

Nature Aquarium information magazine

# AQUAJOURNAL

ADA  
aqua design amano  
JUL.  
2012



*Special Feature*

## Layout Material

Walkthrough





## MAINTENANCE TOOL SERIES

20th ANNIVERSARY LIMITED EDITION

The 20th Anniversary Premium Layout Tool series has flower motifs. You can choose your favorite color from 3 color variations : Black / Silver / Black & Silver.

# AQUA DESIGN AMANO The 20th ANNIVERSARY PRODUCTS

ADA 20th Anniversary Products Catalog  
is now available in stores worldwide.

Please check your local ADA registered stores and distributors to get your copy!  
Limited quantities available, so please act quickly.

## CO<sub>2</sub> SYSTEM 74-YA/Ver.2

20th ANNIVERSARY LIMITED EDITION

CO<sub>2</sub> regulator tells the history of ADA. 20th anniversary logo is laser-marked on its body.

2



## CO<sub>2</sub> ADVANCED SYSTEM

20th ANNIVERSARY LIMITED EDITION

CO<sub>2</sub> Advanced System contains CO<sub>2</sub> injection equipments and regulator with 20th anniversary logo.

3





Color : black

Color : silver

Color : gold

4

**SOLAR I**

20th ANNIVERSARY LIMITED EDITION

Solar I series in 3 premium colors producing the beauty of aquarium in a sophisticated style.

**GLASS SERIES**

20th ANNIVERSARY LIMITED EDITION

Glass accessories and filtration pipes have a 20th anniversary logo on their body.

5



**SUPER JET FILTER ES-600 / Mirror finish**

20th ANNIVERSARY LIMITED EDITION

Its voluminous stainless steel body is mirror-finished and presents a beautiful radiant form.

6



**MAINTENANCE STAND TREE**

20th ANNIVERSARY LIMITED EDITION

Its premium black color presents a smart and stylish display of maintenance items.

7



Maintenance Stand I

Metal Hook Stand

**TOWER Mirror finish**

20th ANNIVERSARY LIMITED EDITION

Tower, a large size CO<sub>2</sub> tank, in anniversary edition has a mirror-finished stainless steel cover.

8



**VUPPA-I / Titan**

20th ANNIVERSARY LIMITED EDITION

Anniversary edition VUPPA-I has a main unit made of corrosion-resistant titanium. It also appreciates a unique titanium texture.

9



**20th Anniversary T-SHIRT**

20th ANNIVERSARY LIMITED EDITION

ADA official T-shirt with a lace plant motif.

Size : S, M, L, XL, XXL

Color: bright green

\*Printing position may vary with size

10



**20th Anniversary KEY RING**

20th ANNIVERSARY LIMITED EDITION

Anniversary Key-Ring commemorating ADA's 20th anniversary.

Size : medal diameter 40mm

11



FRONT

BACK





Travelling across Japan

Vol.45 Aga-Machi, Niigata, Japan

# ADA LED lighting system makes it possible to grow healthy aquatic plants.



LED Lighting System for aquatic plants

## AQUASKY

AQUASKY is a LED lighting system specifically designed for aquatic plant layouts in nano-size aquariums. Whereas this product provides enough light intensity for plant growth, it requires less power consumption improving cost performance. The slim lighting unit has a high radiation performance and its clear stand provides an open feeling to the top of the aquarium.

■ Light housing unit size: W280mm x D68mm x H9mm  
 ■ Clear stand size:  
 W300mm x D100mm x H95mm (for aquarium 30cm in width)  
 W360mm x D100 x H95mm (for aquarium 36cm in width)  
 Product specification  
 Input voltage: AC100 - 240V 50/60Hz / Power consumption: 17W /  
 Current consumption: 0.4A  
 Color temperature: 7,000K - 8,000K  
 LED: 0.4W/each x 30 AQUASKY is a CE certified product (CE Mark)

\*Photo is for image only. This product has a power supply cord on the side.  
 \*Displayed Cube Garden, Cube Cabinet and glass products are sold separately.



Encourages photosynthesis with its high luminosity.



Provides a natural look with proper color temperatures.



Develops sturdy undergrowth plants.

**DATA** Two months after the production of the layout (trimmed 3 times)

**Aquarium** / Cube Garden W30xD30xH30(cm)  
**Lighting** / AQUASKY (LED 0.4w each x 30) turned on for 10 hours  
**Filtration** / Original External Filter (flow rate 3.2l/min), Bio Rio, NA Carbon, Lily Pipe Mini P-1, Lily Pipe Mini V-1  
**Substrate** / Aqua Soil Amazonia  
**CO<sub>2</sub>** / Pollen Glass Mini, 1 bubbles per second (supply CO<sub>2</sub> by YA/ Ver.2)

**Additives** / Brighty K, Green Brighty Step 2 1/3 once a week  
**Water Change** / Temperature 25C pH:6.8 TH:20mg/ℓ  
**Water condition** / Wabi-kusa Glossostigma,  
**Aquatic Plants** / Wabi-kusa Eleocharis parvula, Wabi-kusa Hemianthus callitrichoides, Wabi-kusa Stemmed Plants Mix, Wabi-kusa Karen Hyphessobrycon amandae,  
**Fish** / Caridina japonica



### Fresh Green of Sanegawa Valley (Aga-Machi, Niigata, Japan)

Located on the border between Niigata and Fukushima, the Sanegawa Valley is a hidden scenic spot surrounded by untouched nature. This beautiful valley features cliffs shaped by huge amounts of snow over many years in this famous heavy-snowfall area of Niigata. In the beginning of May, the fresh green of beech trees tells us the long-awaited arrival of spring is here. The combination of rough rock surfaces and soft, fresh green leaves is really splendid.

Shooting data / Wisner 8x20, Super-Symmar 210mm XL, 1/2 sec at f45, center filter used, Velvia 100F 8×20 inch format film  
Text and photographs by Takashi Amano

# AQUA JOURNAL

JUL. 2012

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Vol.45 Aga-Machi, Niigata, Japan

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# Layout Material

## Walkthrough

ADA offers a wide variety of layout materials. Made from natural resources, each of these materials has its own unique features. Those who can make the most of such features are truly excellent layout makers. Before crying over the lack of availability of layout materials which have a perfect shape, you should think how to conquer and make the best use of any types of materials, even those with shortcomings.

*Photographs by Takashi Amano  
Text by Masatoshi Abe / Tsuyoshi Oiwa  
Translation support by Laura Findley*

*Special Feature*

*M*

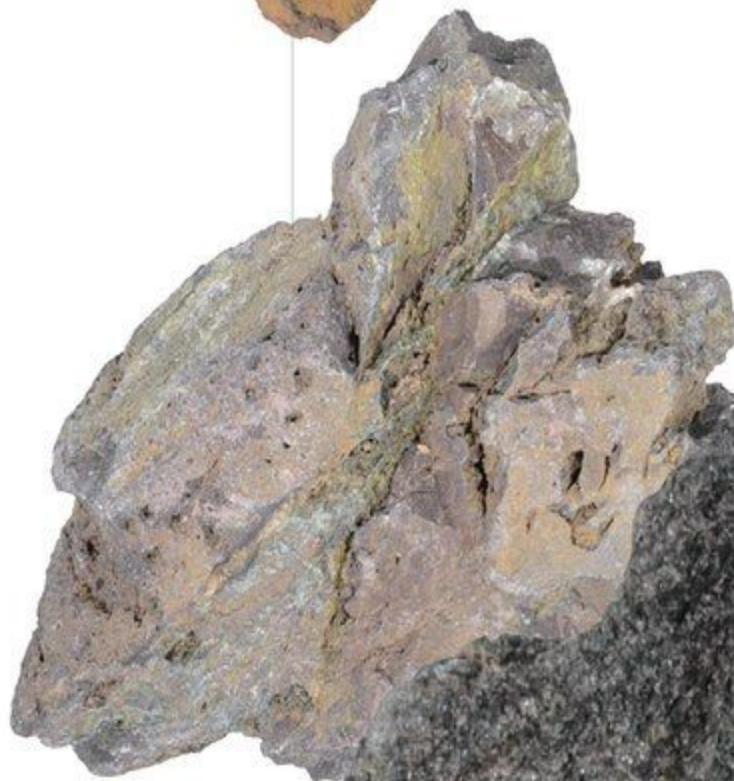
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*K*

