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NATURE IN THE GLASS

Enhancing the visual presentation of an aquascape by color contrasts.

This layout was created in a triangular composition using Branch Wood with new Yougan Stone. A craggy stone, like Yougan Stone, can be an excellent foundation to adjust the height of driftwood. In addition, we can render a natural impression by attaching willow moss to the piled stones. Enhancing visual presentation by color contrasts, such as the bright color of cosmetic sand against Yougan Stone's dark color and the central red stem plants against the surrounding greenery, is another key point in this layout. A foreground plant Echinodorus tenellus, which was intentionally planted in a relatively wide area, accentuates the red color of *Ludwigia arcuata* and helps to elevate the impression and to render perspective at the same time. (Daichi Araki)

DATA

December 1st, 2017 (ADA) Ludwigia arcuata Eleocharis vivipara Daichi Araki Eleocharis sp. Cube Garden W90×D45×H45 (cm) Helanthium tenellum Solar RGB, turned on for 10 hours per day Bolbitis heudelotii Super Jet Filter ES-600 (Bio Rio, NA Carbon) Aqua Soil-Amazonia, Power Sand Special M, Bacter 100, Clear Super, Fontinalis antipyretica Fish & Invertebrates Hemigrammus hyanuary Tourmaline BC Hyphessobrycon amandae Pollen Glass Large 30 Ø, 3 bubbles per second via CO₂ Beetle Counter Pristella maxillaris (using Tower) Crossocheilus oblongus Aeration 14 hours after the light is turned off using Lily Pipe P-4 Otocinclus sp. Green Brighty K, Green Brighty Iron Caridina multidentata 1/3 once a week Temperature: 25°C, pH: 6.8, TH: 20 mg/l Water quality

NATURE IN THE GLASS

A W90cm aquarium with cosmetic sand and red stem plants: How to create a triangular composition

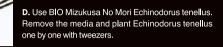
Generally speaking, placing the substrate is the first step when creating a Nature Aquarium style layout. In this layout, however, I placed the substrate after creating a framework with layout materials. This is one of the methods when cosmetic sand is spread in the foreground. The layout materials placed in the tank earlier also act to separate the cosmetic sand in the foreground from the Aqua Soil in the background. In this method, it is important to fill in the base of the driftwood with rocks. Here is a step-by-stem guide to making a layout using cosmetic sand in the foreground and red stem plants as a visual accent.

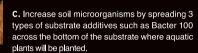


A. After deciding the driftwood to be used, wrap the moss partially beforehand. Prepare pebbles wrapped with moss as well.

B. For cosmetic sand to be spread in the foreground, blend La Plata Sand and Colorado Sand which have different colors with ratio of 2:1 to render more natural texture.









Creation Process



■ Place Branch Wood wrapped with moss directly into a W90cm aquarium tank. It is important to arrange the Branch Wood by imagining a triangular composi-



☑ Fix Branch Wood base with Yougan Stone and spread cosmetic sand in the foreground. Yougan Stone acts both as a composition material and as a soil retainer.



☑Add substrate additives such as Bacter 100 into the background part where aquatic plants will be planted and spread an appropriate amount of Power Sand Special on top of it.



4 Finally, complete the substrate by adding Aqua Soil-Amazonia. Moisten the substrate with water to allow the aquatic plants to be easily planted.



Start planting with Echinodorus tenellus in the background. Plant carefully around the base stones using tweezers.



In this aquascape, a red stem plant Ludwigia arcuata which becomes a color accent is planted near the center of the background.



☑ Plant Eleocharis vivipara behind the Echinodorus tenellus in a veil-like manner. Leave a space in the right end so that the entire layout forms a triangular composition.



At the final step of the planting, attach Bolbitis to driftwood. It is important to anchor them in place to form a scalene triangle.

Layout Composition



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When viewed from the back of the aquarium tank, the substrate spreads making a slope from left to right. It helps to change height of plants planted in the background.

Arrange Branch Wood in a triangular form with the left side higher than the right side. Leave a space at the right end.



E. A few stems of red stem plant, *Ludwigia arcuata*, are planted together. As they grow, they will form a dense thicket.



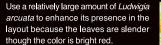
F. Bolbitis is attached to the driftwood with Wood Tight. Depending on location, Bolbitis tied to pebbles are placed.

