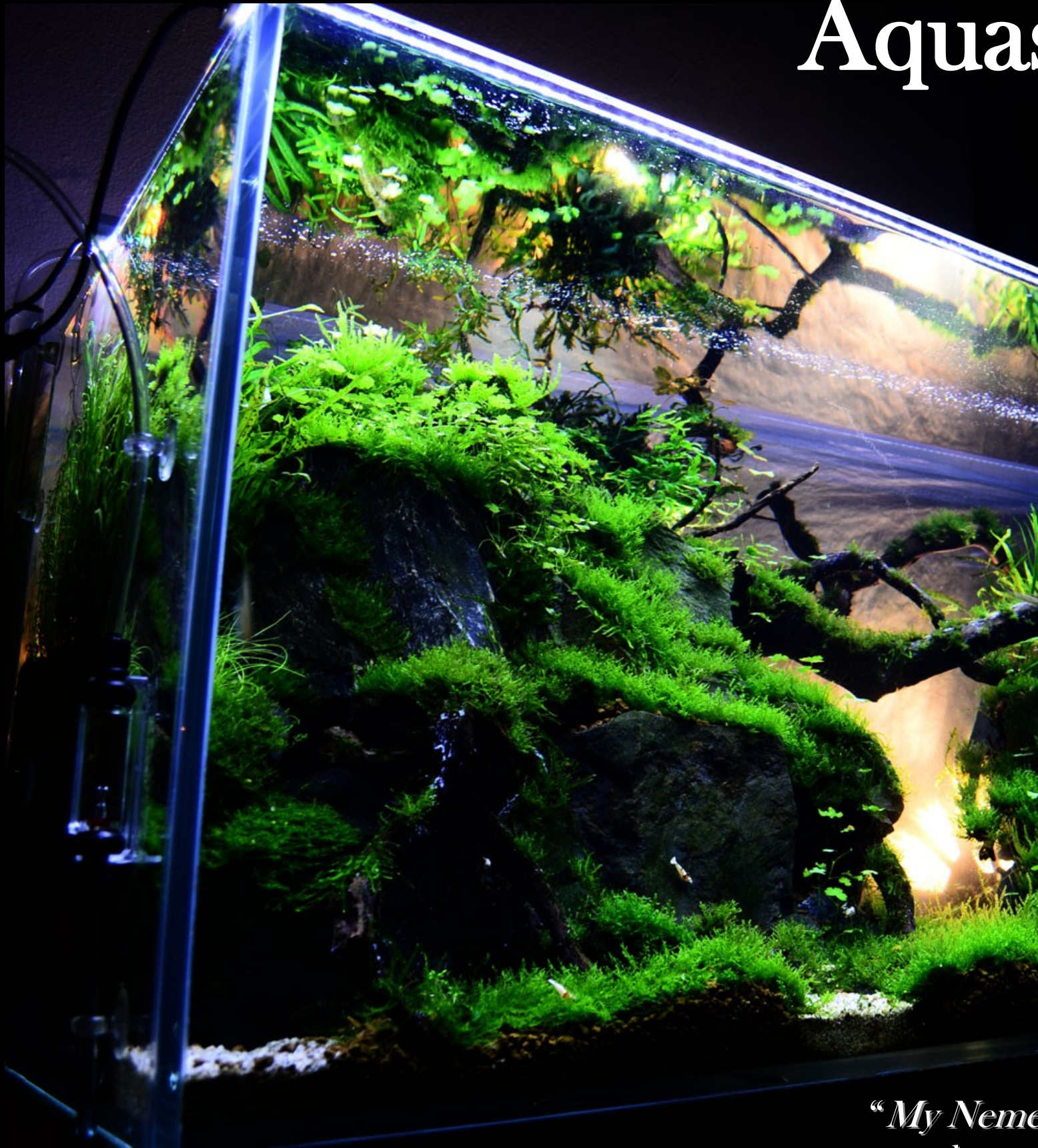
As for maintenance, this tank gets a 50% water change every one or two weeks and trace and potassium are dosed twice a week. The glass stays quite clean but is still wiped every two or three weeks and trimming is done whenever it is needed.

It is quite a low maintenance setup compared to most of the other tanks featured as "Aquascapes of the Month".

Conclusion

When aquascaping a tank (not just a Fluval Edge) there are almost always some limitations: budget, access to plants, access to hardscape material, size of the tank, lighting, CO2 and more. Working within these limits forces you to think harder and plan things out better which I believe makes for a more wholesome and effective aquascape. The most important thing is preparation and research.

Aqua



*“My Neme
becan*

Aquascape In Focus

My Nemesis

An Interview with Raymond Cogan



Our Aquascape in Focus is from San Francisco, California, by Raymond Cogan. Entitled “My Nemesis” for a variety of reasons that you will find inside this article, this aquascape has its humble beginnings as a “dry-start” layout. The initial planting is done without water to allow the aquarium plants to develop and attached to the hardscape and driftwood.

This particular method is not for the impatient type, and takes a certain diligence to apply effectively. Cogan takes us on a step by step journey as he shows us how he created this highly intricate layout.

...esis, once the recipient of only jeers,
...me only praised.” - Raymond Cogan



Raymond Cogan and his ADA 90p aquascape entitled "My Nemesis".

Igniting a Passion

Like almost anyone else in the hobby, I have always been a nature lover. Whether I was hiking up Mount Tam or racing my bicycle in small, desolate cities all across California, I always thrived and felt most comfortable outdoors. So, it seemed only natural for me to want to bring that type of tranquillity inside with me, and that is where aquascaping planted aquariums narrows the gap.

Lucky enough to live in San Francisco, I first became enchanted by aquascapes while frequenting a local planted aquarium store called *AquaForest Aquarium* in Japantown. The Kabuki was a regular Saturday night date night for me, and we would always

stop in at *AquaForest* just to gaze at the many impeccable scapes on display right before hitting up an overpriced movie in a very comfortable chair.