*T*

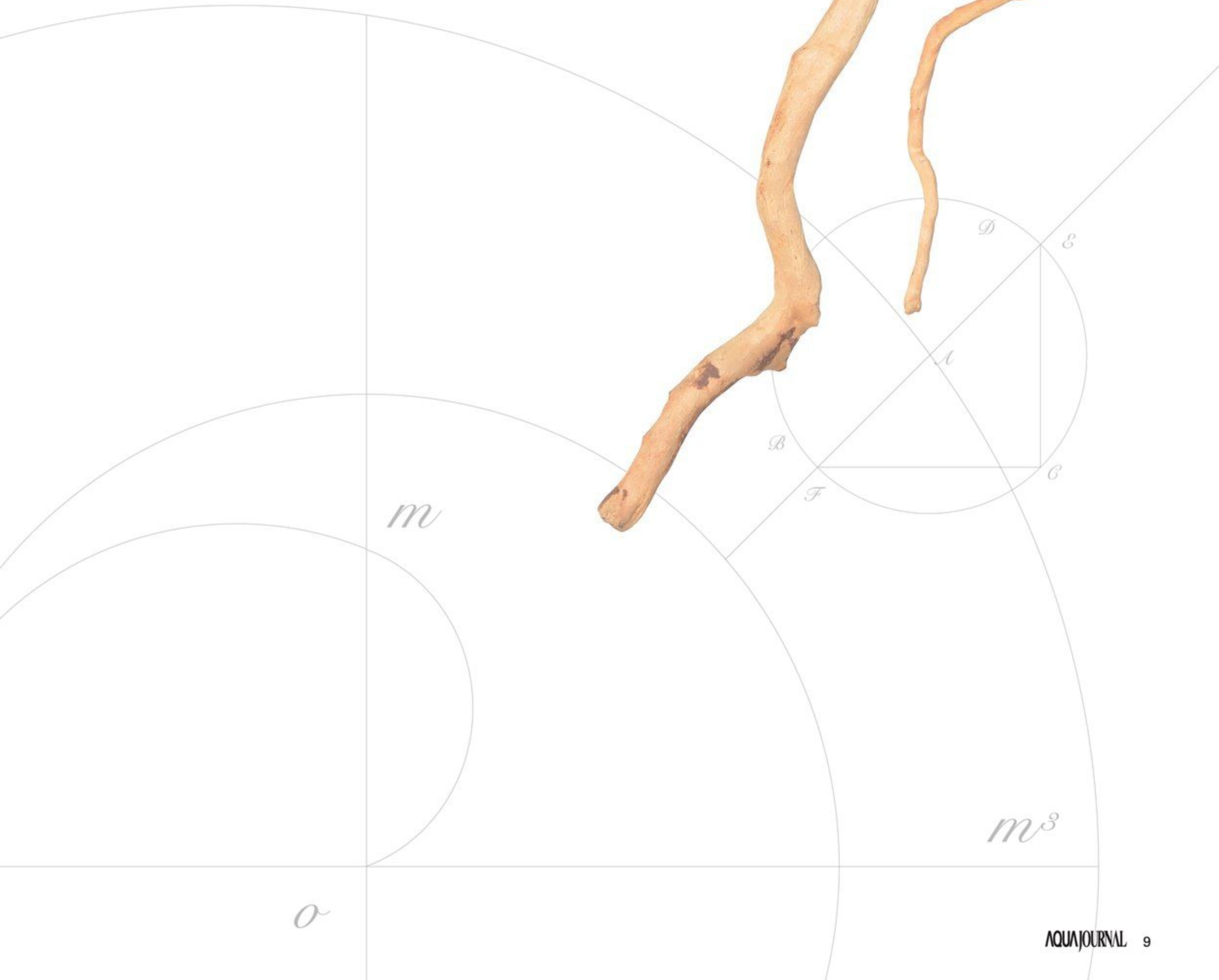
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*m<sup>2</sup>*





# Starting with Knowing the Characteristics of Each Layout Material

## Horn Wood



### Shape

The branches of Horn Wood are not really multi-pronged but they are mostly two-pronged or slightly curved.

### Color

Reddish brown to brown

### Water quality

Almost no change in both pH and TH.

### Notes

During the initial stage of the aquarium, organic matters tend to leach from the wood and cause the aquarium water to turn yellow. This can lead to a rise in COD, which requires careful attention. The wood may float depending on its dryness.

### MEMO

If yellow water is a concern, the use of NA Carbon and frequent water changes are effective solutions.

## Branch Wood



### Shape

Branch Wood has an attractive multi-branched shape but a large cut section is seen at its base.

### Color

Bright yellow to light brown

### Water quality

This wood tends to slightly lower the pH and TH levels of the water.

### Notes

During the first week of the aquarium setup, some heavy stones should be placed on the wood to prevent it from floating.

### MEMO

Saprolegnia can be solved by suctioning it out with a hose and adding some *Cardina japonica* (Yamato Numa Ebi) to the aquarium. Branched-out portions are in fact not branches but roots.

## Manten stone



### Shape

Mostly in an uneven, angular shape. Some have a roundish or flat shape.

### Color

Reddish purple to light brown

### Water quality

This stone tends to raise the pH, TH and KH levels slightly.

### Notes

The stone arrangement making the most of the features of this stone might be hard but is surely a worthy challenge.

### MEMO

The rise in the pH, TH and KH levels caused by this stone will be offset by the use of Aqua Soil-Amaozonia. The adequate level of mineral will be beneficial to the health of living organisms.

## Ryuoh stone



### Shape

Many Ryuoh stones have pointed projections and grooves. This stone is mostly relatively flat in shape.

### Color

Cool color with white lines

### Water quality

This stone tends to raise the pH, TH and KH levels of water.

### Notes

The rise in pH, TH and KH levels can be reduced by the use of Aqua Soil-Amaozonia. In the event of poor growth of aquatic plants, the use of Softener or be-Soft is recommended.

### MEMO

Ryuoh stone that raises the water hardness is a good match with Pearl grass. The number of white lines on the stone has nothing to do with the extent to which the water hardness rises.

There is a wide variety of layout materials and each of them has different shapes, colors and effects on water quality. First of all, get to know the characteristics of the materials so you make the most of what they have.

## Unzan stone



- Shape**  
Mostly mound-shaped with rough and very uneven surface
- Color**  
Black
- Water quality**  
No effect on water quality

**Notes**  
The surface crumbles easily. Be careful not to rub the surface hard. A special coating applied to the surface for prevention of algae may leach during the initial stage of the aquarium, which can lead to slightly colored aquarium water.

**MEMO**  
The colored water caused by this stone can be solved by changing the aquarium water. It is recommended to use this stone with Wabi-Kusa by placing it in the pockets on the stone surface. This stone is ideal for layout beginners, since it has a good shape and no effect on water quality.

## Kei stone



- Shape**  
Many Kei stones have a thick, angular shape
- Color**  
Brownish red or other warm color
- Water quality**  
No effect on water quality

**Notes**  
This stone looks whitish when it is on sale in a dried state. However, it turns natural brownish red color in water.

**MEMO**  
Kei stone can be used as a material for Iwagumi layout and also as a support of driftwood by placing around the base of the driftwood.

## Sado-Akadama stone



- Shape**  
Many Sado-Akadama stones have a thick and rough shape.
- Color**  
Brownish red to reddish brown
- Water quality**  
No effect on water quality

**Notes**  
This rare original Sado-Akadama stone is available in a limited quantity. As of May 2012, the stock is running short.

**MEMO**  
This stone shows its brilliant vivid red color when it is wet. Its reddish brown surface effectively stands out the green color of aquatic plants.

## Yamaya stone



- Shape**  
Yamaya stone is small in size and mostly in a thick, angular shape.
- Color**  
Black
- Water quality**  
This stone tends to raise the pH, TH and KH levels slightly.

**Notes**  
Yamaya stone is suitable for random stacking rather than formal Iwagumi because of its small size and shape.

**MEMO**  
The rise in the pH, TH and KH levels caused by this stone will be offset by the use of Aqua Soil-Amazonia. This stone is ideal to be used as the base of Wabi-Kusa in the "Window Type" aquarium set.

# Good to Know: Making the Most of Layout Materials

Vol.1

## Focus on branch tips when selecting driftwood

※ The pictures shown feature Horn Wood.



This two-pronged (at a right angle) driftwood is relatively shapely with sharp branch tips.



A thick, block-like portion is a little problematic. To solve this, you may consider placing the wood with this unsightly portion facing down on the substrate.



This driftwood is difficult to use due to its linear portion. You may attach willow moss and other epiphytic aquatic plants to this portion.



