AJ

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AQUA JOURNAL

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Nature Aquarium information magazine

[Special Feature]

NATURE AQUARIUM of Nymphaea lotus

NATURE IN THE GLASS

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NATURE
IN THE GLASS

“NATURE AQUARIUM of Nymphaea lotus”

Daichi Araki

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By planting dark green Bolbitis on both sides of the Nymphaea lotus “Red”, the beauty of Nymphaea lotus becomes more conspicuous.

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NATURE IN THE GLASS

Using Nymphaea lotus “Red” as the main plant, and bringing out its characteristics to render an underwater scene.

When it comes to creating an aquatic plant layout, we recommend you to choose a single main plant sometimes, and try to bring out its characteristics in the layout. With this particular layout, it is certainly Nymphaea lotus “Red” planted in the center, the only red color plant in the layout. Using the species of water lilies is visually effective to represent an underwater scene and to accentuate the layout in terms of leaf color and shape. These techniques, however, shouldn't be frequently used. Large water lily leaves require management and control for their healthy growth. In order to make use of the depth of the tank (60cm in height), the layout was intentionally composed with vertical lines and unique plants, such as Aponogeton and Crinum, on top of the regular aquatic plants. Their long and wavy leaves really stand out in a tall aquarium tank, and give a distinctive and unique look to a layout. This aquascape gives a somewhat nostalgic feel. I think this is because the layout style is different from the current popular aquascaping styles. (Daichi Araki)

DATA

Shooting date	October 3rd, 2017 (ADA)
Creator	Daichi Araki
Aquarium	Cube Garden W120×D45×H60 (cm)
Lighting	Solar RGB × 2 units, turned on for 10 hours per day
Filter	Super Jet Filter ES-1200 (Bio Rio M, NA Carbon)
Substrate	Aqua Soil-Amazonia
CO_2	Pollen Glass Beetle 40 Ø, 3 bubbles per second via CO_2 Beetle Counter (using Tower)
Aeration	14 hours after the light is turned off using Lily Pipe P-6
Additives	Green Brighty K, Green Brighty Mineral, Green Brighty Iron.
Water change	1/3 once a week
Water quality	Temperature: 24°C, pH: 6.6, TH: 20 mg/l

Aquatic Plants	Nymphaea lotus “Red”
	Aponogeton longiplumulosus
	Crinum calamistratum
	Vallisneria nana
	Blyxa novoguineensis
	Echinodorus tenellus
	Bolbitis heudelotii
	Anubias barteri var. nana “Petite”
	Fontinalis antipyretica
Fish & Invertebrates	Trichogaster leeri
	Alestopetersius smykalai
	Microctenopoma fasciolatum
	Crossocheilus oblongus
	Otocinclus sp.
	Caridina multidentata

The convex composition layout representing underwater feel by using submerged water lily leaves and tape-like aquatic plants.

Although rarely used, Nymphaea lotus “Red” (a species of water lily) has been seen in Nature Aquariums since long ago. The submerged leaves of Nymphaea lotus “Red” are voluminous, and the plant develops lily pads on the water as it grows. Therefore, it is difficult to use this plant for a planted layout unless you are using a large, tall tank. This convex composition layout makes the most of a “high type” aquarium tank, measuring 60cm in height, and creates an underwater feel with Nymphaea lotus “Red” and the tape-like plants.

Express the passage of time and natural feel by attaching Willow Moss on some parts of driftwood. The important point is to avoid moss from becoming too thick.

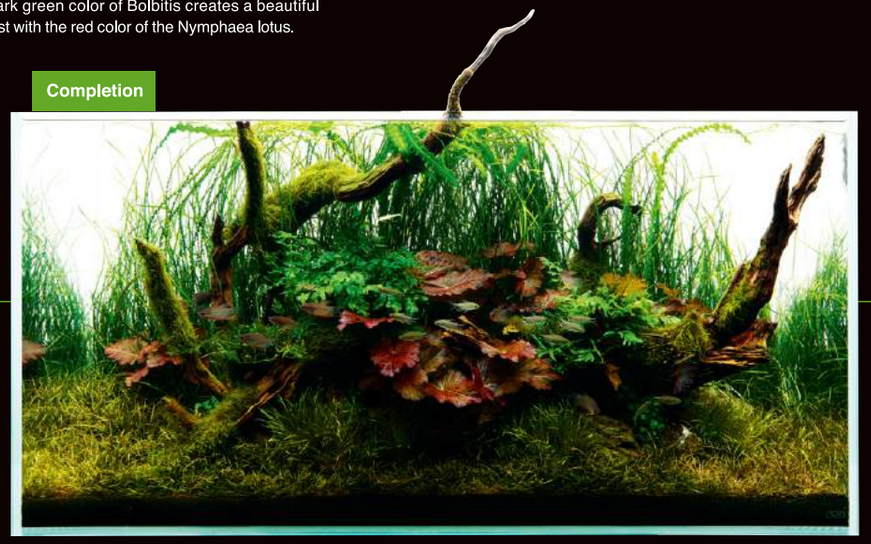
The layout features a natural underwater feel by combining the narrow tape-like plants with other plants.

