ADA

NATURE AQUARIUM CREATIVE DOCUMEN

A Nature Aquarium by Takashi Amano

Nature Aquarium is the layout style in the aquarium, creating a beautiful underwater world of the tropical fish and aquatic plants. Takashi Amano is an exponent of the Nature Aquarium, and he continues to propound new layout styles. The Nature Aquarium is the aquatic plant layout taking in the essence learned from the Mother Nature, and sometimes it is called "Amano style", and its circle is expanding many countries around the world. However, from his aquarium pictures, it is hard to imagine the layout production process, many questions has been sent to ADA about the layout process. So we take 90cm standard size aquarium as an example, and introduce the latest layout technique in step by step.

天野 尚が創るネイチャーアクアリウム

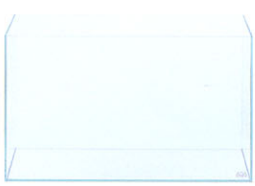
水槽の中に、熱帯魚と水草が織り成す美しい世界を創る「ネイチャーアクアリウム」。その創始者であり、現在も新しいレイアウト方法を提唱し続けているのが天野 尚である。
ネイチャーアクアリウムは自然から学んだエッセンスを取り入れた水草レイアウトであり、海外ではアマノスタイルとも呼ばれ、世界中に浸透してきている。しかし、水景写真からはその制作過程を想像することが難しいためか、レイアウト方法についての関心が高く、質問も多く寄せられている。
そこで特別にページを設け、ネイチャーアクアリウムとしては標準的なサイズである90センチ水槽の制作工程を詳細に追いながら、最新のレイアウト方法を紹介していこう。

1 Before making layout, it is important to set up a tank securely for enjoying the Nature Aquarium. Set up a tank on proper cabinet or stand on stable floor (wood flooring or concrete floor etc) Here we use Garden Stand 90cm. Assemble the Garden Stand in advance, following attached instruction manual. Don't set up the stand on unstable Tatami mat floor or on the carpet.

2 Then place Garden Mat on the Garden Stand. Soft form material, Garden Mat absorbs small gradient or vibration and it works for protecting tank. Therefore, it is necessary to use Garden Mat when using Cube Garden. As Garden Mat is vulnerable against heat, and it tends to shrink when exposed to the heat, it is precut a bit larger than actual aquarium tank size. If the mat is too big, please cut according to the stand top, or stretch the mat with your hand in case it was too small.

Setting up a tank

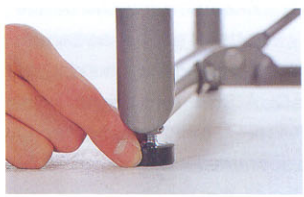
The selection process of the aquarium tank is the first important process for enjoying Nature Aquarium. CUBE GARDEN, which has high transparency and clean joint part, without any frame is an optimal aquarium tank for creation and appreciation of the Nature Aquarium layout. Special Stand or Aquarium Cabinet is very important for enjoying the aquascape for a long period. Please keep in mind that the aquarium setting must be made carefully, regardless the aquarium tank size. If the floor or aquarium stand is not secure enough, or do not have enough strength, it may lead to the water leakage from the aquarium tank, or crack in the aquarium glass. Even if it looks OK initially, distortion may progress as the time passes. Please make sure to choose the right aquarium stand for your selected aquarium tank size. When placing the aquarium tank on the stand, please pay attention not to hit the aquarium tank corner to the aquarium stand.