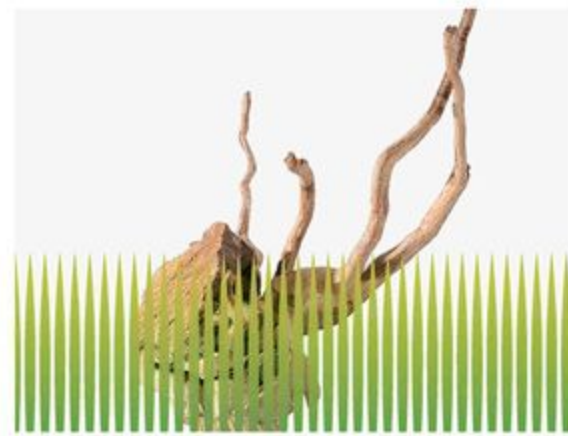
The well-formed branch tip and moderately curved branch are excellent. It is good to have several pieces of this type of driftwood.



This kind of well-formed driftwood is quite rare to find. You should grab it if you see it.

## Consider to conceal the shortcomings of driftwood with aquatic plants

This is a Branch Wood with the block-like base and a large cut section. Before giving this type of wood up as useless, you should consider the following:



### Concealing with foreground plants

The unsightly cut section can be concealed by putting it facing down and planting foreground plants such as *Eleocharis acicularis* around it.

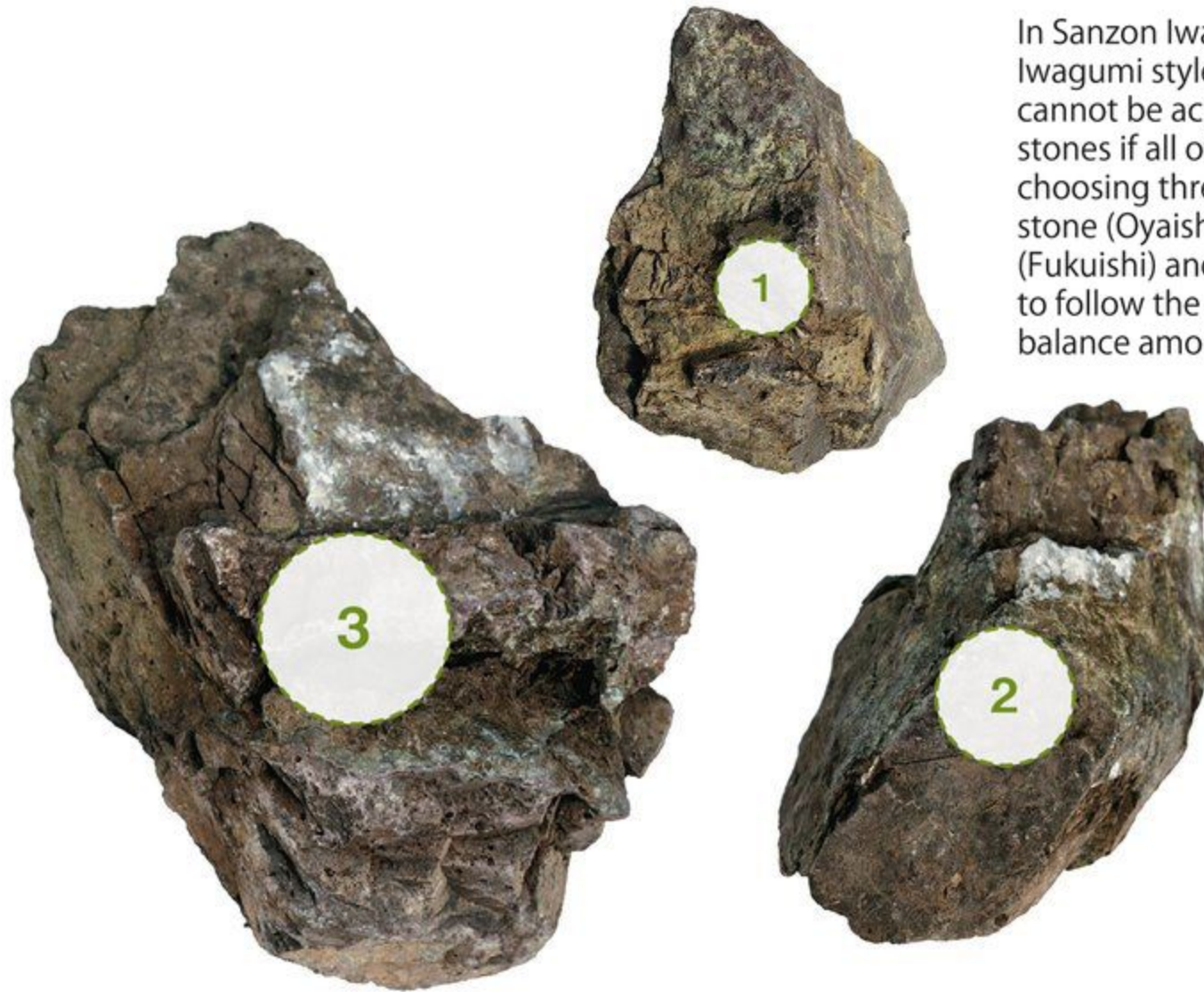


### Attaching ferns to the wood

The cut section will not be visible if ferns such as *Microsorium* and *Bolbitis* are attached to it.

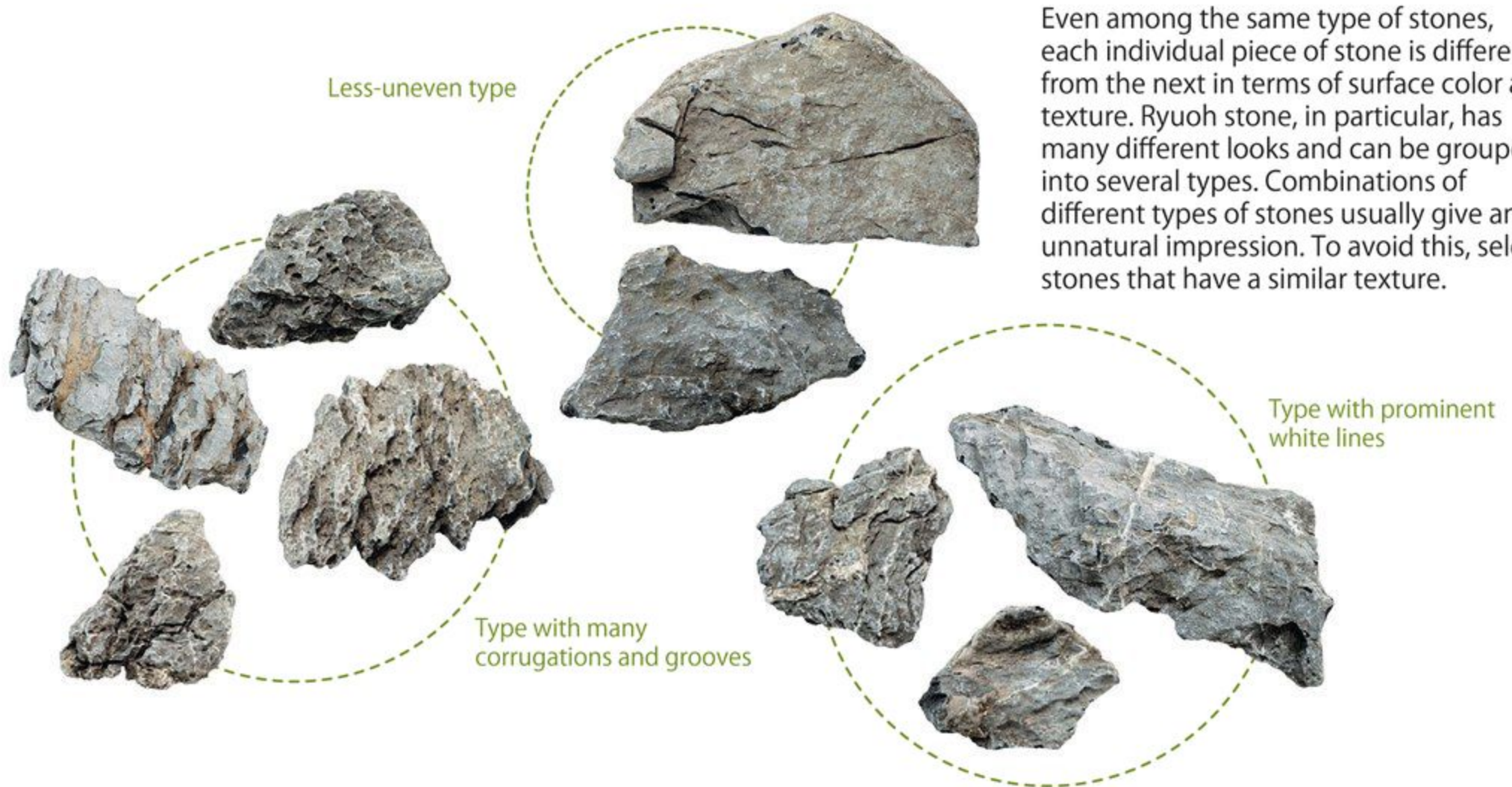
The process of the Nature Aquarium begins with the selection of the layout materials. Considering a wide selection of layout materials is important, as well as understanding how to see and assess the layout materials.