The dark green color of Bolbitis creates a beautiful contrast with the red color of the Nymphaea lotus.

Planting

Planting completed. The layout doesn’t look monotonous because of the long, narrow tape-like plants added to the background.

Completion



Layout Composition

The layout framework formed by Horn Wood and Manten Stones. It shows the planting area was set in the center with the convex composition in mind.

Water lilies grow from tubers, and they are not notably apparent immediately after planting.

The thin and delicate leaves of the submersed Nymphaea lotus require the water’s buoyancy to widely develop underwater. Therefore, these leaves are well representing an underwater feel.

A sciophytic plant, Anubias barteri var. nana “Petite”, is planted in the shady area created by ferns and lilies. It also has a role to connect between driftwood and stones naturally.

DOOA, an inspiring brand, helps you enjoy aquatic plants more freely. Minimal and easy, and designed as a platform allowing everyone to nurture plants indoors. Feel closer to nature, and bring beauty into your life.

How to enjoy an aquatic plant layout with a Wabi-Kusa Mat

Wabi-Kusa Mat was developed as a new layout material for the DOOA series of products at the inception of the DOOA platform. Wabi-Kusa Mat is a part of the Wabi-Kusa Wall 60 and System Terra 30 on the DOOA platform. In addition, live Wabi-Kusa Mat products are now available in which aquatic mosses, such as Willow Moss that works very well with the mat, and epiphytic plants, such as Microsorum, and Bucephalandra, are already grown and established. Wabi-Kusa Mat will bring a change to the style of sales for aquatic mosses and epiphytic plants, and they will expand the way we enjoy aquatic plants. So, let us explore how we can utilize Wabi-Kusa Mat in a way that can bring out a new style of aquatic plant layouts.

A new living ADA product, which expands the variation of aquatic plant layouts

Attach aquatic mosses or epiphytic plants to the Mats and enjoy a layout on a vertical wall.

1

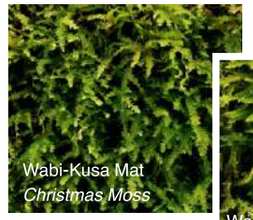
2

ADA aqua design amano Review

WABI-KUSA MAT

“Ways to Make the Most of a Wabi-Kusa Mat”

Wabi-Kusa Mat
Christmas Moss
(Vesicularia montagnei)



There are four types of aquatic mosses currently marketed as living Wabi-Kusa Mats: Willow Moss, Weeping Moss, Christmas Moss, and Peacock Moss. If you are using Wabi-Kusa Mats on either the Wabi-Kusa Wall 60 or System Terra 30 in order to enjoy a layout on a vertical wall, either Christmas Moss or Peacock Moss that are easy to grow emersed would be a good choice. Mosses should be chosen based on a layout style.

1

An aquatic moss was secured on the top and side surfaces as a foundation as well as a means to retain water.

BIO MIZUKUSA NO MORI
Bucephalandra sp. “Sintang”

2

Any variety of epiphytic plant will work. Select one from the lineup of BIO Mizukusa no Mori.

Attaching epiphytic plants can enhance the natural appearance of a layout.

Wabi-Kusa Mat is a new material developed specifically for being able to effortlessly root aquatic mosses and epiphytic plants. A Wabi-Kusa Mat is well suited for these types of aquatic plants. Using a mat combined with these types of plants can enhance the natural feel of a layout. Let’s enjoy an atmosphere of waterfront scenery in a jungle with a Wabi-Kusa Wall 60 or a System Terra 30.

3 The picture on the left is an example of Wabi-Kusa Mat with Bucephalandra. Planting them slightly off center can render a more natural feel.

Living Wabi-Kusa Mat products allow you to instantly create a layout in good condition.

Wabi-Kusa Mat
Bucephalandra sp. “Sintang”

Let’s use Willow Moss as a layout material.

Strongly-epiphytic Willow Moss is a great choice as an aquatic moss to attach on driftwood and stones in an aquatic plant layout. A golf-ball sized portion of Willow Moss is grown on a “Wabi-Kusa Mat Willow Moss” in a condition suitable for a layout in both emersed and submersed state. You can also try other aquatic mosses in the same manner.

Wabi-Kusa Mat
Willow Moss
(Taxiphyllum barbieri)

1

Peel off Willow Moss from a Wabi-Kusa Mat carefully. Remove any remaining pieces of thread that were used to secure the moss to the mat.