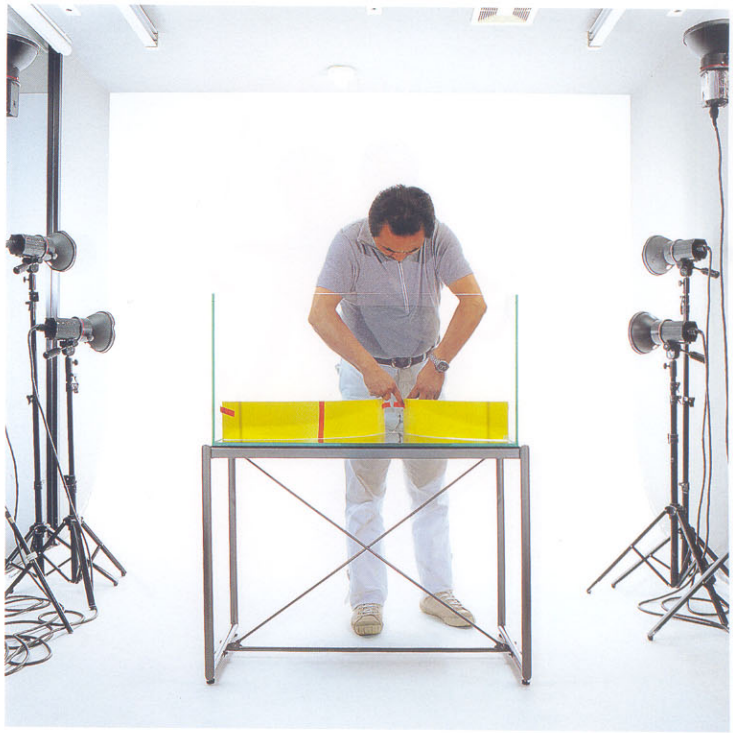


CUBE GARDEN →P.122

3 Set up a tank after placing Garden Mat. Here, we use Cube Garden Clear (W90xD45xH45cm). Pay attention NOT to get damage at the corner when setting up the tank. Garden Mat has grip effect as well, therefore it is not easy to move the aquarium after placed on the mat. You need to decide the place of the aquarium on cabinet or stand by adjusting position above them.

4 After you placed on the garden stand, use the adjuster on bottom of the cabinet stand in order to level the aquarium tank. Again, you must avoid any contortion or gradient.





5 First drew the line on the bottom of the aquarium tank, showing the boundary of AQUA SOIL and Bright Sand. Keep in mind your planned aquarium layout image, and decide the balance of the soil part, where aquatic plants grow, and the sand part, where used as an open space. As the lines will be covered by the substrate later, you can drew many lines and choose the best one.

6 Here build partitions with bended cardboard along with the drawn lines in the tank. You need to set the cardboard vertically. Use adhesive tape and fix one side of the cardboard with side glass of the aquarium tank, and stand the cardboard. The cardboard is used for separating the AQUA SOIL and Bright Sand. Adjust the length of the cardboard so that it will come along with the curve drawn on the bottom of the aquarium tank, and fix the other end of the cardboard with back side glass. The cardboard is to be removed after setting the substrate, but it is very important to fix the cardboard surely to spread the Soil and Sand properly.

SUBSTRATE Setting

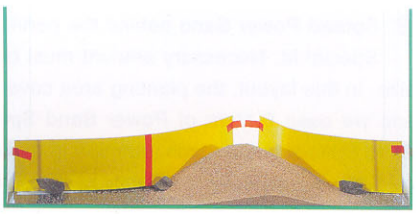
The substrate of the Nature Aquarium is important for the growth of water plants. Basically, you combine Power Sand and Aqua Soil. Power Sand contains various organic materials and provides rich nutrition for water plants. Aqua Soil promotes absorption of nutrition and growth of plant roots by organic acid that soil naturally has. Recently, dressing sand, which can express natural feeling, is used in the foreground of the layout, in order to increase the art value. In case of using dressing sand in substrate, please make sure to spread the sand neatly and not to mix up with other soil type substrate. Here, we introduce an example with a 90 cm aquarium tank how to spread Aqua Soil and Bright Sand separately in a concave composition layout with an open space in the center. Depending upon the composition of layout, the way of spreading soil and sand differ. Work out the general layout plan in advance.

AQUA SOIL-AMAZONIA→P.134

7 Place some proper size stones by the cardboard for fixing it surely. This is important as the cardboard might move, when spreading the substrate.

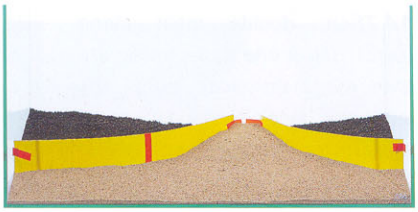
8 Spread Power Sand behind the partition. Here, we chose Power Sand Special M. Necessary amount must be adjusted according to the area size. In this layout, the planting area covers about 2/3 of total bottom area, and we used 6 liters of Power Sand Special M. If the amount of Power Sand Special is too much, nutrition in the water got too much and you may have to change water frequently at initial aquarium setup phase.