Good balance is easily achieved by selecting the stone sizes at the ratio of 3:2:1



In Sanzon Iwagumi, the basic and classic Iwagumi style, a good stone arrangement cannot be achieved even with good-shaped stones if all of them are the same size. When choosing three stones serving as the main stone (Oyaishi), accompanying stone (Fukuishi) and sub stone (Soeishi), it is advised to follow the size ratio 3:2:1 to achieve good balance among stones.

Pick up the stones having the same kind of texture



Even among the same type of stones, each individual piece of stone is different from the next in terms of surface color and texture. Ryuoh stone, in particular, has many different looks and can be grouped into several types. Combinations of different types of stones usually give an unnatural impression. To avoid this, select stones that have a similar texture.

# Good to Know: Making the Most of Layout Materials

Vol.2

## Making the most of unshapely driftwood (examples)



Two pieces of linear Horn Wood were prepared as an example of unshapely driftwood.



Linear driftwood is difficult to use. So, two pieces of driftwood were joined in an opened "L" shape.



The joint of the driftwood is secured tightly with Wood Tight.



Driftwood in a poor shape will look more natural and attractive by covering the entire wood with willow moss.



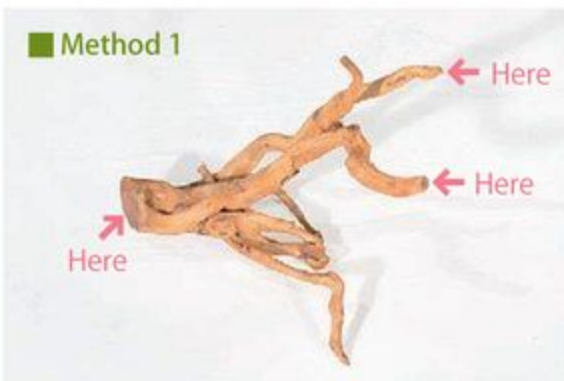
Place willow moss on the driftwood and tie it tightly with Moss Cotton.



Attach Microsorium to the joint to conceal it. Driftwood having an enhanced natural look is now completed.

## Dealing with cut sections on Branch Wood

### Method 1



This Branch Wood has cut sections at its base and branch tips.



Attach willow moss to the Branch Wood so the cut sections are concealed.



Trim off the protruding willow moss with Trimming Scissors for a tidy appearance.

### Method 2



The branch tips of this wood have an artificial cut section, which is a concern.



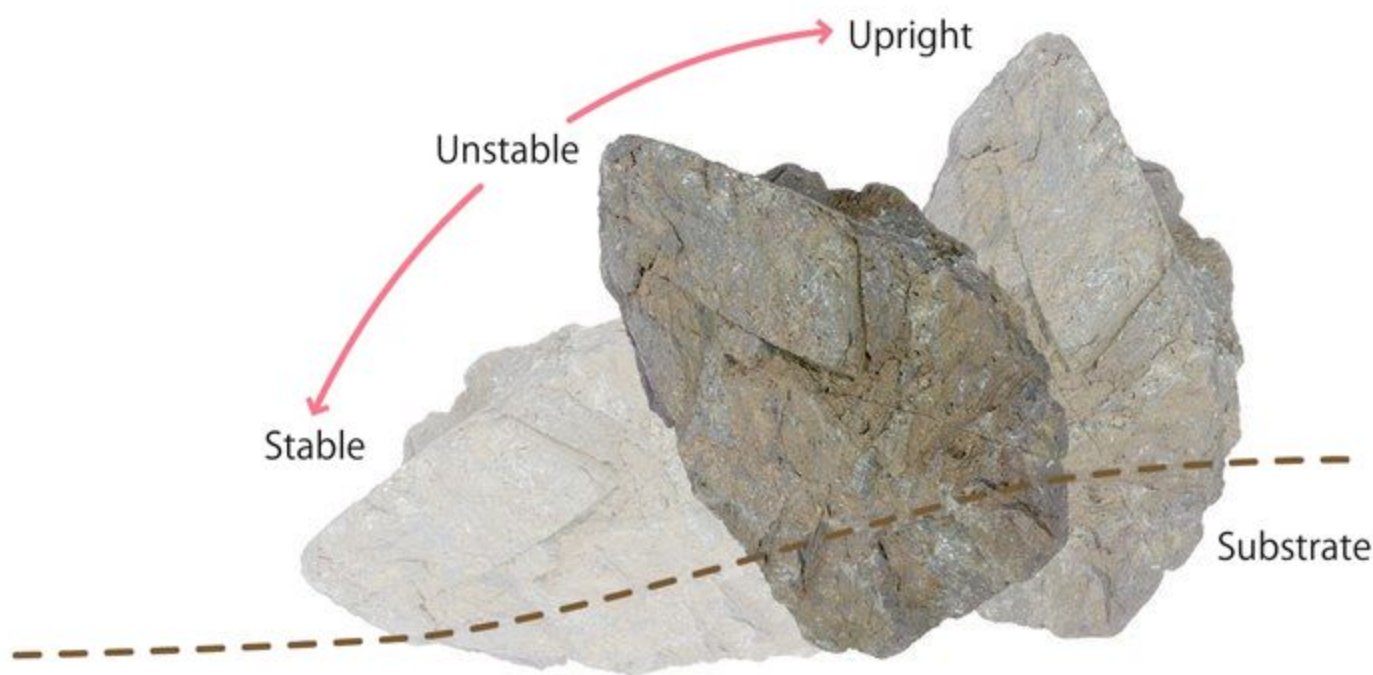
If the cut section is at the fine tip of a branch, you can break or crush it with a tool such as pliers.



The straight cut section gets adequately frayed and looks natural after being crushed with pliers.

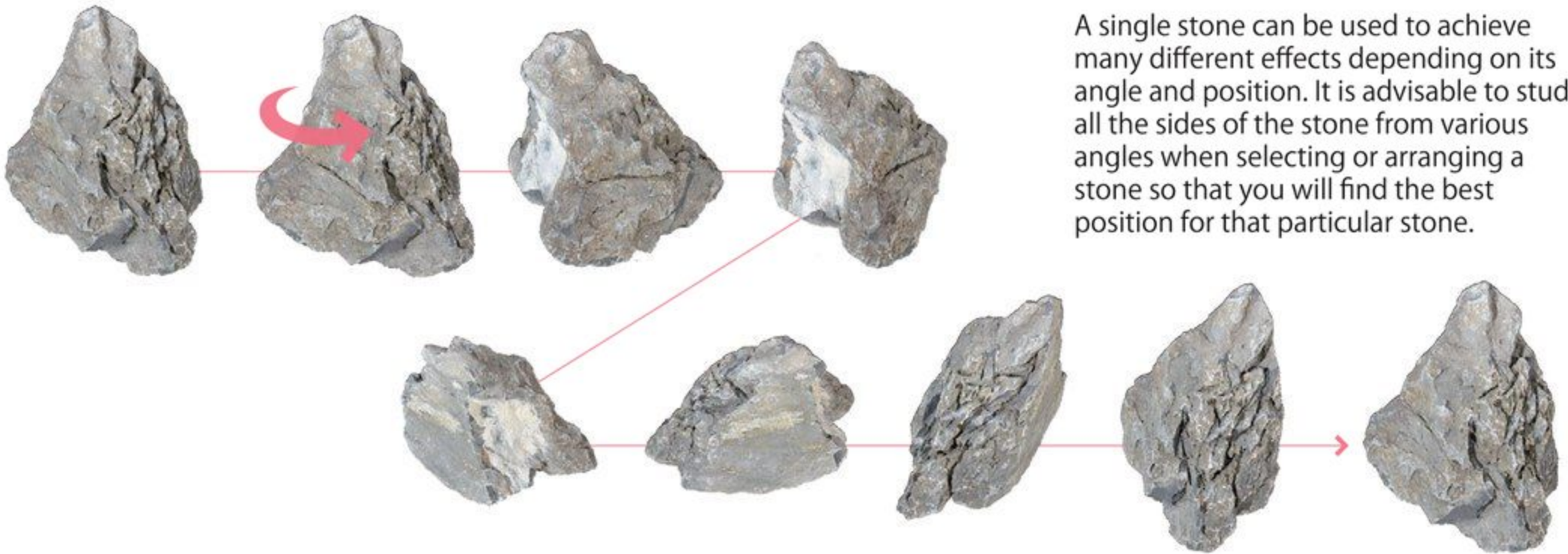
As we know, not all the layout materials sold in the aquatic market have a good shape or usability factor. However, even imperfect materials can become valuable ones depending on how you look at them and what innovations you use.