My grandmother was an aquarist as well, and I grew up marveling at her tanks. Sure, those tanks were comprised of colorful gravel and no plants to speak of, but her passion was always there. One day, after my second trip to *AquaForest* on the same Saturday, I decided that I wanted to continue her legacy. So, after talking awhile with George Lo, owner of *AquaForest* and aquascaper extraordinaire, I jumped all in with an ADA 90p. Quite the beginner tank!

Anyone who knows me at all also knows that I can come off as a bit obsessive. When I first got into racing bicycles, for example, I became president of a new race

team featuring over fifty members within my first year of racing. As a 401c3 non-profit, we raised funds and awareness for organ and tissue donation which coincides nicely with my job as an organ transplant analyst.

Not surprisingly, I got into aquascaping with a similar type of vigour. During the first few years, I always had 5 or 6 tanks going at any one time, and with seemingly endless mediums with which to work, I quickly realized how well this hobby might feed my curiosity for all things nature. Soon, I joined my local aquatic plant society, the San Francisco Bay Area Aquatic Plant Society (SFBAAPS) and did everything I could to soak up knowledge about aquatic plants, if only so I could respond to my fellow aquatic plant lovers with due colloquialism.

Scaping a new tank was all I thought about in the early days, and everything was secondary to the flora. Fauna? Who needs 'em! These days, however, nothing fuels my passion quite like inverts do. I have so many breeding projects going on right now, and for my latest aquascape, I needed something suitable to raise a healthy colony of pure red lines. Most ADA show tanks are not such creatures as you know.

With no room left in my apartment for new tanks, this aquascape was going in the bedroom so it also needed to be attractive. The Mrs. calls this tank "My Nemesis" and was none too pleased at first to find out that a new tank would be constructed "in the bedroom!?!". Begrudgingly, and over the several months she's watched this still quite young tank develop, however, "My Nemesis", once the recipient of only jeers, became only praised.

Aquascaping Design Goal

Obviously, I was going for an especially mountainous aquascape, but I was not trying to mimic a terrestrial mountain range. Rather, I wanted something that looked quite aquatic in nature. Dimension was an important factor to consider, and a dynamic range of levels was always kept in mind.

My inspiration was simple: Create the most inspiring "shrimp scape" possible.

This tank is low light, low maintenance, and almost no fertilizers. If I yanked the CO2 away tomorrow, the plants would do just fine. I keep the CO2 in place, however, and at such low levels, to keep the PH low and steady for the inverts. Running it 24/7 has yielded the best results for fellow club members who have bred Crystal Red Shrimp.

Establishing the Hardscape

The hardscape, comprised mostly of Yamaya and river rock, is both bought and found. Some were harvested beneath the steep cliffs at the beach near my apartment, but I foraged for most of them in Yosemite National Park. Is that legal? I don't know, but I decided to plead ignorance at the time as I filled my trunk with fascinating looking rocks. I had to be careful not to pick rocks that would clash too much in color, but I was given an out considering the mini pella and hydrocotyle coverage present so I wasn't overly concerned. Above everything else though, the aquascape needed to look natural.

I have noticed that it is hard for some to establish the size of this tank at a glance while contemplating it in pictures. At least, it used to be that way before it began to really fill in. I stacked large rocks in a half circle along the back, filled the open space with Akadama as if I were pouring sand into an abyss, and then added three more generous rocks on top, closely knit together. The attempted illusion was to create a focal point

that looked a little bit like one big rock, but with plants and moss growing from the cracks. I hope that I was mostly able to accomplish this.

The branch wood is present for many reasons. It ties the two rock formations together to create flow, it provides a natural place for the hydrocotyle to continue its endless crawl, but most of all, the tannins released in the water further creates the type of PH environment I was aiming at for my delicate invertebrates. But in a simpler context, I imagined the the Crystal Red Shrimp (CRS) crawling across the wood from one "mountain" to the other, and just thought that made sense.

Dry-Start Method

The Dry-Start method is a way to allow aquatic plants to grow and attach to driftwood and hardscape materials, prior to filling the aquarium with water. It is very similar to starting an emersed setup.

To start the dry planting method, first, I took two 2x2 inch portions of mini pella, ripped it into shreds by hand, and just dropped on the surface. Then, I took one more 2x2 inch portion



Fragments of Mini Pella (*Riccardia sp.*) attach to rocks during the early dry-start phase of the



Early beginnings of the dry-start layout in March 2012. Plastic is used to cover and retain moisture for the recently planted mosses and Mini peltia.



Approximately one month into the layout's growth, the mosses and Mini peltia are taking a foothold on the driftwood and rocks.



In April 2012, the layout was “flooded” with water to begin the full development of the aquascape.

and did the same to the branches and rocks sometimes just pressing the moss between my thumb and the moist wood so it would adhere. I also did the same to one portion of fissionids, placing that on two sides of vertical rock.

For lighting, I used my dual TrueLumen Pros, but supplemented this with a 150w metal halide with an ADA bulb. I was definitely pumping in the par.

Another challenge that I faced, and was luckily well familiar with from a previous dry start was “How do you get delicate mosses to not dry up into nothing during a dry start when placed on branches under heavy light?” Normally, just covering with clear plastic wrap is not going to work very well.

For that reason, I came prepared with a repti-fogger which I ran 24/7 for all 7 weeks of the process. I had to drain the water from the substrate every morning with a turkey baster, and fill the fogger every evening with distilled water. This kept the humidity extremely high, and my mosses repaid me with rapid, lush growth.

As intensive as the start of this tank was, I knew how well I would be rewarded later with low maintenance.

Designing the Layout

I wanted some dramatic depth in this aquascape, and creating a very vertical formation toward the front of the tank (only three inches on the far left from rock to glass) contrasted nicely with the open space “meadow” that flows from center-front to back-left. In reality, if I had just one more large, appropriate rock, the three inch space would have carried on almost all the way up to the water line.

As this is a low tech scape overall, trimming is a breeze in this tank. Low light plants and mosses mean that my maintenance is quite minimal, another goal reached. Coming from someone who has grown his share of *Glossostigma elatinoides* tanks, this element was mandatory for me.