9 After spreading Power Sand in the background, spread Bright Sand at the foreground. By spreading the substrate alternately, the partition stabilizes. Then flatten the surface of the Power Sand and Bright Sand with Sand Flatter.



10 On top of the Power Sand, pour Aqua Soil-Amazonia. For planting work easily, AQUA SOIL must be spread with enough thickness. Here, we made a slope from both back corner to the front.

11 As the amount of Bright Sand was not enough, we added a bit and smoothed substrate so that AQUA Soil and Bright Sand makes up a natural looking slope. You can create a sense of perspective in the layout if the substrate is low at foreground and high at back ground.



12 After smoothing out, here we take out the cardboard. Remove the adhesive tape and pull it out at a stretch. That is the point for making clear the dividing line. If the both AQUA SOIL and Bright Sand are at same height, you can make a beautiful boarder line.

13 The substrate is separated at 3:2 ratio between left and right planting areas. So here we make two groups of IWAGUMI by following area balance. First, main stone (left) is placed in the middle of left planting area. Seiryu Stone was used this time.

14 Then, decide main stone (right). Select one size smaller size than the main stone (left). Any stone has 'face', showing the rock's character. You need to consider 'face' and "Flow" of the rock in the tank.

The Placing of the Stone

The choice and placement of the stone are the most important processes for an IWAGUMI layout, therefore it is necessary to consider balance carefully. In this layout, we use Seiryu-stone which has cold color for matching dressing sand with sensation of coolness at foreground. As the substrate has been already spread for making concave composition, we made an arrangement of rocks with two groups in the mind. As the area of planting (background) is separated 3:2 for left and right part, you need to adjust the balance of two groups of IWAGUMI as 3:2 For this arrangement, you need to place main stone (left), which is the largest one in a tank, at left side first. Then, decide main stone (right), which is one size smaller at right side. Deciding the balance of right and left main stones first is very important to decide the whole layout balance. Then we arrange the sub stone and side stones.

15 In this layout, IWAGUMI has two groups at right and left side. The basic IWAGUMI combination consists of three stones, main stone, sub stone and side stone as a group. Here we place sub stone next to main stone and decide the incline angle of main stone.

16 Then place small side stones on the right of main stone. Side stone is to adjust balance of whole IWAGUMI and plays important part for making an imaginable clear 'flow' in the aquarium layout. Every stone becomes stable by pushing into substrate.

17 Next part is the right rock group. Place sub stone on the right of the main stone (right). Here, we placed it along with the line made by AQUA SOIL and Bright Sand.

18 Lastly, placing small side stone on the left of main stone complete the setting of the second rock group. Now we adjust their incline angle, so that they look like there is a water flow from left side to the right. Then spread the AQUA SOIL around the stones, so that the rocks look to be buried naturally in the substrate.

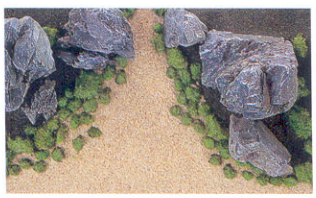
19 Here, we use Aqua Soil Amazonia Powder to spread around the rocks. Using plastic case makes your work easy. Tea spoon is useful for detailed work.

20 This picture shows the layout after spreading AQUA SOIL Amazonia Powder around the rocks. As the background substrate got even higher, we can feel a sense of unity from rock group. Fine powder type AQUA SOIL looks neat, and it is easier to plant.

21 Here we place Fuji Stone tied with Riccia on the dividing line of AQUA SOIL and Bright Sand to block Aqua Soil crumbling on Bright Sand. Riccia is to be fixed by Riccia Line.

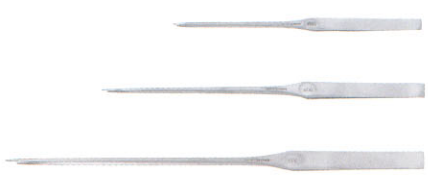
RICCIA LINE →P.162

22 After placing Fuji Stone at the dividing line, place smaller Fuji Stone around the Fuji Stone on the line at random to cover the dividing line. Here we attached Riccia around smaller Fuji Stone.