Important planting techniques for perfecting a triangular composition and enhancing the presentation of red stem plants.

Bright red stem plants not only attract the eye, but they also can shift the center of gravity and the balance between left and right in an aquascape, which helps promote the perfection of its composition. Reddish stem plants show different color intensity and leaf sizes among species. Therefore, it is necessary to change the amount to be planted based on the layout design. Generally, for example, use less amount of a stem plant with large, bright red leaves, but increase the amount if it has small leaves in a pale red color. Let's have a look at planting techniques in this layout.



Plant tall *Eleocharis vivipara* in the left end of the background. The fine leaves softly fill in spaces, and this helps define the triangular shape of the composition.







Plant Bolbitis right under the bush of red stem plants.
The red color stands out being surrounded by green.

Planting



Immediately after planting, composition materials and ferns stand out in the layout and *Ludwigia* arcuata does not have much of a presence.

Aquascape Completion



©AQUA DESIGN AMANO



Plant *Eleocharis* sp. at the right end of the background to leave an open space above it. This also softens the impression of layout materials.

Planting willow moss around boundaries of layout materials, Branch Wood and Yougan Stone, lends a more natural feel and sense of unity.



Arrange Echinodorus tenellus at the right end, in order to make a visual connection between the *Eleocharis* sp. planted behind and the cosmetic sand in the foreground.



I intentionally didn't plant anything between the Yougan Stone and the cosmetic sand to enhance the brightness of the cosmetic sand and the natural feel rendered by the sand filling up the spaces between the stones.

Three different sizes of Wabi-Kusa.

The base of a Wabi-Kusa comes in three sizes. A mixed-plant type of Wabi-Kusa comes in a 9 cm base (9Ø) for producing a voluminous appearance by itself. A single-plant type comes in a 6.5 cm base (6.5Ø), which allows you to combine different plants easily. A 5 cm base (5Ø) is primarily for short, undergrowth plants; hence it has a flat shape.



Wabi-Kusa Glossostigma

A type of a plant that can be used as an accent anywhere from the foreground to the middle ground is primarily produced in 5Ø base.



Wabi-Kusa Karen

A "Karen" or single-stem-plant type of Wabi-Kusa comes primarily in 6.50 base. This size is easy to use even in a small aquarium.



Wabi-Kusa Cryptocoryne Mix

A voluminous mixed-type of Wabi-Kusa, such as stem plant, Echinodorus, or Cryptocoryne MIX, comes in 9Ø base.



Black: The carbon in the media adsorbs autotoxin.

White: The standard media

Brown: Contains a higher amount of organic component.

Media composition optimized for the type of plants.

Aquatic plants that are grown in agar-based media are free of algae and therefore they are clean and easy to handle. Although the plant body is small, the plant is healthy since it is grown with the nutrients contained in the media. While the media of "BIO Mizukusa no Mori" appear all the same at a glance, their compositions are optimized for the particular plant types. The media is also equipped with material to adsorb gas (autotoxin) that the plant generates since an accumulation of such a gas in the cup can weaken the plant.

Often seen among the families of Rotala and Hygrophila. Horizontal growth:

Difference in the growth speed due to sales conditions.

Wabi-Kusa with the same type of plants may appear differently depending on the sale condition. Stem plants grow taller as time passes if they are maintained properly after arrival in the store. The appearance of Wabi-Kusa will vary since some plants tend to grow vertically, whereas others will spread horizontally. Healthy plants have shiny leaves and appear sturdy. Poorly maintained plants appear spindly, and their leaves look dull or limp.

Plants can grow well and increase their volume even in a cup.

Although the aquatic plants in "BIO Mizukusa no Mori" are sealed inside a plastic cup, they are still growing gradually inside the cup. Therefore, the plant height among the products on sale at a store can vary. It may be a good idea in some cases to choose those that have been in the store for a while and have become taller and fuller.



BIO MIZUKUSA NO MORI Rotala macrandra

An aquatic plant with delicate leaves such as Rotala macranda above, grows well inside the cup.



BIO MIZUKUSA NO MOR

They may appear shorter compared to potted plants, but grow densely. Worthy of try in your aquascape.

A simple Wabi-Kusa arrangement technique.

Often seen in the family of Ludwigia.