2 Spread Willow Moss thinly over a driftwood branch and secure it firmly to the branch using Moss Cotton.

Cryptocoryne and various stem plants can be enjoyed in a wall layout.

With a little bit of ingenuity, aquatic plants other than aquatic mosses and epiphytic plants can be enjoyed on a Wabi-Kusa Mat. First, open up a small hole in a Wabi-Kusa Mat, insert an aquatic plant from a BIO Mizukusa no Mori series product, then secure the plant to the mat in a manner that will allow its roots to come into contact with the water running down the wall.

Simply doing this will enable you to enjoy various aquatic plants on a wall layout. The miniature-sized aquatic plants in BIO Mizukusa no Mori are actually an advantage in this planting method. Depending on the type of aquatic plants, it may be necessary to cover the wall with plastic wrap during an initial period after planting to maintain high humidity.

BIO MIZUKUSA NO MORI
Cryptocoryne wendtii "tropica"

1 Open 2 to 3 mm diameter holes in a Wabi-Kusa Mat. A hand tool, such as a punch, makes it easier to put holes in the mat.

2 Insert an aquatic plant from Mizukusa no Mori into the hole using tweezers. Take care not to break or damage the body of the plant while doing this.

3 The photograph above is an example of a Wabi-Kusa Mat prepared with Cryptocoryne. Try this with other aquatic plants as well since they can be used in the same manner.

The wall section of a System Terra 30 composed solely with BIO Mizukusa no Mori series plants.
This is our proposal for a new layout style that makes the most of the characteristics of amphibious plants.

Spray liberally over the entire wall of aquatic plants. A spray type fertilizer makes it easy to foliar-feed aquatic plants.

DOOA
WABI-KUSA MIST

A fertilizer for foliar feeding emersed grown aquatic plants. It comes in a convenient spray bottle for easy application.

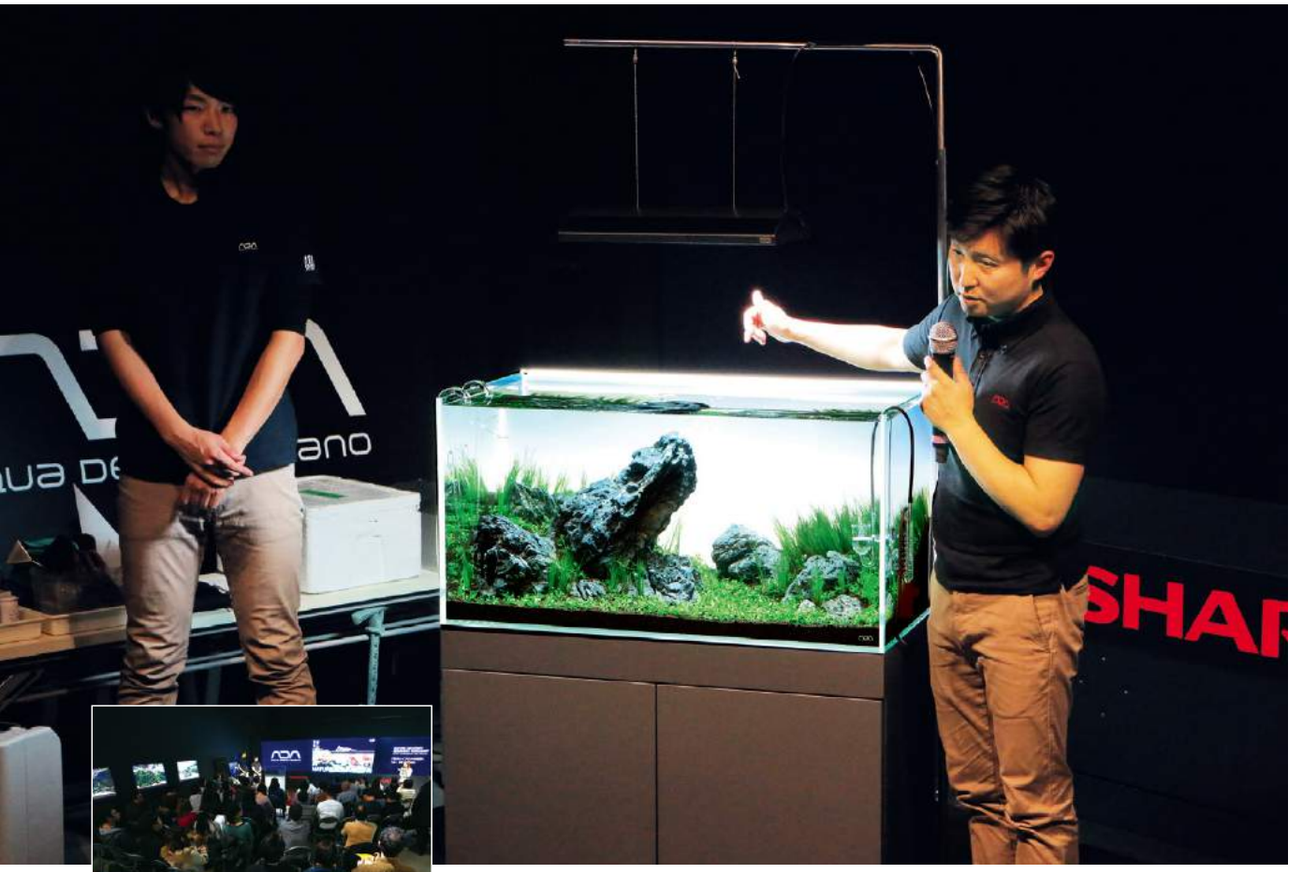
Separate liquid fertilizers for above water and underwater sections for healthy plant maintenance.