As for the “rule of thirds”, I’m an artist by nature, having been a book cover designer for a national press for almost a decade, and now a web designer as well. The challenge for me is usually the same. Know the rules well, then try to break them while still managing to create an intriguing design with symmetry. My focal point rock is still at 2/3rds, for example, but the

perpendicular lines created with the meadow was much more important to the overall success of the aquascape.

Unusual challenges

An unusual challenge in this aquascape is the lack of fertilizer. I need to keep the TDS at 150 or lower, and these inverts just don’t appreciate nitrates much either. Most of included species are very hearty plants, but there is only so much fertilization deprivation they can handle. The *Anubias nana* “petite”, for example, still grows, although starkly yellow up the inside of the main rock on the right. However, it blends in nicely with the hydro and still manages to complement the aquascape. As you can see, mosses are no worse for the wear. They stay lush and green along with the ferns, even in these conditions.

With such a heavily planted tank, I knew that I had to keep my filtration high so that I could minimize my water changes, thereby preventing the type of water fluctuations that CRS can’t stand. That’s why I employ a pre-filter, a canister filter, an HOB filter, a sponge filter (mostly for beneficial bacteria and food for baby shrimps), and a Purigen reactor. The Purigen keeps the water crystal clear and gives me peace of mind. The pre-filter means I will only have to open up the canister filter once per year for easy maintenance.

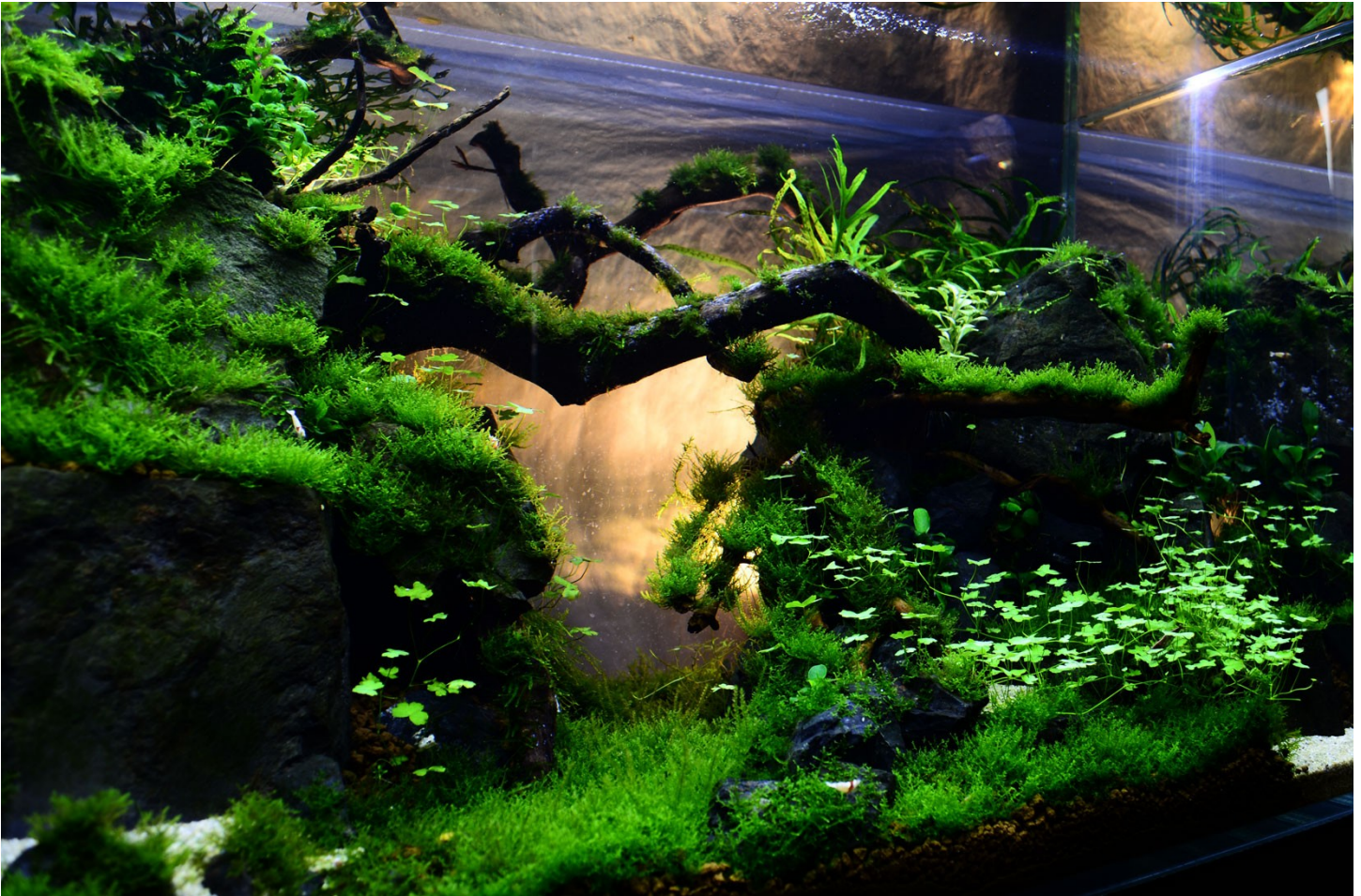
The final challenge for a tank like this comes in the form of blue green algae, which of course, is not an algae at all, but cyanobacteria. For that reason, I have had to dose Maracyn in this tank which kills it off in approximately 5 days, but I will always have to look out for it most likely. The lack of nitrates is typically what causes such an imbalance.



“It's all been done before.’ ‘Another iwagumi?’

Nonsense. These are the words of shallow thinkers.”





"My Nemesis" is a 180 liter aquascapes constructed in an ADA 90p aquarium providing an abundance of aquascaping space for the aquatic plants and hardscape.