Although a Wabi-Kusa can simply be placed in an aquarium to create a layout, the appearance of an aquascape can change greatly by arranging the Wabi-Kusa in a creative manner. For example, if you place Wabi-Kusa in an L-shaped arrangement instead of in a single line, it will give a sense of depth to the layout. Placing Wabi-Kusa in the golden ratio of 1: 1.618 (approximately 2:3 ratio) by shifting the balance of the groups of Wabi-Kusa to one side, either to the left or to the right, will make the aquascape appear more beautiful. A Wabi-Kusa of red stem plants or a Mix with a high number of red stem plants should be kept in the higher ratio side as a general rule.



The key point is to place Wabi-Kusas by keeping in mind the left and right balance indicated in dotted lines and the depth indicated by the vertical line. Different sized bases can be used depending on the location.





Wabi-Kusa will root readily if pressed slightly into the substrate.

Aquatic plants are very easy to handle and plant.





Although tissue-cultured aquatic plants may sound difficult to handle, it is actually very easy. First, remove the plants from their cup, and gently wash away the culture medium. Take care not to separate the plants into individual ones. Plant small clumps of the aquatic plants using a pair of tweezers.

■ Remove the plants from their cup using tweezers. ☑If you spread the small clumps of plants over a tray, the subsequent planting task will go more smoothly. ☑A small amount of culture medium can be left on the plants. The medium does not disintegrate in water easily. ☑Plants with small leaves should be planted close together. They form a cohesive colony as they grow and will appear more beautiful.



WABI-KUSA&BIO MIZUKUSA NO MORI

"The Basics of Wabi-Kusa & Bio Mizukusa no Mori"

Wabi-Kusa Single Stem Plants that develop luxuriant, submersed leaves.



Wabi-Kusa Rotala rotundifolia (Green) 6.5Ø

A typical stem plant that is easy to grow in a planted layout. It sometimes grows in a creeping manner under strong lighting.



Wabi-Kusa Rotala sp. Hra 6.5Ø

Its intense, red color creates a strong impact. Iron-rich ECA is effective for bringing out the red



Wabi-Kusa Rotala Fujian 6.5Ø

The colors of the leaves that vary from yellow to orange add vivid colors to an aquascape. It tolerates trimming well. It is one of the easy-to-grow stem plants.



Wabi-Kusa Hemianthus micranthemoides 5Ø

Pearl Grass often melts right after planting. The Wabi-Kusa Pearl Grass develops submersed-grown leaves smoothly when simply placed on the substrate.



Wabi-Kusa Hygrophila sp. 'Tiger' 6.5Ø

A type of Hygrophila with distinctive leaf markings. It grows well in a creeping manner under high light conditions with CO₂ injection.



Wabi-Kusa Ludwigia glandulosa 6.5Ø

Although plants in Ludwigia family with relatively large leaves are hard to plant densely, Wabi-Kusa Ludwigia can form a dense colony right from the start.



in an aquatic plant layout.

A selection of stem plants that are easy to use



BIO Rotala macrandra 'Green'

Unlike Rotala macrandra that becomes red entirely, only the underside of the leaves of this Rotala turns red. It produces a distinct coloration when grown densely.



BIO Ludwigia repens 'Super red'

Deep-red leaves are its appeal. The lower part of the stems should be obscured with middle ground plants.



BIO Rotala macrandra

A popular Rotala with big, beautiful, red leaves. It is a classic plant for a layout with red plants.



BIO Rotala nanjean

A type of Rotala plant with slender leaves and orange terminal buds. It is sturdy and easy to maintain over a long term.



BIO Myriophyllum mattogrossense

A plant with delicate, feather-like leaves. It is beautiful when grown densely through trimming.



BIO Ludwigia arcuata

A popular red stem plant with fine leaves. It adds a beautiful coloration to the background of a layout.



U-shaped layout produced in System Aqua 30 using Wabi-Kusa

A natural looking, attractive Nature Aquarium layout can be produced easily using Wabi-Kusa even in the limited space of a small System Aqua 30. Wabi-Kusa with primarily red stem plants and smaller Karen composed of various stem plants were placed in the background and Wabi-Kusa Singles (*Myriophyllum mattogrossense* and New Large Pearl Grass) were planted in front of them in the middle ground. *Hydrocotyle verticillata* used as an accent piece created a whimsical appearance. Since mixed type Wabi-Kusa contains various aquatic plants, unnecessary plants should be removed to suit your own taste depending on the coloration of the finished layout.