Separate fertilizers are available for this type of amphibious plant layout in the DOOA series lineup. A spray type "Wabi-Kusa Mist" was developed specifically for emersed grown plants. It contains an ingredient that is promising to repel insect pests in addition to nutrients that improve the color of the leaves. Since dryness is a problem for the above water section, it is important to mist frequently with water to increase the humidity. Misting not only helps with maintaining the condition of the leaves, but it also keeps insect pests away from the plants. On the other hand, "Suikei Liquid", which contains various nutrients required for growing submersed plants in a balanced manner, should be added to the underwater section when the light comes on in the morning.

Use 1 ml (one push or pump) of the fertilizer for every 10 liters of aquarium water as a general rule. Avoid applying too much fertilizer.

DOOA
SUIKEI LIQUID

A fertilizer for submersed grown aquatic plants. It comes in a dispenser bottle that delivers 1 ml of fertilizer per push (or pump).



Yusuke Homma, aquascape creator, explaining about the layout he created.
The workshop gathered many participants on both days.

Lecture on the basics of Nature Aquarium led by an ADA aquascape creator.

"TAKASHI AMANO - NATURE AQUARIUM Exhibition" was held until January 21 (Sunday) in Gallery AaMo, Tokyo Dome City. As a special event for the exhibition, "Nature Aquarium Beginners Workshop" was held on November 25 and December 16, 2017. On both days Yusuke Homma, ADA aquascape creator, gave lectures on how to create a basic driftwood layout and Iwagumi layout in W90cm tanks. The first driftwood layout workshop included demonstrations on how to separately place Aqua Soil and cosmetic sand, how to create a framework of a layout composition using driftwood and rocks, as well as the basics of planting and arranging stem plants. At the next Iwagumi layout workshop, Homma demonstrated how to create basic substrate system, how to select and arrange rocks, and how to plant carpet plants. It was a good opportunity for participants to understand Nature Aquarium. After demonstrating layout, a Q&A session and Lucky Draw were also carried out, and created a lively exchange between the aquascape creator and participants. We look forward to seeing AJ readers at future events like this.

Showing layout techniques of his teacher, Takashi Amano.

At the driftwood workshop, Yusuke Homma demonstrated how to divide the substrate and how to fix driftwood by using stones.The concave composition creates a powerful impression and a perspective.

After planting, the layout was illuminated with Solar RGB and new Light Screen. Participants were observing the layout with great interest.

In the Iwagumi workshop, he first explained about selecting rocks. The key is to pay attention not only to the shape of rocks but also their texture. Choose rocks with a similar texture.

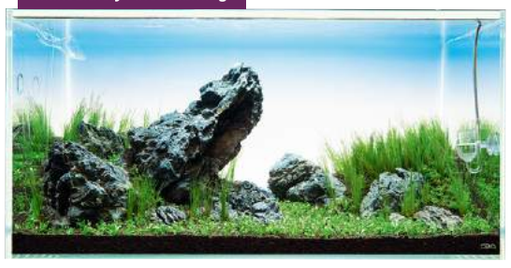
Spray Green Brighty Nitrogen to Aqua Soil Amazonia Light to add nutrients.

Planting after marking planting areas with bamboo sticks. He shared Amano's quick planting techniques using tweezers with the audience.

Driftwood Layout
Immediately After Planting

A basic concave composition with driftwood, stem plants and white cosmetic sand. Homma uses some of the layout techniques he had learned from Amano, including an asymmetric composition, planting methods of stem plants according to the size and color of the leaves.
W90×D45×H45(cm)

Iwagumi Layout
Immediately After Planting



Ryuoh stones have a tendency to increase the pH and hardness of the aquarium water. Therefore, Homma used Amazonia Light for the substrate, which more easily lowers the pH level, compared to Amazonia. He explained how to create a flow of water and a perspective with the rock formations, mounding soil, and the arrangement of carpet plants.
W90×D45×H45(cm)

ADA aqua design amano Review

NA BEGINNERS WORKSHOP

"TAKASHI AMANO - NATURE AQUARIUM Exhibition"

ADA organized two workshops where a demonstration of creating Nature Aquarium was performed. The lecture was led by Yusuke Homma, aquascape creator. Here is our brief report on the workshop along with the aquascapes created on site.