### Stability and dynamism of stone



A stone standing upright gives a harsh impression and does not look very appealing. On the other hand, a stone lying flat is stable but lacks dynamic elements. This means tilting the stone to an unstable position creates a tension and dynamism in the layout. The tilted stone also expresses the water flow.

### Looking at all the sides of stone



A single stone can be used to achieve many different effects depending on its angle and position. It is advisable to study all the sides of the stone from various angles when selecting or arranging a stone so that you will find the best position for that particular stone.

### Combining Unzan stone with Wabi-Kusa



Pour Aqua Soil into the pockets on an Unzan stone. It is convenient to use a tool such as a spade.



Put your favorite Wabi-Kusa (Ø5) into the pocket with Aqua Soil.



This is an example in which Wabi-Kusa Hygrophila pinnatifida is used. This epiphytic plant goes well with Unzan stone.

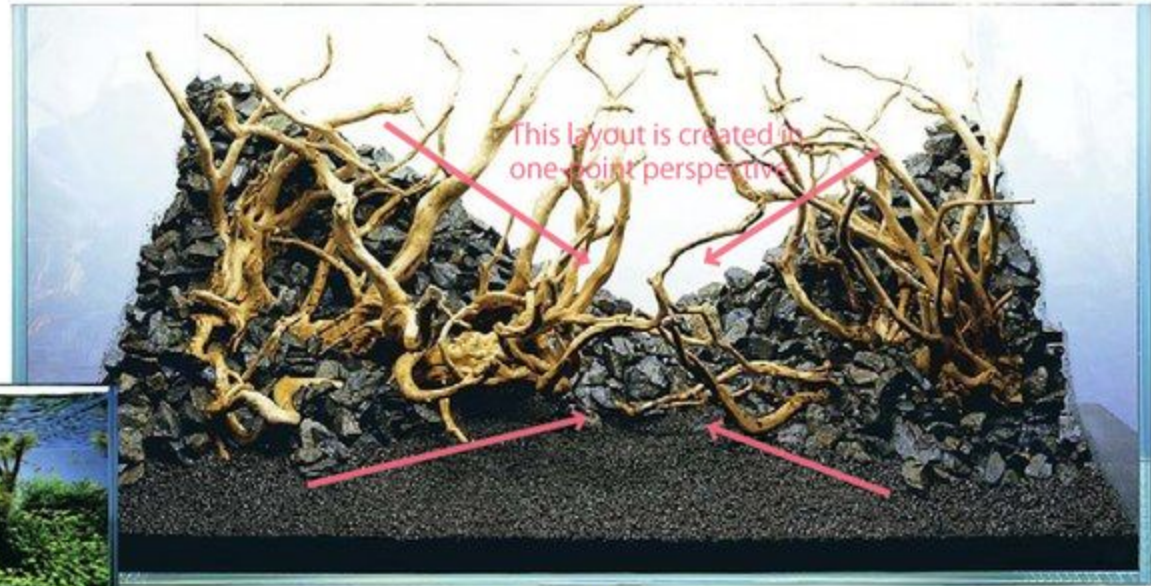
or



This is an example in which Wabi-Kusa Eleocharis parvula is used. The runner will eventually drape over the stone.

# Driftwood is Nothing but a Framework of the Layout. Arrange Driftwood Focusing on the Angle and Flow of the Branches

**Suppressing buoyancy of Branch Wood by random stacking of Yamaya stone**  
This composition framework uses Yamaya stone suitable for random stacking in order to suppress buoyancy which is a drawback of Branch Wood. This style of layout brings out the excellent features of both Branch Wood and Yamaya stone.



■ Branch Wood + Yamaya stone / W90 x 45 x H45 (cm)



■ Horn Wood / W180 x D60 x H60 (cm)

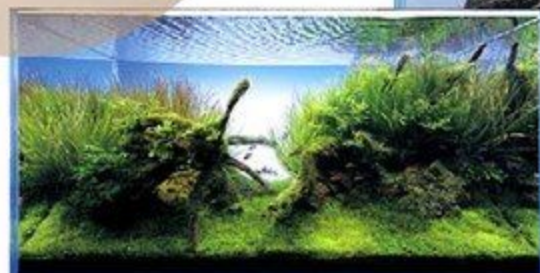
**Concave composition with the center arch serving as the focal point**  
A concave composition is formed by the branches of Horn Wood. In the center of the layout, an arch of driftwood is created instead of providing an open space, making this composition framework very distinctive.



**Making a combination of multiple pieces of driftwood look like a single piece of wood**  
The Horn Wood on the right side looks as if it is a single piece of driftwood. If you look closely at the point indicated by the arrow, you will know that two pieces of wood are joined with Wood Tight.



■ Horn Wood + Manten stone / W120 x D45 x H60 (cm)





Pay attention to the angle and orientation of each branch when arranging driftwood. No matter which composition you choose from three basic compositions: namely triangular, concave and convex compositions, you need to arrange the driftwood in such manner that the driftwood sits stably.

**Feeling the drama that the driftwood went through**  
 If you get driftwood with a fascinating shape, it is a great idea to think of a layout that highlights the presence of the wood. Such a layout will surely make the person who sees it feel the drama the driftwood has experienced in the past.



■ Horn Wood + Ryuoh stone / W90 x D45 x H45 (cm)



Focus should be placed on the tip and curve of the branches.

**Branch Wood layout recommended for beginners**  
 With its multi-branching feature, Branch Wood does not require a complicated arrangement. Just placing two pieces of Branch Wood in the aquarium creates a great composition framework.



■ Branch Wood / W60 x D30 x H36 (cm)

**Combination of flat stones and driftwood**  
 Horn Wood having a wild atmosphere is the most suitable for a layout focusing on natural ambience. In this layout, several flat stones were used for an expression to the finest detail.



A concave composition at the right-to-left ratio of 2:3 provides stability to the layout.



■ Horn Wood + Yamaya stone / W180 x D60 x H60 (cm)

# A Challenge for Takashi Amano

## An attempt by the NA Seminar Participants

Amano's challenge of layout making using unattractive driftwood has begun with a request from seminar participants gathered at ADA's President's Office. They asked Amano to create a layout using unappealing driftwood which usually remains unsold.

### Requests made to Takashi Amano

- To use unappealing driftwood which usually remains unsold
- To use driftwood having a cut section
- Unattractive driftwood to be used are to be chosen by the seminar participants
- To use Kei stone together with driftwood