Final Thoughts

This is one of the more challenging but also satisfying aquascapes I've been able to implement. I planned this out in the shower, the car, while walking to work, while talking with friends, and sometimes even in my more lucid dreams. If you contemplate nature enough, I think that the inspiration will end up paying dividends in your designs. Some people have questioned the sand element in this tank which has become a signature in most of my scapes. Would the scape be stronger or weaker without it? I can't say for sure. However, this was another element I felt good about for the sake of the inverts

who simply love grazing on sand. In fact, all my best macro shots of shrimp are done against this very light background, and right in front of the tank.

If I had any advice for new aquascapers it would be that research is your best friend. Be a fanatic about reading those messageboards, scouring for articles about fauna and flora, and even reading all the ADA books that have been published. If you combine your heavy research with a thoughtfulness toward what you regularly stumble upon in nature, you will eventually create something magical. Anyone can do that with enough due diligence.

If you are in this hobby long enough, you will likely be forced to endure plenty of tired voices echoing similar sentiments... "the scape is dead." "It's all been done before." "Another iwagumi?" Nonsense. These are the words of shallow thinkers.

As long as there is a love for nature present, one can always find magic in the nuance that is a planted tank. Do these same people take a walk in the woods and exclaim, "but these trees... they are all the same. And they are just like the trees from a thousand years ago!"? Embrace subtly and that is the true key to a terrific, enduring piece. 🌿



My Nemesis

Dimensions: 90cm x 45cm x 45cm (ADA 90p)

Volume: 180 liters

Light: Two TrueLumen Pro LEDs at 8000k

Photoperiod: 8 hours, set on a dimmer for around 75%.

Substrate: Double-Red Line Akadama

Fertilization: 1/16th teaspoon of K₂SO₄ 3x per week
¼ teaspoon KNO₃ once per month

C0²: Pressurized C0² 1 bubble per second

Plant List

Microsorium pteropu (Trident Java Fern)

Rotala rotundifolia 'Green'

Fissidens fontanus

Riccardia sp. (Mini peltia)

Bolbitis heudelotii

Hydrocotyle verticillata

Anubias nana 'petite'

Fauna

Caridina multidentata

Caridina cantonensis sp.

Otocinclus affinis



A Beginner's Perspective Part II





No amount of knowledge or high tech equipment can replace experience.

By Shawn McBride

In the last article I described how I came to be interested in aquascaping and my first small steps towards learning how beautiful scapes are created. The article detailed delving into the wealth of information available, the many extraordinary individuals who are more than willing to share their own knowledge and experience with beginners, and the reasonable expectations of a beginner.

Through the process of reading and asking questions, I realized that I needed to gain some experience in order to eventually build a high tech aquascape. No amount of knowledge or high tech equipment could replace experience.

The next logical step into the hobby was to build a practice or experimental tank. I needed to learn how to grow plants effectively. One very important step in beginning a planted aquarium or aquascape is to define your goals. What exactly do you want to accomplish? The answer to that question can lead you in the direction of the necessary equipment, lighting, substrate, fertilizing routine, plants, and fauna needed to

make that goal a reality. With a limited budget for an experimental tank I would have to use the lighting already owned. Plants would be purchased locally, substrate and CO² would be DIY. The 37 gallon tank was eventually going to become the high tech scape and an older 20 gallon tank would be used as the experimental planted tank. The experimental tank would go through many transformations as I acquired more equipment, learned more and then applied that knowledge or equipment to the tank.

The first of many more decisions was what to use as a substrate. Not wanting to dedicate too many resources to this experimental tank, since much of my finances would be directed at acquiring the necessary equipment for the high tech scape, I decided to mix laterite from the local fish store with gravel and use this as the

substrate. I would not recommend exclusively using this method. The laterite turned muddy, clouded the water considerably and was difficult to work. Despite the inferiority of this substrate I managed to clear the water with a number of frequent water changes.

I planted a small variety of species from my local fish store. I was still naïve to the conditions plants generally require in terms of CO², light, and nutrients. I did not pick plants according to the

conditions I would have inside the tank. Part of this was intentional as I wanted to see what I could get to grow well and what wouldn't. The following plants occupied my first tank in the beginning: *Aponogeton ulvaceus*, *Echinodorus argentinensis*, *Sagittaria subulata*, *Ophiopogon japonicas*, *Microsorium pteropus*, and *Ceratopteris thalictroides*. In the beginning of this project, I used Seachem flourish as a





DIY CO² setup was quickly replaced with a pressurized CO² unit to ensure consistent gas injection into the water column.

source of fertilizer and did not dose any sort of CO². My lighting consisted of two 18 watt T-12 bulbs, which were quite old. With this setup began my pursuit of the mystical “pearling” of which I had heard a great deal.

Needless to say I saw little growth. The amazon sword held onto its emergent leaves for a very long while. The plants appeared to be frozen in time. I continued to read and research ways to improve my system. I knew I wanted to add CO², but didn't like the idea of dosing Seachem excel exclusively. I decided to build a DIY fermentation CO² setup. The materials consisted of CO² hose, a one liter aluminum water bottle, and an airstone. I drilled a hole into the top of the water bottle cap, inserted the airline, and sealed with silicone. In hindsight, I can identify some issues with this system.

For example, the one liter bottle was not large enough to generate the amount of CO² necessary and did not allow for much accumulation of alcohol

before the yeast would die. I used standard store bought yeast, champagne yeast would have been ideal. An airstone is an inefficient way to administer CO² into an aquarium. I tried several ways to spread the CO² into the system, I placed the airstone inside of my han on the back (HOB) filter, hoping the circulation would improve dissolve rate. I placed the airstone under the outlet of the HOB filter, and then finally on the front of the aquarium glass so the

flow of the filter would push the bubbles down. My bubble rate was modest at best as the air barely trickled out of the airstone, so an accurate bubble count was not possible. At this point I measured success by observing if I saw plants pearling, this would be my evidence of improved growth, and I saw no improvement as I saw no pearling. Pearling is generally used by aquatic plant keepers to determine if photosynthesis is taking place. “Pearling” is the accumulation of oxygen gas, a byproduct of photosynthesis, on the leaves.