Enjoy DOOA | Daisuke Inoue

DOOA, an inspiring brand, helps you enjoy aquatic plants more freely. Minimal and easy, and designed as a platform allowing everyone to nurture plants indoors. Feel closer to nature, and bring beauty into your life.

Scenery like a small section of nature

Water runs down the Willow Moss that has become attached to the driftwood, and water droplets drip down quietly… The scenery feels pleasant not only to aquarists, but also to any viewers. This may be the real appeal of an aqua-terrarium. A somewhat bulky driftwood branch was placed at an angle to fit snuggly to the wall section of the background in this layout. Since Willow Moss is grown on the driftwood, the water running down the cascading part of the wall moistens the roots of Hygrophila pinnatifida. It took extra time to develop into impressive scenery since only epiphytic plants composed primarily of mosses and ferns were used in this layout. However, it is easy to maintain over a long period of time because of the slow growth habit of the plants. Wouldn't it be great to casually enjoy your own fragment of nature in your own room?

(Daisuke Inoue)

SOL STAND G
SOL STAND G mounting piece
System Terra 30
W30×D30×H40 (cm)
Base Stand 35
W35×D35×H43 (cm)
CO_2 Mini Counter
CO_2 Mini Diffuser J Ø10
NA Control Timer Ⅱ
Tropical River Sand

[Aquatic Plants]
Wabi-Kusa Mat Willow Moss
Bolbitis heudelotii
Bolbitis heteroclita
Hygrophila pinnatifida
Anubias barteri var. nana "Petite"

Shoot on November 21st, 2017 (ADA)
Created by Daisuke Inoue

Enjoying an image of a cloud forest where epiphytic plants and ferns flourish in the mist.

This is an example of a layout that depicts a cloud forest in the fogbound upland of the tropics. The fog coming over the upper cascade section, which was produced by “Mist Flow”, a new product scheduled to be released soon, helps maintain the high humidity. System Terra 30 allows you to enjoy the scenery with densely growing epiphytic plants and ferns that favor high humidity.

The cascading fog not only provides moisture to aquatic plants but also produces great visual appeal that is soothing to viewers.

Although it took some time for Hygrophila pinnatifida to attach itself to driftwood, once it did, it grew vigorously and produced a forest-like scene of tall, standing trees.

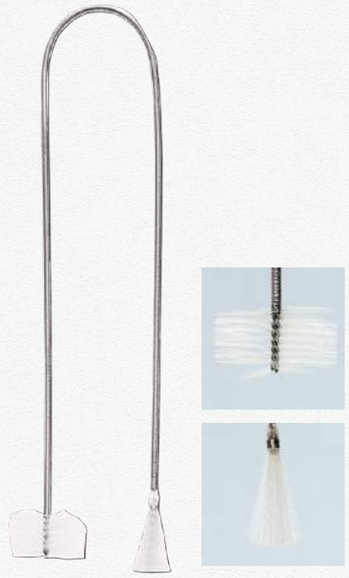
Sciophytic plants, such as Anubias, are well suited for the underwater section where light is blocked by aquatic plants above the water line. Glistening eyes of African Lampeye add interest to the dimly lit underwater scenery.

MAKE & KEEP

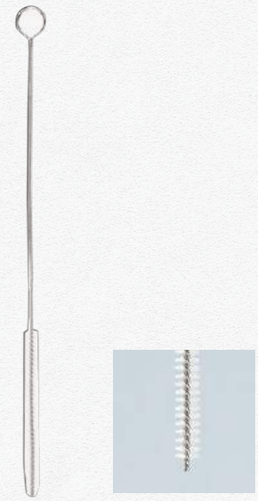
3

DOOA Maintenance Brushes
Easily remove dirt and grime.
Enable a beautifully maintained Aqua-Terrarium.

DOOA MAINTENANCE BRUSH
パイプブラシ デュオ
PIPE BRUSH DUO



DOOA MAINTENANCE BRUSH
カスケードブラシS
CASCADE BRUSH S



Pipe Brush Duo - Perfect cleaning brush for inflow Stream Pipe.