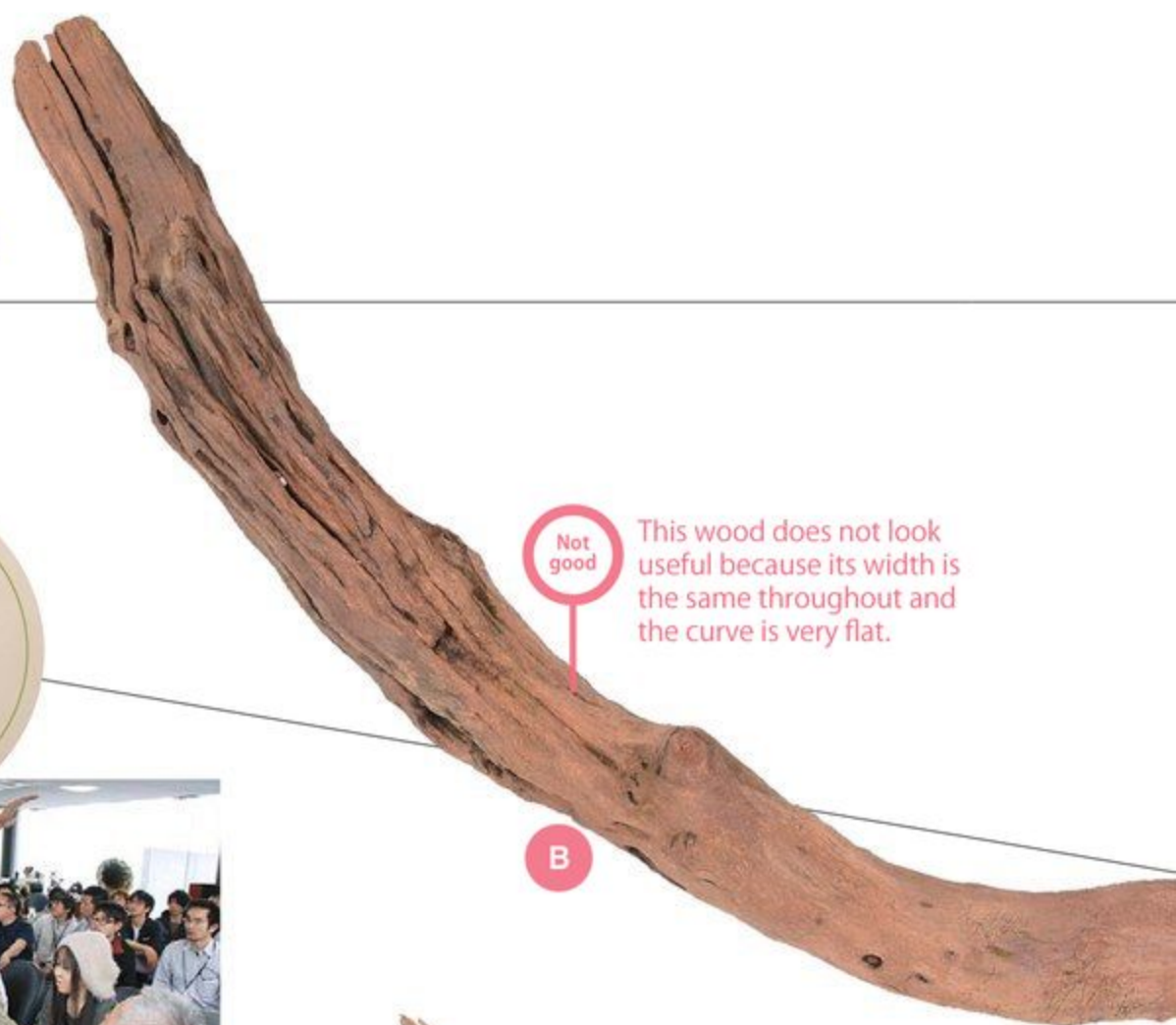
Les Miserables:  
Six pieces of awfully unappealing driftwood



Amano asking the participants if he really needs to use such unshapely driftwood pieces.



Firstly the participants were asked if they had any requests.



Not good  
This wood does not look useful because its width is the same throughout and the curve is very flat.



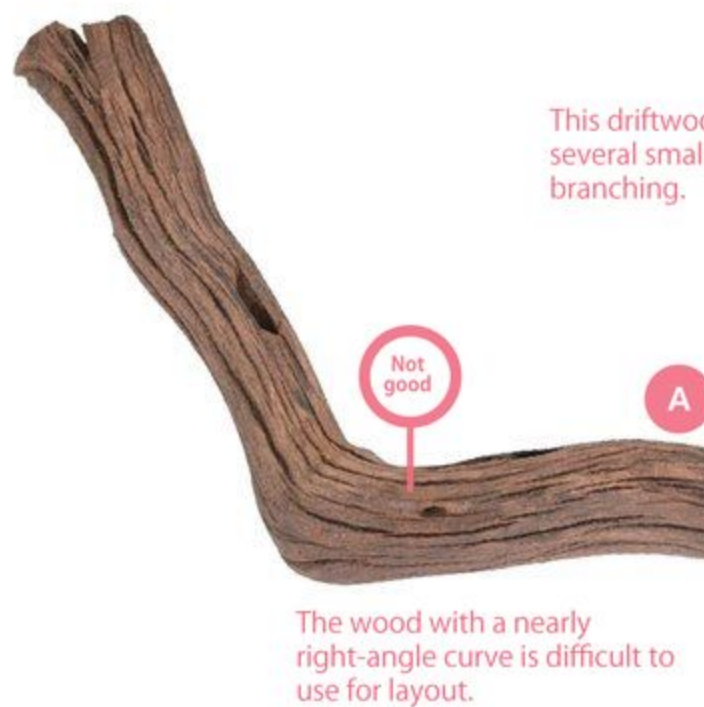
Not good  
This piece of wood broken by Amano tells us how the shape of the wood was unattractive.



Not good  
This wood has a very flat shape with no branching. The surface is very rough.



Not good  
This driftwood is split into several small pieces instead of branching.



Not good  
The wood with a nearly right-angle curve is difficult to use for layout.



Not good  
Straight rod-like driftwood with a large cut section is totally unsuitable to be used as a layout material.

Do you think it is impossible to make a good layout without driftwood having a wonderful shape? Here we introduce how Takashi Amano effectively used some unattractive driftwood during the "MEDAKA NO GAKKOU" NA Layout Seminar.



After receiving the terribly unshapely driftwood, Amano was lost in thought for a moment. Did he get a great idea, or something else?

Amano suddenly broke the rod-like driftwood that had been handed by a woman at the right end of the front row (Ms. Maema). The seminar participants were shocked by this action of Amano.



Even the rod-like driftwood becomes a curved one by breaking it and joining the broken pieces with Wood Tight. Then, Kei stones were placed to support the driftwood securely.



The joint of driftwood secured with Wood Tight is concealed by attaching willow moss around it. This also brings a natural feel to the layout.



Immediately after planting

**I thought, "Is it really possible to make a layout with such a terrible driftwood?"**

During the MEDAKA NO GAKKOU seminar held in the President's Office of the ADA Head Office, we, the seminar participants, requested Mr. Amano to make a layout with unshapely driftwood so that we can get some helpful tips on how to do the layout using driftwood which remained unsold. Since I was sitting at the position closest to Mr. Amano, I could clearly see the Horn Wood chosen by another seminar participant and handed to Mr. Amano. It was a slightly-curved Horn Wood and to a mean person like me, the wood was not up to par to meet the concept of "using unshapely driftwood only". So I couldn't help handing Mr. Amano another piece of driftwood which was very straight, saying, "President Amano, please use this drift-

wood instead of that wood." Despite my tough request, Mr. Amano skillfully proceeded with a great layout by breaking the bad-looking wood, joining the broken pieces and attaching willow moss to the joint. How great he was! Although I could not speak out loud at the venue, I was silently uttering "That's Great" in my mind. I was really amazed to see the completed aquascape and could not believe that it had been made using unattractive driftwood only. In fact, I tried to make a layout using my unsold driftwood stock right after the seminar. The wood I used was, of course, a very straight rod-like driftwood; but, to tell the truth, I also used curved driftwood together. I learned a lot from the seminar!



**Clear Tone Aqua**  
Ms. Hideko Maema  
(Ota-shi, Gunma, Japan)



### Layout using a Combination of Horn Wood and Kei Stone Created in a 90cm Tank

A combination of several pieces of driftwood including Horn Wood is suitable to serve as the composition framework. In this regard, the most important thing is to arrange the wood at a higher position, since the layout looks flat if all the driftwood pieces are placed at a low position. It is fundamental to use stones to hold the driftwood in the position. In this layout, Kei stone is used to support the driftwood. Ferns, moss and Anubias are attached to the driftwood to produce natural feel in the aquascape.



## DATA

Tank	/ Cube Garden W90×D45×H45 (cm)	Air	/ Aeration with Lily Pipe P-4 for 14 hours when lighting is OFF at night	<i>Bolbitis heudelotii</i>
Lighting system	/ Grand Solar I (NAG-150W-Green / NA Lamp 36W Twin ×2) Lighting for 10 hours a day	Additives	/ Brighty K & Green Brighty STEP 2	<i>Anubias barteri var. nana "Petit"</i>
Filtration system	/ Super Jet Filter ES-600 (Bio Rio, NA Carbon)	Water change	/ 1/3 water change once a week	<i>Riccia fluitans</i>
Substrate system	/ Aqua Soil - Amazonia, Power Sand Special M, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC	Water quality	/ Water temperature: 25°C; pH: 6.8; TH: 20mg/ℓ	<i>Microsorium sp.</i>
CO <sub>2</sub> system	/ Pollen Glass Large 300 - 3 bubbles per second with CO <sub>2</sub> , Beetle Counter	Aquatic plants	/ <i>Hemianthus callitrichoides</i> "Cuba" <i>Lilaeopsis novae-zelandiae</i> <i>Cryptocoryne petchii</i> <i>Cryptocoryne wendtii</i> (Green) <i>Cryptocoryne wendtii</i> (Brown)	<i>Eleocharis vivipara</i>
				<i>Fontinalis antipyretica</i>
				Fish species / <i>Oryzias woworae</i> <i>Otocinclus sp.</i> <i>Caridina japonica</i>