SOL STAND G

SOL STAND G mounting piece System Aqua 30

W30×D30×H30 (cm)

Base Stand 35

W35×D35×H43 (cm)

CO₂ Mini Counter

CO₂ Mini Diffuser Ø10

NA Control Timer II

Tropical River Sand

[Aquatic Plants]

Wabi-Kusa Stemmed Plants Mix (Red) 9Ø

Wabi-Kusa Karen 6.5Ø

Wabi-Kusa *Myriophyllum mattogrossense* 6.5Ø Wabi-Kusa *Micranthemum* sp.5Ø

Wabi-Kusa Hydrocotyle verticillata 5Ø

BIO MIZUKUSA NO MORI Riccia fluitans

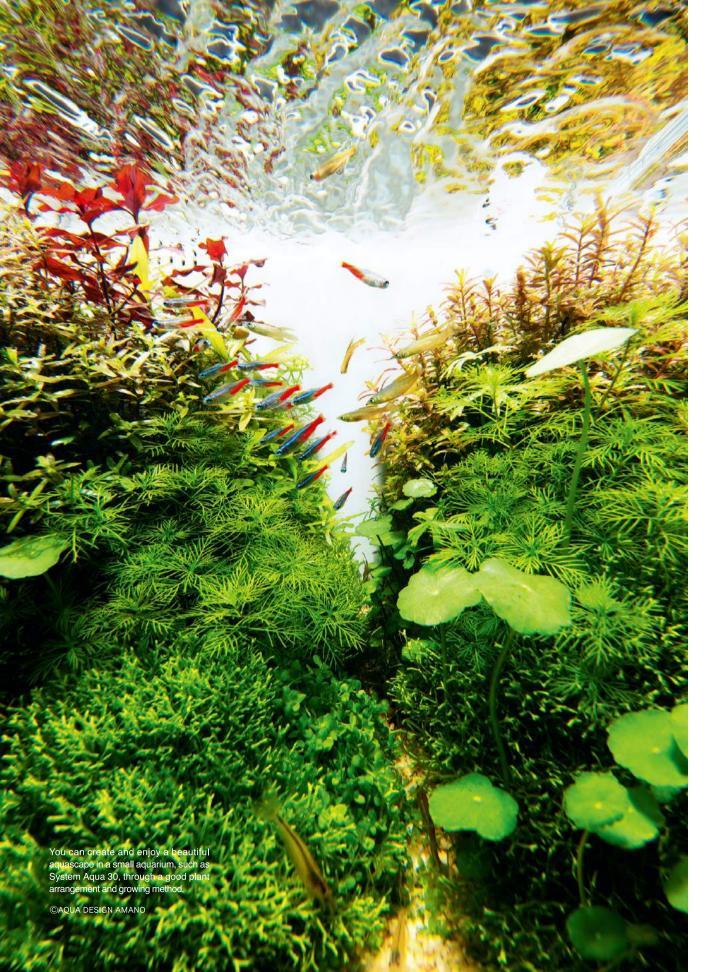
Shoot on December 18th, 2017 (ADA)

Creation & Text by Yusuke Homma

©AQUA DESIGN AMANO







Enjoy DOOA | Yusuke Homma DOO, an institute your first about practice appearance of the control of the control

An aquatic plant layout to enjoy in a small aquarium: The way to arrange stem plants and undergrowth plants is the key point.

Since a small aquarium with a limited space does not have much depth from front to back, it is important to arrange plants in a well-defined manner from the foreground to the background. In such a case, the types of stem plants with small leaves that work for both the middle ground and the background are suit-

able for the background. Either a low-growing undergrowth plant or cosmetic sand is suitable for the foreground. Riccia or Willow Moss that is wrapped around small stones would work well for the area that consolidates both the foreground and the middle ground.



An intensely red stem plant among a cluster of small-leaved stem plants can create a focal point in a layout. Depending on where it is placed, it can prevent a composition from getting symmetrical.



The middle ground was created by arranging Riccia wrapped around small stones in this layout. Riccia is suitable as an undergrowth plant in a small aquarium since it is easy to control its volume.