For Nature Aquarium and Aqua-Terrarium, clear, unobtrusive glass filter pipes, such as Lily Pipe and Stream Pipe, are always used because they don't interrupt the view of an aquascape. Although they are clear and clean at the beginning, these glass pipes require periodical cleaning to remove dirt and grime accumulated as time goes by. Soaking the pipes in Superge (glass cleaning solution) is the basic cleaning method, but it won't be enough when tackling heavy grime. In such a case, it is necessary to remove dirt from the inside of the glass pipe with Spring Washer. However, Spring Washer has some hard-to-reach sections in the newly released DOOA Stream Pipe because the brush was specifically designed to clean Lily Pipes. Therefore, ADA has developed a cleaning brush, Pipe Brush Duo, for Stream Pipe. Pipe Brush Duo has longer brush bristles than Spring Washer and is equipped with two different types of brushes on both ends of a spring wire. With these brushes, the rounded end of Stream Pipe can be neatly cleaned. Pipe Brush Duo also works very well at cleaning dirt off of the end section of New Lily Pipe (inflow).

MAKE & KEEP

Every month, this column introduces useful knowledge, skills, and product information to make and keep your Nature Aquarium and Aqua-Terrarium. We will explain how to use maintenance brushes properly to keep DOOA Stream Pipe and Wabi-kusa Wall clean. Enjoy your beautiful and clean Aqua-Terrarium.

Cascade Brush S for keeping Wabi-kusa Wall in good shape.

DOOA Wabi-kusa Wall 60 and System Terra 30 have cascade systems to efficiently supply water to aquatic plants. One of the features of the cascade system is that the bottom of the water channel has several small holes. It is very important to maintain these holes: always keep them clean in order to provide a healthy environment for Wabi-kusa Wall. Once the channel becomes dirty and its holes get clogged, it reduces the amount of water running down the wall and negatively affects the plants' conditions. When it happens, dirt and grime will accumulate on Wabi-kusa mats on the wall, which help algae and mold grow on the mats. The water channel can be cleaned with a commercially available polyester mat or brush, but it is difficult to completely scrape dirt off its small holes. Cascade Brush S is a maintenance brush with ultrafine bristles dedicated to cleaning these tiny holes. You can grow healthy plants on the wall by keeping the water channel holes clean, and providing sufficient water running down through the mats. On top of dirt-free water channel holes, daily application of Wabi-kusa Mist is also effective to prevent algae and mold growth. Wabi-kusa Mist provides necessary nutrients to the plants and has an insect-repellent effect as well as a disinfectant effect.

PIPE BRUSH DUO 【Usage examples of Pipe Brush Duo】

Pipe Brush Duo effectively removes remaining dirt from the inside of Stream Pipe.

Two different types of brushes neatly clean the rounded end of Stream Pipe.

Stream Pipe and other glass pipes will restore their beauty with proper cleaning.

CASCADE BRUSH S 【Usage examples of Cascade Brush S】

You can easily remove dirt and grime from the water channel with a polyester mat.

Use Cascade Brush S to clean remaining dirt off of the small holes.

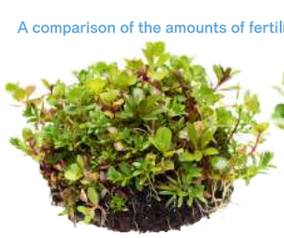
Always keep it clean and secure water supply in order to maintain a beautiful Wabi-kusa Wall.

Various plants are packed densely in a Wabi-Kusa. Because plants are already rooted well, they develop submersed leaves at an amazing speed. The base section of a Wabi-Kusa contains fertilizers to encourage the healthy growth of aquatic plants. In this issue, we are going to discuss how nutrients influence the growth of aquatic plants.

Fertilizers for Wabi-Kusa

Many aquatic plants grow together densely in Wabi-Kusa. As the plants grow, their roots spread inside the base and take up necessary nutrients. Various nutrients are needed for the healthy growth of aquatic plants. The types and the amounts of the nutrients are determined based on the results of comparative studies that we run. Shown below are photographs of some of the 6.5 cm size Wabi-Kusa Karen samples that were grown in a uniform environment for one month. The colors of the leaves were not very good or the leaves were small on the plants in Wabi-Kusa samples that contained only a small amount of fertilizer. We also observed some differences in the way the plants grew depending on the type of fertilizers (due to the differences in nutrient balance.) We come up with the amount and the composition of fertilizers for the actual production of Wabi-Kusa by taking into consideration the stability of fertilizers, the effect on algae development, and seasonal changes in the growth of aquatic plants. After a study with emersed-grown samples, the underwater growth and growth after trimming are also compared. Wabi-Kusa is produced by fine-tuning the growing conditions so that plants grow in a healthy and beautiful manner in both submersed and emersed conditions.

A comparison of the amounts of fertilizers



The sample with no fertilizer. It is evident from the picture that the color and size of the leaves along with the length of the stems are not adequate.

The sample with half the amount of the fertilizer given to the current production products. Although some of the Rotala plant shows some growth, overall the growth is very slow.

The current production sample. All plants are growing vigorously. The leaves of Alternanthera are large and colorful.