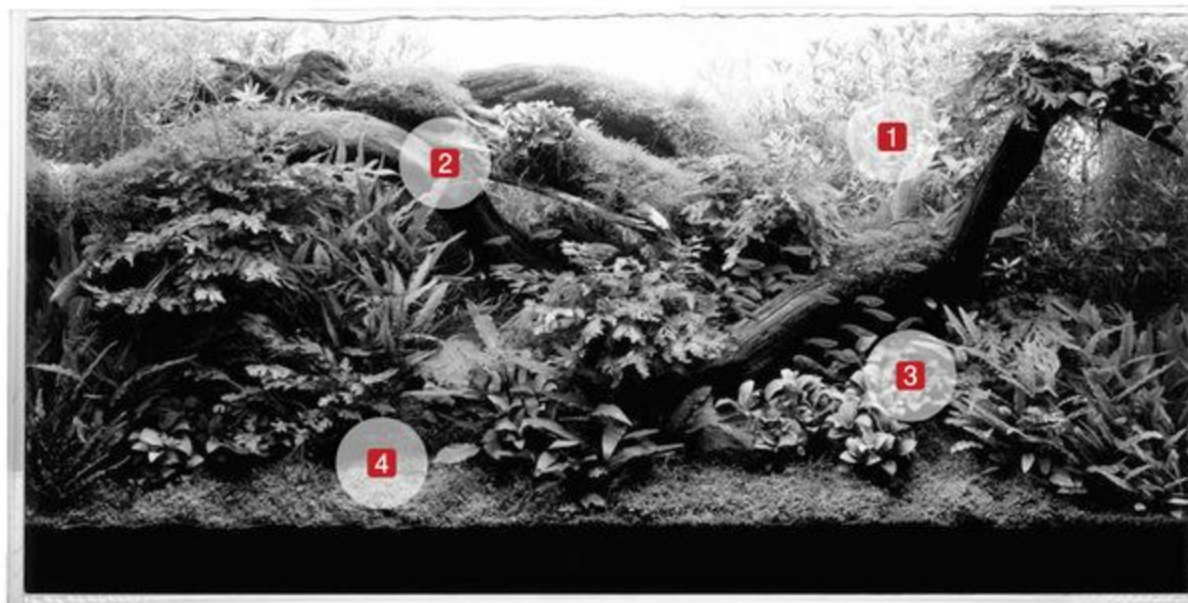
## Make the Most of Great Features of Driftwood and Stone by Way of Natural Planting

It's up to how the aquatic plants are planted to bring out the great features of layout materials. The impression of driftwood and stone greatly differs depending on the balance between the exposed surface of these materials and the portions concealed by aquatic plants.

- 1** Colorful stem plants are planted on both sides of the background. Although these plants occupy only small visible areas, they are an important element that enhances the attractiveness of the layout.



- 2** Ferns, moss and Anubias are attached to the driftwood to conceal the wood surface to an adequate level. The point is not to conceal the entire surface.



- 3** Cryptocoryne and Anubias are planted around the stones supporting the driftwood. The use of shade-loving plants adds firmness to the mid-ground.



- 4** Wabi-Kusa Hemianthus callitrichoides "Cuba" having narrow leaves is planted in the foreground. This short plant blends well in the layout.

#### DATA

Tank	/ Cube Garden W90×D45×H60 (cm)
Lighting system	/ Solar I (NAG-150W-Green) × 2 units Lighting for 10 hours a day
Filtration system	/ Super Jet Filter ES-1200 (Bio Rio, NA Carbon)
Substrate system	/ Aqua Soil - Amazonia, Mekong Sand Powder, Power Sand Special L, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC
CO <sub>2</sub> system	/ Pollen Glass Large 300 - 3 bubbles per second with CO <sub>2</sub> Beetle Counter
Air	/ Aeration with Lily Pipe P-4 for 14 hours when lighting is OFF at night
Additives	/ Brighty K & Green Brighty STEP 2
Water change	/ 1/3 water change once a week
Water quality	/ Water temperature: 25°C; pH: 6.8; TH: 20mg/ℓ
Aquatic plants	/ <i>Microsorium</i> sp. (Trident)
Fish species	/ <i>Telmatherina ladigesii</i> <i>Crossocheilus siamensis</i> <i>Otocinclus</i> sp. <i>Caridina japonica</i>

#### Layout Providing a Bright Impression by the Combination of Cosmetic Sand and Wabi-Kusa

This layout consists of bright cosmetic sand in the foreground as well as the composition framework created by the combination of Branch Wood and Unzan stone. In the background, Wabi-Kusa Stem Plant Mix was placed on the substrate built with Aqua Soil-Amazonia. The combination of cosmetic sand and stem plants brings a bright atmosphere to the layout. For this type of layout, the overall impression will be firmed up by planting ferns in the mid-ground.









## Selecting Cosmetic Sand Based on the Image of Your Desired Layout



It is advisable to select cosmetic sand from a wide range of lineups based on the image of the layout you wish to create. You may blend cosmetic sands in different colors for fine color adjustment.



#### **NILE SAND**

Featuring fresh, cool light color, this cosmetic sand gives a bright, refreshing look to the layout.

#### **SARAWAK SAND**

This cosmetic sand having a natural warm color perfectly matches the layout filled with great natural ambience.



#### **MEKONG SAND POWDER**

Mekong sand is cosmetic sand in a relatively bright natural color. It is suitable to express the landscape of a natural river bed and river bank.

#### **LA PLATA SAND**

The white color of this cosmetic sand stands out in water. Using La Plata sand in the foreground prevents heavily-planted layout from looking excessively somber.



#### **COLORADO SAND**

This cosmetic sand featuring vivid reddish color that cannot be found in other sand helps the foreground look dynamic.



Wabi-Kusa Stem Plant Mix and Wabi-Kusa Karen are placed on the substrate divided into sections by Unzan stones. Dense planting of stem plants is made easy with Wabi-Kusa.



Wabi-Kusa Stem Plant MIX



Wabi-Kusa Karen

# Layout Techniques Making the Most of the Advantages of Each Layout Material

It is important to make a stable composition framework taking long-term maintenance into consideration. For this layout, a classic triangular composition was made using Unzan stones and Branch Wood.

Stable composition is important for the convenience of maintenance



Mekong Sand Powder, a type of cosmetic sand, is spread in the foreground. Be careful not to make the cosmetic sand layer excessively thick.

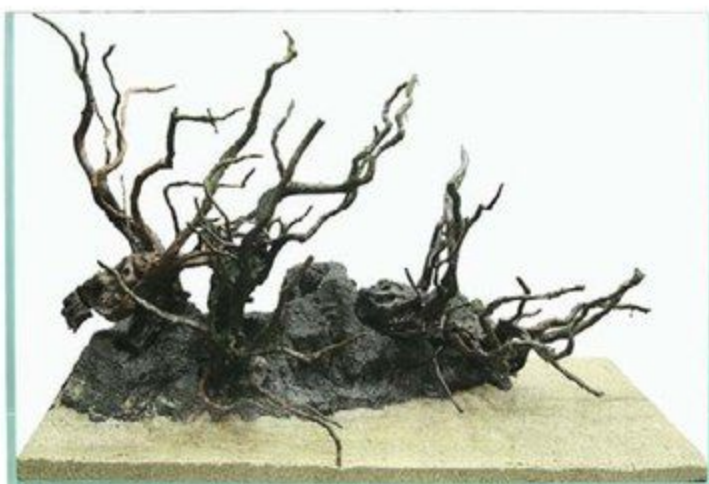
The tool Amano used to plant the *Microsorium* was the phantom (!?) Pro Pinsettes G. This item is ideal for this purpose.

Branch Wood is arranged above the Unzan stones which serve as a soil divider. The wood is positioned while seeking the optimal branch angle and balance.