DIY CO² was a frustrating venture for me and I finally gave in, shortly after opening the cap near the aquarium thinking I had no pressure only to have a “mist” of yeast mixture spray onto me, the room, and into the tank. Luckily it didn't smell too bad, like a bakery, but was a hassle to clean. By this time I had acquired the CO² system to be used on the high tech tank and decided to implement it into the practice aquarium since my final goal was to use that system to build a beautiful high-tech scape. I did not plumb in the reactor since I did not yet have a canister filter. I connected the pressurized CO² system to the airstone and watched as bubbles finally were



Additional lighting was added to the setup to increase lighting and photosynthesis among plants.

emitted in a satisfying burst.

After a couple days I was again puzzled why I did not see this pearling business going on inside of the tank. I had pressurized CO². I began to look at other reasons for lack of growth and production. The first thought was inadequate lighting. I did not want to spend money on a new lighting system as I was still in the process of trying to figure out what kind of lighting I would need for my high-tech aquarium, a process that took months to finalize, by the way. I decided to add more light by adding another old fixture with a new bulb. I added another 18 watt 6500k daylight T12 bulb, still no pearling. What now?

I had recently received my order of aquasoil for my high-tech tank and after setting up my initial hardscape for that aquarium I decided to use the leftovers in my experimental tank. Removing the plants wasn't difficult and when doing so I found more evidence of poor growth. Many of the plants had limited root structure after two months. The *Aponogeton ulvaceus* had barely grown from its bulb and remained much the same as when I had purchased it. Removing the gravel and laterite mess was another story, but soon accomplished and the aquasoil was added along with a large Seiryu stone which remained from the set of stones I had purchased from Aqua Forest Aquarium. I also added a bunch of *Rotala indica*, *Carolinia combamba*, and *Eleocharis acicularis*. I was proud of my first planted tank that looked more like what a planted tank should look like, however the pearling still eluded me.

I returned to lighting, after hearing so much about how T5 lighting is necessary. I was not going to purchase a T5 fixture, but searched for a cheap



The CO² diffuser placed directly underneath a current helps circulates the carbon gas throughout the aquarium.

alternative to add more light. While researching lighting systems for my high-tech tank I discovered LED lighting and its possible applications in aquarium plant keeping. Fixtures were very

expensive, but LED lighting itself was not in other forms.

I searched Ebay and found a LED light bar, which claimed to have the equivalent output as 150 watts. It was cheap, so I



Growth over two weeks under more lights and increased carbon dioxide injection.



purchased it. Once placed above the tank and turned on, the difference was astonishing. The tank looked much brighter and definitely resembled daylight much more closely than the dim fluorescent bulbs.

As most people who are new and have limited experience who add more light, I soon found I was growing algae quite effectively and not plants. Green spot algae, cladophora, and brown brush algae primarily dominated the aquarium. Due to the extensive amount of reading I had expected an algae outbreak at some point due to my inexperience with planted aquariums. Remembering several articles and comments from others regarding the relationship between light, CO², and nutrients, I began to think of how I could solve my algae problem. Tom Barr has emphatically stated that nutrients do not cause algae, most algae problems are caused by misuse of CO² (either unstable or inadequate levels). He is also, as are many others “in the know”, proponents of less light than what

the often heard watts per gallon rule of thumb would imply.

I did not believe my problem to be a lighting issue as I hadn't had algae before nor plant growth, so I looked to the other two sources, inadequate CO² or poor nutrients. Since having added ADA aquasoil, which is rich in nutrients, I was leaning towards CO² as a means of targeting the algae outbreak. Clearly, the airstone was not cutting it. The bubbles were much

“Light is the throttle, CO2 the oil, and nutrients the gas. The engine does not run without these working together.”

too large to effectively dissolve or mist plants with useable CO². I broke down and purchased a Do-Aqua disc diffuser and later added a canister filter for improved flow.

Many people use drop checkers to monitor their CO² levels, but for this tank I did not want to rely on a piece of equipment since I wanted to learn what to see in terms of fish

behavior and plant growth, which could clue me in to adequate levels of CO².

I adjusted my CO² by watching the fish for stress, this was done slowly over the course of several days. Anytime I saw my fish swim to the surface and remain there gasping I knew my CO² level was at stressful level and I either turned it off or turned it down. I eventually ended with 2 bubbles per second. I programmed my CO² to turn on a

half hour before the lights and turn off one hour prior to the lights shutting off. Eventually I saw the algae begin to fade. The only algae eating fauna with in the tank was a single Otto,

so it was the improved flow and CO² distribution that caused this result. I also began to see consistent pearling. An effective CO² system is where I would recommend investing your hard earned money. Lighting, substrate, and fertilizer can be done effectively for less than many may believe.

The lesson I took away from this experience was a simple



First attempts at creating an aquascape design using stone and driftwood arrangements.



analogy I like to use: Light is the throttle, CO2 the oil, and nutrients the gas. The engine does not run without these working together. Without a proper balance of these elements one will get poor growth of plants, and more than likely, excellent algae growth. Again, this is why less light for beginners is a great idea. It will allow for any easier time learning

to manage the other aspects.

The experimental tank has gone through a number of transitions while I learned. It has seen plants come and go, hardscape change, equipment added and removed, in doing so I had begun to gain the experience needed to start my first true high-tech aquascape. However, it would be naïve of me to think that



tackling the problems with this first practice run would mean there would be no struggles with the next step. Indeed there have been struggles, but I understand the challenges, the possible solutions much better because of the first planted aquarium. Many of us continue in the hobby because we enjoy the process as much as the final result.

Beginners must be aware how the end result is accomplished and to have realistic expectations in order to trudge through the setbacks. There will be setbacks.

In my next article I will share my struggles and lessons from my high-tech aquarium, some are similar to the usual CO², light, and nutrients balance, while others involve struggles with

fauna, my arch-nemesis staghorn algae, an “alien” invader, and hopefully ending with a scape worthy of competing in the Aquascaping World Competition. 🌍

InterZoo 2012 Nürnberg, Germany

International Trade Fair



A Short Aquatic Story by Piotr Kierzkowski, Internet Aquarium Television DefiniteAquascapeTV



By Piotr Kierzkowski

Until recently my knowledge about the InterZoo pet fair in Nürnberg, Germany, was very limited. It seemed to me that this event is something special, available only for "big guys", not for a mere mortal human being like me. Well, as usual in such cases, I was partially right, and partially wrong.