Tropical River Sand was used as both the substrate and cosmetic sand. Uniquely-shaped *Hydrocotyle verticillata* was added to the middle ground to add variation and as an accent to the undergrowth plants.

MAKE & KEEP

CO₂ Advanced System - Forest Easy-to-use CO₂ injection kit for healthy and beautiful plant growth.

MAKE & KEEP

Every month, this column introduces useful knowledge, skills, and product information to make and keep your Nature Aquarium and Aqua-Terrarium. In this issue, we will discuss the importance of CO₂ supplementation essential for healthy and lush aquatic plant growth, and explain how to use ADA's new CO₂ Advanced System - Forest.

ADA NATURE AQUARIUM GOODS

CO2 ADVANCED SYSTEM - FOREST







Ideal conditions for healthy plants and reasons for CO₂ supplementation.

In the Nature Aquarium, you will create a beautiful aquascape by growing vibrant and lush aquatic plants. The conditions required for healthy plant growth in an aquarium are the sources of nutrients contained in the substrate and supplied by liquid fertilization, sufficient lighting for photosynthesis, and efficient CO2 injection. Without CO2 supplementation, the major sources of CO2 in a tank are carbon dioxide in tap water and air which is naturally dissolved in the aquarium water, and carbon dioxide breathed out by fish, shrimp and bacteria. Once all the plants start photosynthesizing

in a limited tank space, they will instantly use up the CO₂ in a tank and a shortage of CO₂ will stop photosynthesis. Since photosynthesis is essential to sustain aquatic plants growth, they will not grow healthy without CO₂ injection, resulting in a poor outcome. Therefore, ADA has developed CO₂ supplementation systems using liquefied CO₂, which can deliver CO₂ to a tank in an optimal form for photosynthesis; all the Nature Aquariums produced by ADA are equipped with a CO₂ system. New CO₂ Advanced System-Forest is a basic CO₂ supplementation kit which can be adapted to aquariums up to 60cm in width.

CO₂ Advanced System - Forest New features and usage

The previous Advanced System version consisted of CO₂ System 74-YA/Ver.2 for small CO₂ cartridges, Pollen Glass, CO₂ Bubble Counter and Cap Stand. Whereas the new Advanced System - Forest keeps the CO₂ System 74-YA/Ver.2, it offers Pollen Glass EZ (a CO₂ Bubble Counter-integrated Pollen Glass) and the newly designed Metal Cap Stand. Pollen Glass EZ enables easy installation and simplifies the arrangement of the CO₂ tubing from the cartridge to the diffuser by performing as both a CO₂ diffuser and a CO₂ counter.

The kit comes with both pressure-resistant and silicone tubes necessary for connecting the parts, and provides hassle-free installation by connecting each part as shown in the illustration below. For a W60 cm aquarium tank (approximately 60 liters in volume) during the initial set-up period, it is recommended to provide one CO₂ bubble per second via Pollen Glass EZ. Use this as a guide to measure the adequate amount of CO₂ to inject, depending upon the plant's growth stage. Always start CO₂ supplementation when turning the light on and stop it when turning the light off. (Providing 8 to 10 hours of lighting time per day is recommended.)

CO2 ADVANCED SYSTEM - FOREST [Usage example]



CO₂ Forest Bottle

CO₂ Forest Bottle is a newly introduced replacement CO₂ cartridge in the CO₂ System 74 series. Refreshing the design of the old Tropical Forest, it offers easy usage without packaging.



Pollen Glass EZ

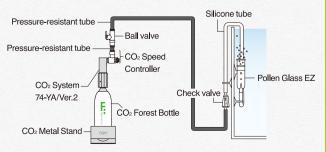
Pollen Glass EZ is a CO₂ diffuser that integrates Pollen Glass with CO₂ Bubble Counter. It simplifies installation and goes nicely with small size aquariums, such as DOOA System Aqua 30.



CO₂ Metal Stand

A stainless-steel stand for small CO₂ cartridges. The stand can stably hold a CO₂ Forest Bottle with a wider bottom surface and a heavier body than the existing cap stands.