The comparison of the types of fertilizer

A commercially available fertilizer A. Although it is fortified with extra potassium, the result does not show better growth of aquatic plants.

A commercially available fertilizer B. While the growth of new shoots and the development of leaves are good, the growing speed is somewhat slow.

The fertilizer for the current production product. The composition of the fertilizer is optimized for growing various types of plants used for Wabi-Kusa production.

The comparison of a phosphorus content

We compared the amount of phosphorus, which aquatic plants do not need in a large amount, in fertilizers. The fertilizer in the Wabi-Kusa sample A contains half as much phosphorus as the fertilizer in the Wabi-Kusa sample B. However, there seems to be no big difference in their growth up to this point. We take into account that the fertilizer is used underwater and try to reduce the amount of phosphorus to a minimum since phosphorus can contribute to an algae outbreak.

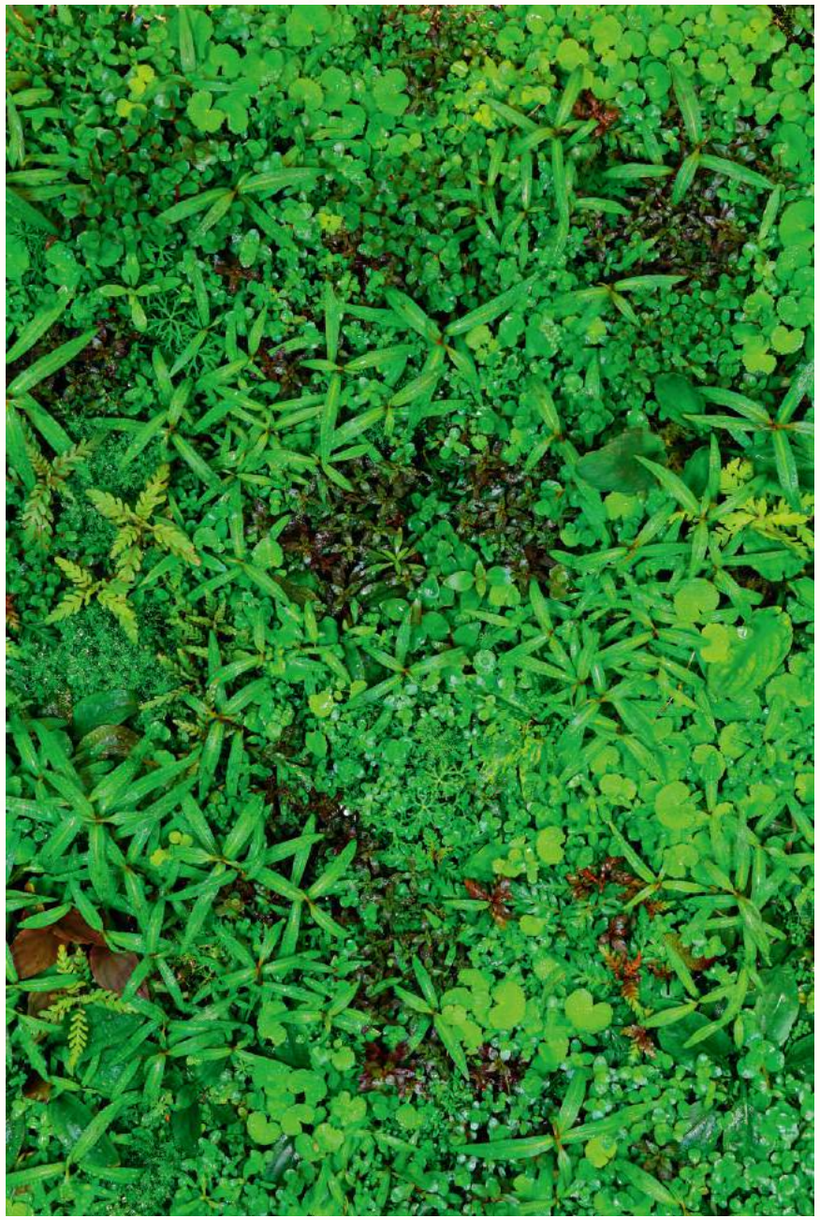
A

B

Part 3 author / Shunsuke Sugimoto (ADA)

Plant Art Studio

Various kinds of Wabi-Kusa aligned for a downward photo shoot.
Over 70 kinds of aquatic plants with full of vigor grow densely fighting for a little interspace.



03

"We perceive that a certain body is affected in many ways." – Baruch De Spinoza

Multifarious aquatic plants.
Cannot help adoring each of self-asserting plants pressing each other.
Photo / Yusuke Homma

This is the essay Takashi Amano wrote for his planted aquarium collection book *Glass no Naka no Daishizen* (*Nature Aquarium World*) published in 1992. It gives the opportunity to understand Amano's unique views of nature and his experience.