Fish & Company, or a little bit of introduction

It's true that InterZoo is something special - it's actually the largest pet trade fair in the world. The 2012 edition attracted more than 1500 exhibitors from more than 50 countries. There were 9 large exhibition halls, with total display area of more than 100 000 square meters, and more than 38,000 visitors. The scale of this event is really amazing, and it takes almost a whole day just to walk around all halls. The fair is not only about aquarium products - all pets are in scope, starting from horses, dogs and cats, and ending on terrarium insects, or even on macroalgae (if you want to treat algae as "pets"). Aquarium fish fall somewhere in between, and



Immersible LED lamp manufactured by the Tunze company.

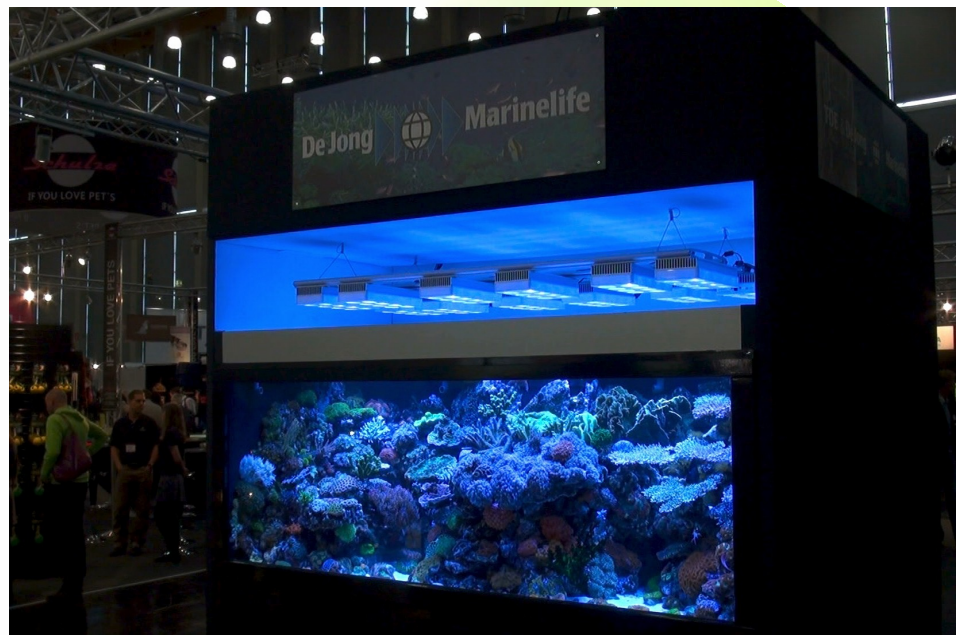
“What could fish-oriented people see at the InterZoo 2012 fair?”

“The age of LEDs is coming, and fast”

are well represented. It's also true that InterZoo is not available for everyone - only trade visitors are accepted, like mass-market buyers, distributors, retailers, and other qualified professionals. The last category encompasses also journalists - and this is how I was able to get in, getting press accreditation for my internet aquarium television.

Can you shed some LED light on a plastic decor in this marine setup, please?

What could fish-oriented people see at the InterZoo 2012 fair? The shortest answer would be: "mostly equipment". And among equipment - mostly illumination. LEDs, LEDs, LEDs - everywhere, in any possible form. I didn't make any exact counts,



The largest reef aquarium of the InterZoo 2012 fair, at the booth of the De Jong Marinelife company.

but I think that in the whole gigantic exhibition area of InterZoo I saw only two HQI lamps - both were hanging over the aquariums at the booth of Aqua Design Amano Deutschland. There were probably more HQI's around, especially over marine tanks, but I didn't look for them specifically.

Anyway, the age of LEDs is coming, and fast. Some technical solutions for LED illumination were really ingenious, like the waterproof, immersible lamps, displayed by the Tunze company.

The second best represented category of

equipment would be all the stuff for marine aquariums - protein skimmers of all sizes were the most visible, if not the most numerous. One could also notice that most aquariums displayed at the fair were marine tanks, probably because it might be



Artificial aquarium decorations – driftwood replicas by Aneka Tirta Surya company

Anubias Company Exhibits



Large planted aquarium at the booth of the Anubias company.



One of small planted aquariums at the booth of the Anubias company

ADA Deutschland Exhibit

easier and faster to set up a good looking marine aquarium than a good looking freshwater aquarium. The third most popular category would be artificial decorations for aquariums, and artificial plants. Some replicas of driftwood and rocks were really good, and would be very useful in setting up large aquariums or paludariums in zoological gardens.

Scape it right!

Of course, there were also numerous "real" planted aquariums, scattered all over the exhibition area. In my opinion the best of them were displayed at the booths of the companies Anubias, Aqua Design Amano



One of the planted tanks at the booth of the Aqua Design Amano Deutschland company.