The Planting

Once base of the layout was completed, now is the time for aquatic plant planting. In the Nature Aquarium layout, we divide planting ground into three groups, foreground, middle ground, and background, and select proper plants for each section. Generally, plant low water plants at the foreground and high ones at the background. In the middle ground, we place layout material such as driftwood and stones, and middle size plants around them. When selecting the plants, you have to consider not only the color or shape of the leaf, but also how much they grow, or whether sun plants or shade plants, in what water condition plants suit. If you choose water plants not carefully, they grow too much or they don't grow at all. It is important to expect grown water plants when placing water plants.



Pinsettes →P.160

23 Before planting, you should pour water to the top of substrate for making planting easily by Tweezers. For harmonized planting, it is important to consider the planting balance in advance. For this purpose, marking the area of planting with bamboo stick spit helps to grasp the approximate location of the plants.

24 Plant Glossostigma in front of stones.

Glossostigma, which has small leaf and grows horizontally can be planted easily if divided as the picture shows.

Glossostigma

25 Next, plant Echinodorus tenellus between the stones. This plant also grows horizontally and forms a natural thicket after growing. It is recommendable to plant with high density.

Echinodorus tenellus

26 Plant Eleocharis acicularis behind stones. It is suitable to plant at the middle ground as it grows horizontally and their leaf grows up to proper length. Eleocharis is usually sold in bundles. It becomes easy to plant by diving into small bundles.

Eleocharis acicularis

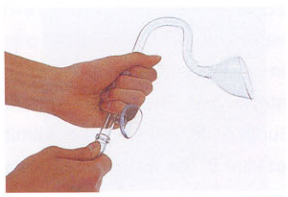
27 Lastly, plant Eleocharis vivipara behind Eleocharis acicularis. This water plant is family of Eleocharis acicularis and grows longer than it, therefore it is suitable at backgroun

Eleocharis vivipara

28 Remove bamboo strews and pour water into the tank after planting. At this time, in this process, disentangle the intertwined plant leaves with tweezers. Suppply Brighty K and eliminate chlorine residue in the water when water is full.

BRIGHTY K →P.146

29 Here we set up a canister filter. This time we prepared 90cm aquarium tank. For this size, Super Jet Filter ES-600 is the right filter. Here, we use glass made Lily Pipe for In and Outflow pipe.



Super Jet Filter →P.110
Lily Pipe →P.118

30 Then, set up CO_2 supplementation equipment. Connect Pollen Glass Large 30 and CO_2 Beetle Counter filled with water, by Silicon Tube. Pollen Glass can diffuse CO_2 most effectively by setting in the middle part of the aquarium tank.

CO_2 Beetle Counter →P.101
Pollen Glass Large 30Ø →P.100

Setting of the other tool and maintenance of the Nature Aquarium

The Nature Aquarium after finished planting becomes beautiful scenery with grown water plants. Lighting, CO_2 Supply, and filtration System are essential tools for growing aquatic plants. Lighting is essential for the plants, as they can grow healthy by photosynthesis. And water plants cannot photosynthesize if CO_2 is missing even there is strong light. Moreover, water must be clean for keeping fish in a tank. As mentioned, you need to utilize various tools for making good environment. Changing water and pruning are also necessary to keep beautiful layout. The scenery would be more beautiful with daily proper maintenance.

31 Here, we use Tower/20 and CO_2 Speed Regulator for CO_2 supply. Connect the regulator and One Way Flow Valve by pressure-proof tube. Adjust the amount of CO_2 supply and pressure. Set up 'one bubble per one second' by the counter at the beginning.

Tower/20 →P.104
CO_2 Speed Regulator →P.105

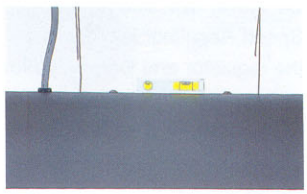
32 You can check pH level and amount of CO_2 supply by the changing color of the reagent in Drop Checker. After filling the aquarium water with syringe and then adding a drop of pH reagent, be sure to set the Drop Checker apart from Pollen Glass.