考

[Amano's view]
Nature Aquarium World

Five Bottles of Carbonated Water

Photo&Text / Takashi Amano

I decided to make a real effort raise water plants and design beautiful waterscapes in 1977. At that time there were no power filters and such devices like there are today, and figuring out my first set-up was difficult. I placed about 7cm of fine coral sand on the bottom and intensely aerated the water with a bottom filter. I thought that putting fishes in would cause problems, so I limited myself to plants. For lighting the 60cm tank I used two 20-watt bulbs: in a week the leaves were yellowing, and in two weeks they were transparent. There were no books to help me out. All I could do was grope on in the tank.

Next I realized that while I could raise plants fairly successfully in old aquaria, the newer ones were just no good. While pondering the reason for this, I figured out that it wasn't just air but CO_2 that they needed, so I asked my mentor, Professor Nagashima of Niigata Seiryo Women's Junior College, about methods for carbonation of aquarium water. He told me that the 0.03% CO_2 in the air should be enough, and that it was naturally absorbed into the water so that I didn't have to add it artificially. But he introduced me to a friend in the medical equipment field anyway, who discussed possible carbonation methods with me and gave me a cost estimate. It's too bad it couldn't have been done more inexpensively or I would have successfully set up an aquatic plant aquarium much sooner. Carbon dioxide was something I never needed in my work and it was too expensive a material for me, anyway. Dry ice was economical, but it was too hard to handle and disappeared too quickly to be practical.

Frustrated, I went on struggling and tried to forget about CO_2. The aquatic plant aquarium work inched along to the point where the plants weren't dying as much but they wouldn't form new bubs. Then one night I went to a bar with a friend and a clear bottle of carbonated water caught my eye. The label said, "water, carbon dioxide, sodium, chloride (NaCl) 1%." I wasn't sure about the NaCl but it was the perfect material for testing whether the plants needed CO_2. I took five bottles home with me. The tank for the experiment was big: 240×60×60cm. Flushed with drink and excitement, I poured the five bottles in. Within five minutes air bubbles had formed on the leaves: they did need the CO_2.

Every tank I added the soda water to did well, but I had to be careful not to add too much because of that 1% NaCl, and so I changed the water faithfully every week. There were piles of empty soda water bottles all over my room. If I hadn't discovered that carbonated water when I did, I surely would have given up on the whole idea of aquatic plant aquaria.

Nature Aquarium World (TFH, 1992)

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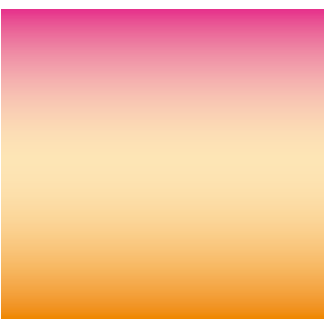
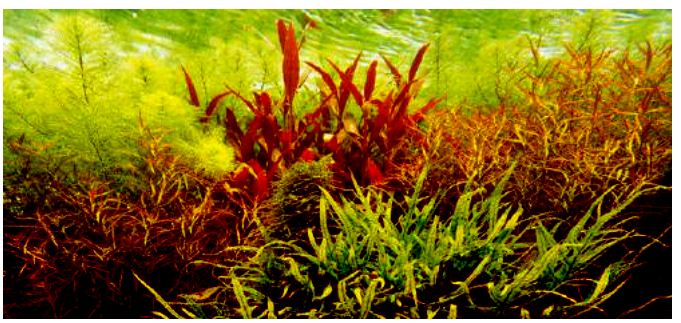
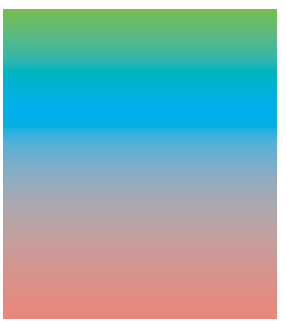
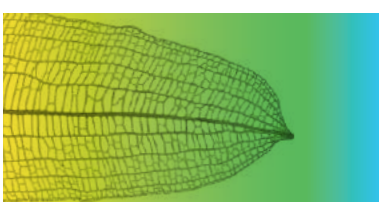
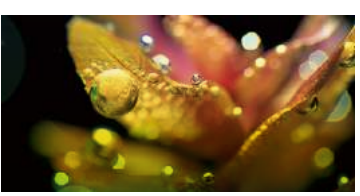






THE INTERNATIONAL AQUATIC PLANTS LAYOUT CONTEST 2018

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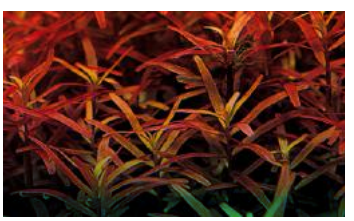


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