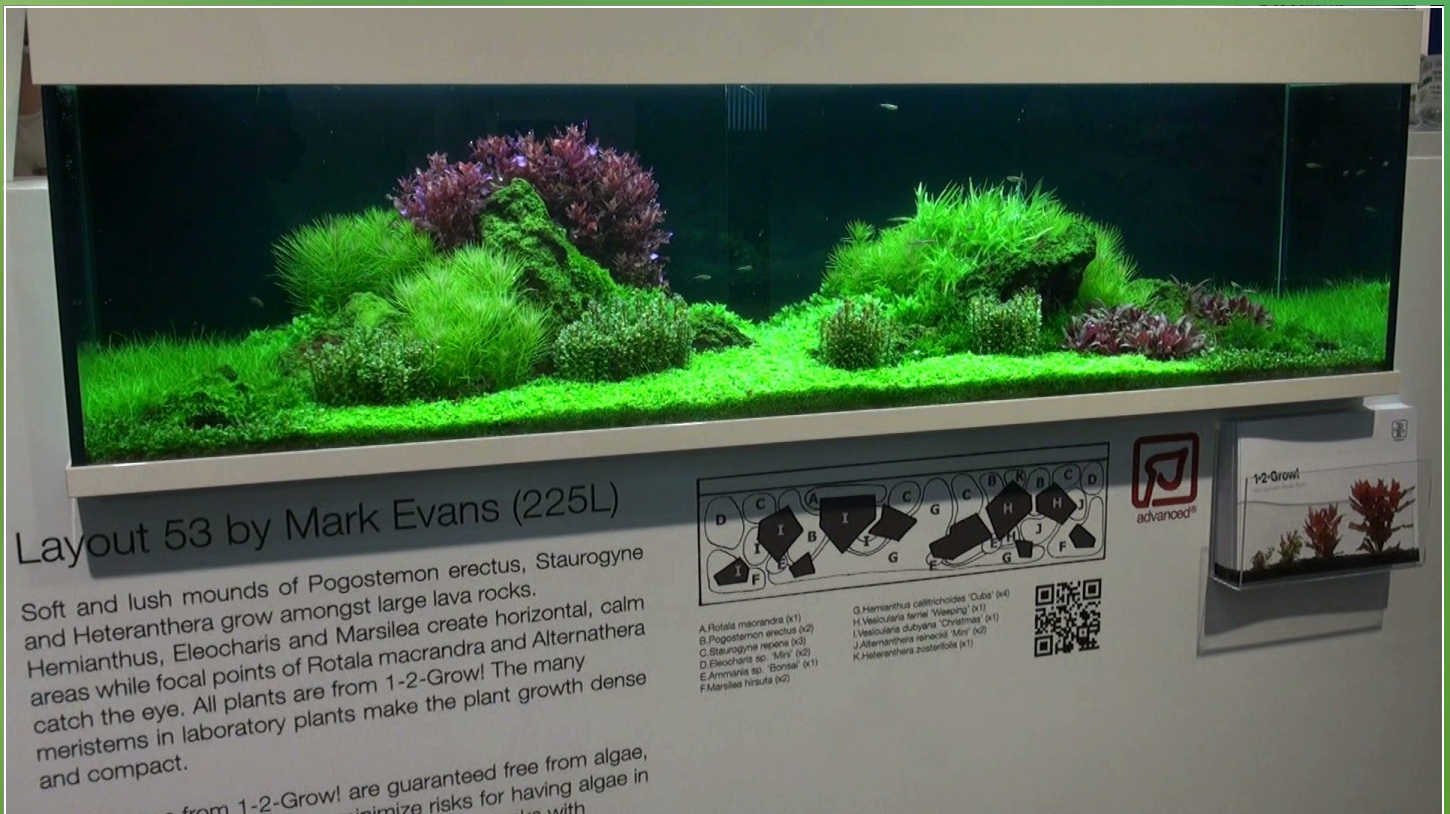
Deutschland, and Tropica (in alphabetical order). The Tropica's booth was designed in a very educational way, with detailed descriptions provided for each of the aquariums.

Another good place to admire planted aquariums was the booth of the Eheim company, with about 15 various tanks. To me the most interesting technical feature here was the design of

Tropica Booth Exhibits



One of the 325-liters planted tanks at the booth of the Tropica company.



Another planted aquarium at the booth of Tropica – a very good detailed description is visible below the tank.

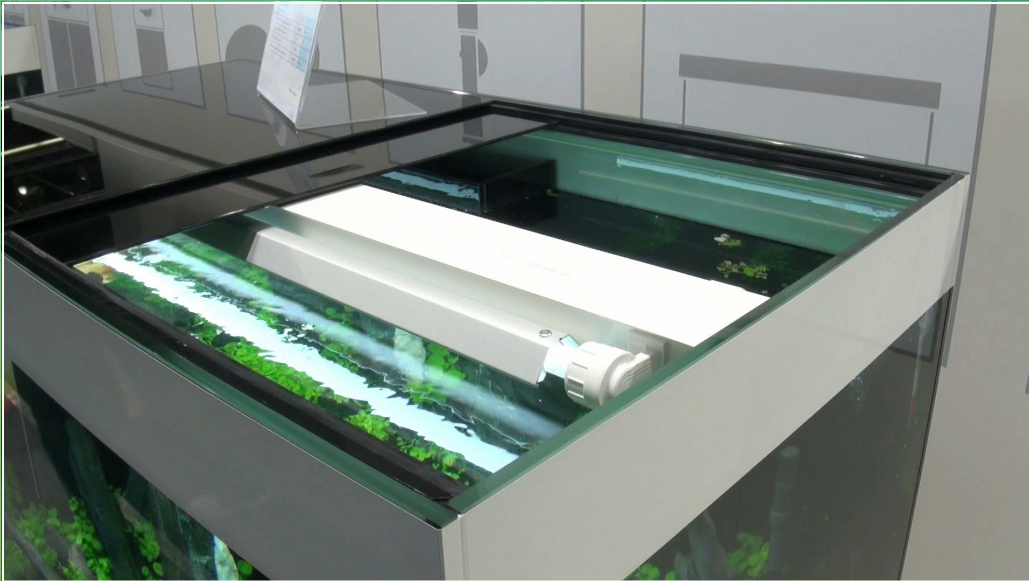
Eheim Exhibits



One of the planted aquariums at the booth of the Eheim company.



Another Eheim's planted aquarium, in one of the Incipria tanks.



Eheim's Incpiria aquariums feature an innovative way of concealing lighting behind higher side walls, as shown.

The biotope aquarium at the Juwel's company booth, with *Notropis chrosomus* fish.



One of the rocky layouts at the booth of the Schieferberg company.



The Euro 2012 football championship aquarium at the booth of the AquaEl company.

the Incipria aquariums (yes, written with "c") - instead of having conventional hoods, these aquariums have higher walls, with upper part concealed by the veneer, and are covered by pieces of black glass, sliding easily along supporting bars.