Drop Checker →P.154

33 Attach Solar 1 Arm Stand to the Garden Stand. Solar 1 Arm Stand can be attached easily to the Garden Stand with supplied Garden Stand Hook, as the picture shows. After setting, adjust arm part where the lighting is hanged is located in the center part of the aquarium.

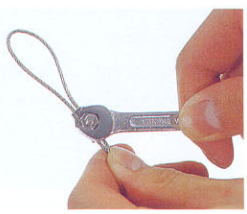
Solar I Stand →P.092
Garden Stand Hook →P.092

34 Hang lighting unit of Solar 1 at arm part. Adjust length of 2 wires in advance to make 30cm space between lighting unit and water surface. Also, make sure lighting unit be leveled.

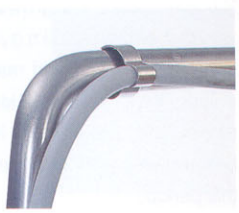


Solar I →P.092

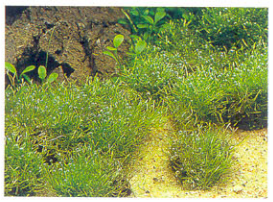
35 Adjust wire length by loosing clamp if the lighting unit is not leveled. Lighting unit cord is fixed by cord clip along the stand. It is recommendable to let cord more spaciously between the light and the hanging arm.



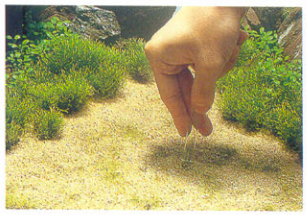
36 This is the tank which is equipped necessary items. Insert Solar I plug into the electric outlet, and turn on the light. Also, it is recommendable to use NA Control Timer, which makes daily lighting and CO_2 supplementation control automatically.



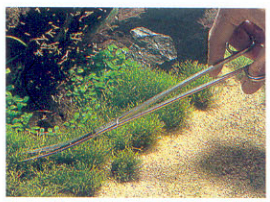
37 You realize the growth of plants after one week of planting. Riccia starts photosynthesizing and makes oxygen bubbles among their leaves. Glossostigma grows in runner, and spreads new leaves. The leaf color become well with liquid fertilizer supply during this period.



38 After two weeks, biological filtration starts working, yet the filtration function is not enough, and algae appears in the tank. Siphon out this algae as much as possible, using thin hose and then release Caridina japonica.



39 Riccia, which grows fast is necessary to prune after three weeks. Curve type Trimming Scissors is useful for low water plants like Ricccia. Trim emerge leaves of Echinodorus tenellus as well.



Trimming Scissors (Curve Type)→P.104

40 After four weeks, runners of Echinodorus tenellus and Glossostigma grow on expected places, therefore it is necessary to trim those runners as soon as possible. Also, nip new buds on tip of Eleocharis vivipara.

Nature Aquarium Gallery 01

IWAGUMI layout with Manten stone. Spread Bright Sand at the foreground and use bright green plants, such as Riccia and Eleocharis vivipara etc so that the scenery has sensation of coolness. Echinodorus tenellus and Eleocharis acicularis that are planted around stone express natural feeling, looks like thicket.

DATA **Aquarium/** Cube Garden W90xD45xH45 (cm) **Lighting/** Solar I (NAG-150W, Green) 10 hours per day **Filtration/** Super Jet Filter ES-600 (Bio Rio, Anthracite) **Substrate/** Aqua Soil, Bright Sand, Power Sand Special, M, Bacter 100, Clear Super, Tourmaline BC, Penac W for Aquarium, Penac P **CO_2/** Pollen Glass Large 30, CO2 Beetle Counter, 3 bubbles per second (Tower/ 20) **Aeration/** Lily Pipe P-4, 14 hours during the night **Fertilizer/** Brighty K, Green Brighty STEP2 **Water Change/** Once a week 1/3 **Water Condition/** Water temperature 25 degrees Celsius, pH: 6.8, NO2:<0.02mg/ℓ, NO3:<1mg/ℓ, COD: 2mg/ℓ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