Installation example



Many plants grow densely together in Wabi-Kusa. Wabi-Kusa is very easy to work with in a layout. Various types of aquatic plants are growing competitively in a popular Wabi-Kusa Stemmed Plants MIX. Approximately 80 different types of plants are used to produce Wabi-Kusa Stemmed Plants MIX throughout the year. Let's take a look at some of them here.

Deconstructing Wabi-Kusa

Four to seven types of relatively undemanding stem plants grow together in a Wabi-Kusa Stemmed Plants MIX. The combination of the types of plants is determined based on their growth habits and production season. I loosened a Wabi-Kusa Stemmed Plants MIX and separated the plants individually by species. A total of 146 stem plants were rooted in the Wabi-Kusa base as shown below.

not counting any plants less than 1 cm long. The uncounted tiny plants will grow nicely after other larger plants are trimmed and light reaches them. A plant that grows horizontally often produces new shoots at every node and develops a lot of new terminal buds. This is the reason why a Wabi-Kusa grows into a dense bush of plants under water.



Plant Art Studio



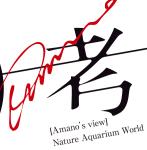
04

New shoots grown in leaps and bounds from each growth point appear magnificently beautiful, whom you cannot deny their powerfulness and secret of life.

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.



Shoes and Aquatic Plants Text/ Takashi Amano



Children gathering lotus in Yoroigta lagoon in the late 1950's. (Photo by Yogoeimon Ishiyama)

In the post-war days in Japan there were no refrigerators, so people who lived in the interior couldn't eat fresh seafood. Children often caught carps for their families, especially in my home town where we had large lagoons. Our fishing method was a primitive one: we would scoop the water along the banks with a net tied to bamboo poles. A more dangerous way was to dam up the ends of a big submerged pipe, empty out the water with buckets, then climb in to get the fish that remained. Besides fish, water chestnuts, lotus and other plants that the children gathered were an important source of protein.

The catch was always divided fairly by paper-scissorsstone, unless we came up with a colorfully displaying tango (bitterling) or goby, in which case someone would give up their share in order to take home the living beauty. They would carry it home in the rubber shoes we all wore in those days, filled with water for the fish, and the two kilometer walk on a stony road would leave blood blisters on their feet. The feet would make it, bloody though they were, but the fish, due to the heat and lack of oxygen, never did. I was scolded many times for coming home empty-handed.

There were many plants in the lagoons that resembled the two-temple and Hygrophila that I use today in may waterscapes. The abundant plants (Sasabanohiromo, mizuoobako (Ottelia) Matsumo, and Mizuwarabi) were a beautiful sight in the water. And when I broke some off and stuffed them in my shoes, amazingly the fish survived the trip home. Many of my layouts come from childhood memories like this one.

Nature Aquarium World (TFH, 1992)

INFORMATION



THE ART OF NATURE AQUARIUM TAKASHI AMANO PHOTOGRAPHY BOOK

Some of Amano's original large format films which were newly scanned with today's state-of-the-art technology to prepare the printing plates for optimal image quality. It is the ultimate edition of all Nature Aquarium and Amano's world with ultra large format films, * Language: English, Japanese * Size: 278×250mm * 160 pages / all colored



TAKASHI AMANO PHOTO EXHIBITION

Date: January 20th - March 25th *Closed on Mondays, excluding holidays Venue: Earth Plaza (3F at exhibition site) Time: 10:00 - 17:00 *Last admission is at 16:30 Admission: Free

Host: Kanagawa Plaza for Global Citizenship (Earth Plaza) / Designated administrator: JOCA TEL: 045-896-2121 / Email: gakushu@earthplaza.jp

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NEW ADA NATURE AQUARIUM GOODS LIGHT SCREEN

ADA Introduces an LED Backlight for Aquascapes.

ADA's aquarium tanks and lighting systems have been developed with the aim of enhancing the beauty of Nature Aquariums. New LIGHT SCREEN is an LED backlight designed to visually highlight aquascapes. It provides easy installation of a white or blue gradation background that tastefully illuminates aquariums.

Experience ADA's obsession for perfection with your aquascape.

* Includes a Gradation sheet (electrostatic film) to create a blue gradation background.

* Equipped with a dimmer switch to achieve the desired light intensity. Useful for both photography and videography.

* Can be easily installed on aquarium tanks with the included hooks.

www.adana.co.jp/en