Coming back to aquascapes – one of the tanks displayed by Juwel might be an example of a biotope aquarium - large, round pebbles on the bottom simulated the habitat of a stream, where *Notropis chrosomus* fish live.

The Schieferberg company booth contained similar layouts with large stones and not many plants.

Another tank with interesting hardscape was located at the AquaFlora's company booth - however, it was not a biotope layout at all. Other aquariums were also made rather for entertaining visitors than fish, like the tank at the booth of the Polish company AquaEl, inspired by the Euro 2012 football championship.

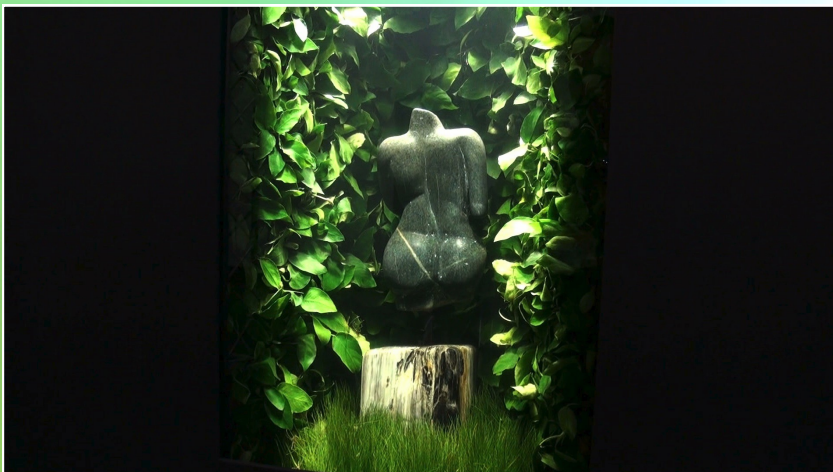
There were dozens of other

interesting things to see at InterZoo 2012. However, in terms of aquascaping there may be other places to go. InterZoo is the best place to go when you want to feel the heartbeat of the modern pet industry, to see the latest trends, and to meet fishkeeping people from all over the world. After all, where else would you have the opportunity to talk with German aquascapers, Sri Lankan fish exporters, Ukrainian LED manufacturers, Taiwanese moss growers, and Polish aquarium journalists in the same day? 🌍

For videos about the InterZoo please visit::

<http://definiteaquascape.tv/>

Interesting hardscape in one of the planted aquariums at the booth of the AquaFlora company.



AquarioScaping

Planted Tank Contest



Syrah Planura by Filipe Oliveira



By Hugo R. Silva

The online board Aquariofilia.net was created on the 16th of March 2003, at precisely 11:07am by João Branquinho. The site was quickly adopted by several personalities and entities.

Thus began the biggest gathering of information about the aquarium hobby in Portuguese. Our community debates and exchanges aquascaping ideas so that we help each other improve our aquascaping and aquarium keeping abilities. Naturally, over time, Aquariofilia has seen a significant growth in quantity and quality of planted aquarium layouts made by our Portuguese members.

Every two years, the board has the privilege to organize an event to celebrate its birthday. In all of them, we invite people with renowned knowledge in both freshwater and saltwater aquaria, and they often provide an aquascaping demonstration and workshop at the event. In past

AQUARIOSCAPING

Concurso Aquários Plantados Planted Tank Contest



YouTube / forumaquariofilianet / aquariofilianet / aquariofilia.net



1.000€ Em prémios
Total prizes

2012-11-04 Data Limite
Closing Date



Inscrições & Informações / Applications & Informations

www.aquariofilia.net/aquarioscaping
aquarioscaping@gmail.com



Concurso por
Contest by

years, we have had several significant aquascaping artists including Takashi Amano, Oliver Knott, Tom Barr and Jordi Pelegrí.

Portuguese Aquascaping has experienced a large increase in popularity and achievement these past few years. With the appearance and acknowledgment of several Portuguese artists, especially the works of our colleague and friend Filipe Oliveira (FAAO), there has been a sharp increase in new aquascapers and hobbyist drawn into this aquarium art form.

This year, a friend and member of the board gave us a challenge... "Since there's nothing going on to promote aquascaping, and it's a little stagnant in Portugal, how about making a contest?"

The board management team thought it through and accepted the challenge. The team was motivated the end goal of inviting widespread participation and increasing the popularity of aquascaping.

So, we got our hands dirty and got to it! And AQUARIOSCAPING was born.

AquarioScaping is a contest of planted aquariums, based on photos. The contest management is the responsibility of the team that manages the online board Aquariofilia.net, represented by its founder João Branquinho.

Quickly, we got to the conclusion that if we wanted something well done and with interest, we would have to have awards; and so we did. We have managed a total of €1.000 between the first three winners (€500 for the 1st place, €300 for the 2nd place and €200 for third place). Next, we had to have judges; internationally renowned for their knowledge and of unquestionable value.



The next step was to define the rules of the contest. Here, we got to the conclusion that it would be best to have just one category, so we created the criteria for that category.

- The theme is planted tanks only.
- Shops can participate with pictures of their aquariums (shop exhibition aquariums can only participate on the shop's behalf)
- The file format/extension must be jpeg, jpg or png.
- You can (and you should) send light/color adjusted photos but it has to be accompanied by its original (for us to know what adjustments there were to the photo)
- You must also send a picture with the participant and aquarium in the same photo.

With all of this, we really want to promote and encourage aquascaping in Portugal, as well as market the dynamic art of the aquarium hobby. Our main goal is to promote the hidden talents that exist in Portugal in the art of planted Aquariums.

We gladly received several supports for this contest, namely BioAquaria, SAP, AquaHobby, Aquastation, and Wate[R] Evolution.

We've decided to extend the final date for participation so that people that want to create something specific for this contest have enough time to do it. This way, the final date is Sunday, 4th of November 2012. To participate, please he photos must be sent to aquarioscaping@gmail.com.

For more information, please visit www.Aquariofilia.Net.



www.aquascapingworld.com