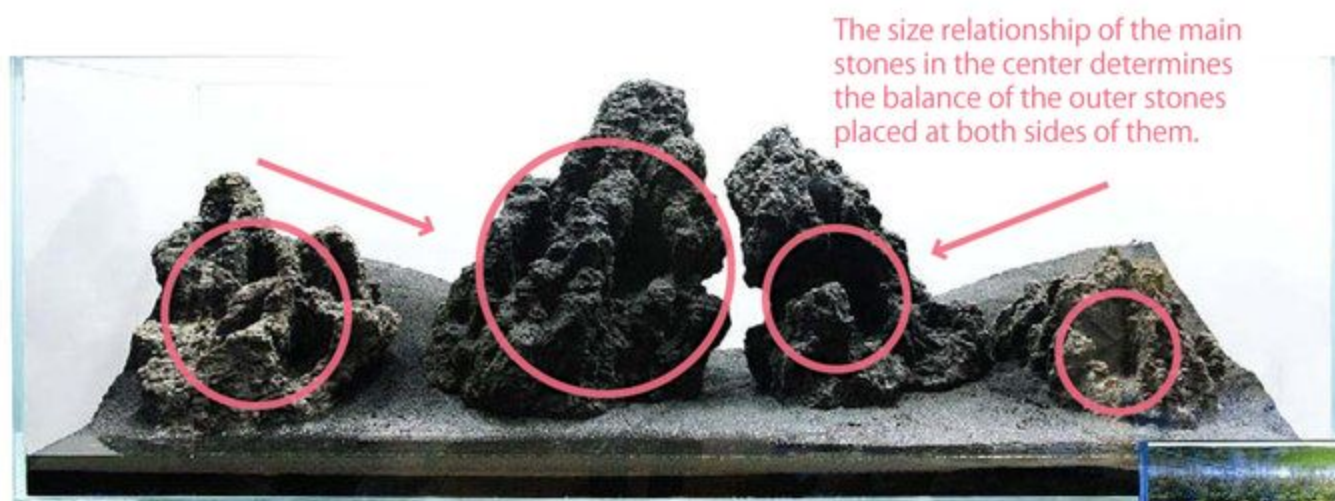
Willow moss was attached to the Branch Wood by the seminar participants. The cut sections of the Branch Wood were also concealed with willow moss.

Immediately after planting



This layout using cosmetic sand is easy to maintain thanks to the effective soil separation using Unzan stones instead of pebbles as well as its stable triangular composition.

# The Key to Fine Stone Arrangement is Balance and Sense. Precisely Identify the Individual Features of Stones.



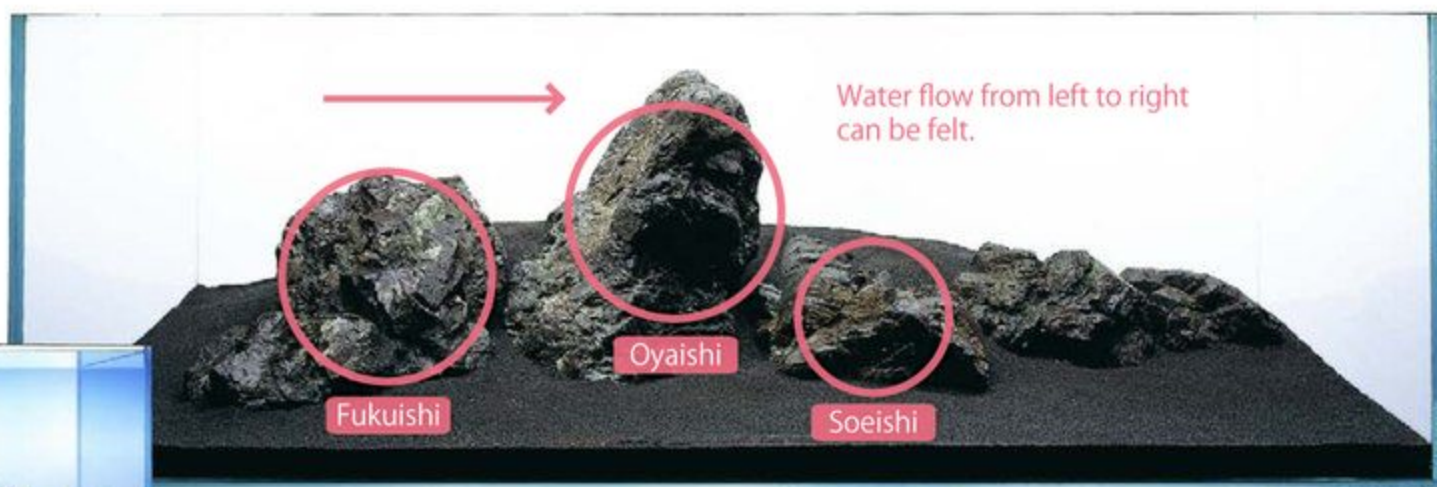
The size relationship of the main stones in the center determines the balance of the outer stones placed at both sides of them.

**The Dynamics of Two Main Stones Determines the Balance of the Outer Stones**  
The left one of the two main stones arranged in the center is slightly larger than the right one. The two stones on the outer side are arranged in response to the balance of the sizes of the center stones.

■ Unzan stone / W180 x D60 x H60 (cm)



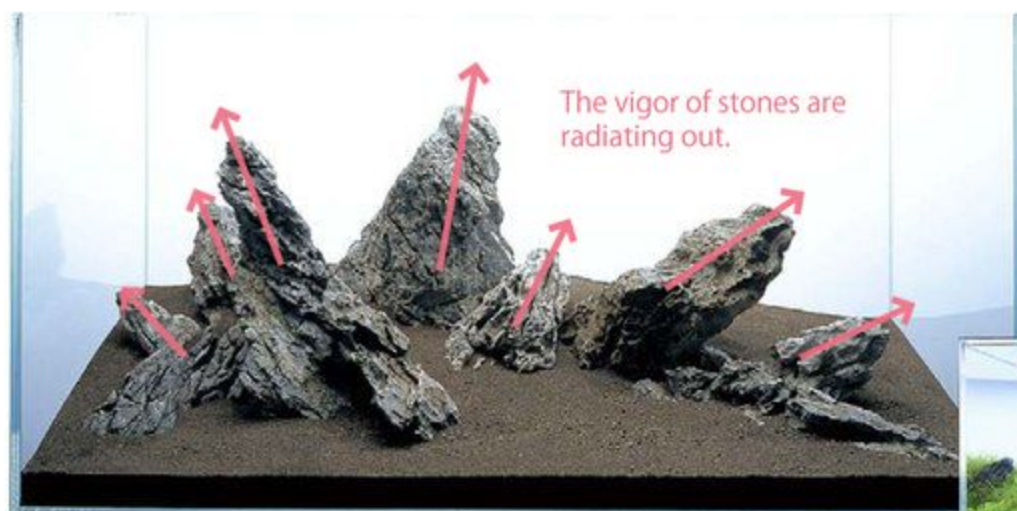
**Sanzon Iwagumi Evoking the Feel of Flowing Water**  
This composition framework In Iwagumi for Nature Aquarium, the stones are arranged with an eye on the flow of water. The tilted main stone makes us feel the water flow. This layout uses the very basic pattern of Sanzon Iwagumi.



Water flow from left to right can be felt.



■ Manten stone / W180 x D60 x H60 (cm)



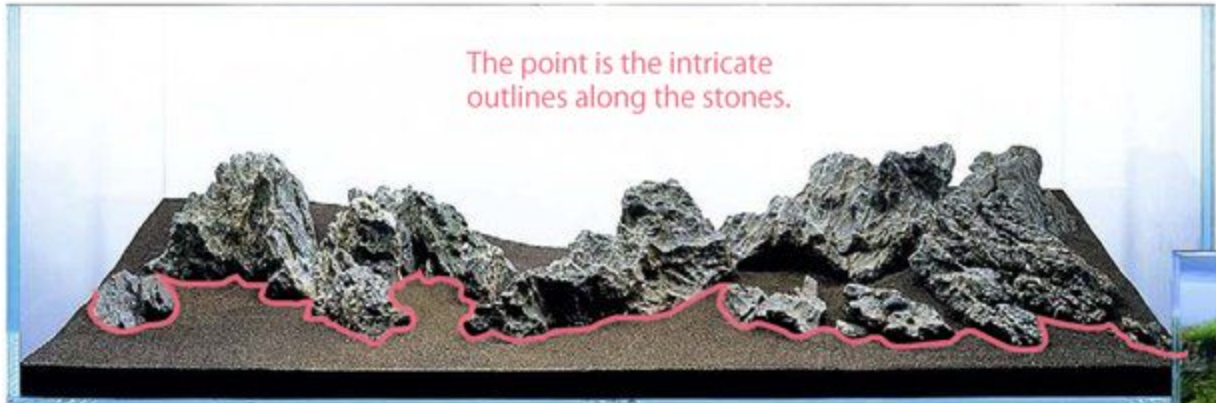
The vigor of stones are radiating out.

**Stone Arrangement Featuring Ryuoh Stone to Express the Radiating Vigor of the Stones**  
Some Ryuoh stones have an isosceles triangle-like shape with pointed edge. The stone arrangement featuring this shape evokes the vigor of stones.

■ Ryuoh stone / W90 x D45 x H45 (cm)



Unlike driftwood layout, the arranged stones are the subject of appreciation in Iwagumi layout. This means the stones have a significant role in this type of layout. Think out the best stone arrangement according to the size and shape of the stones.



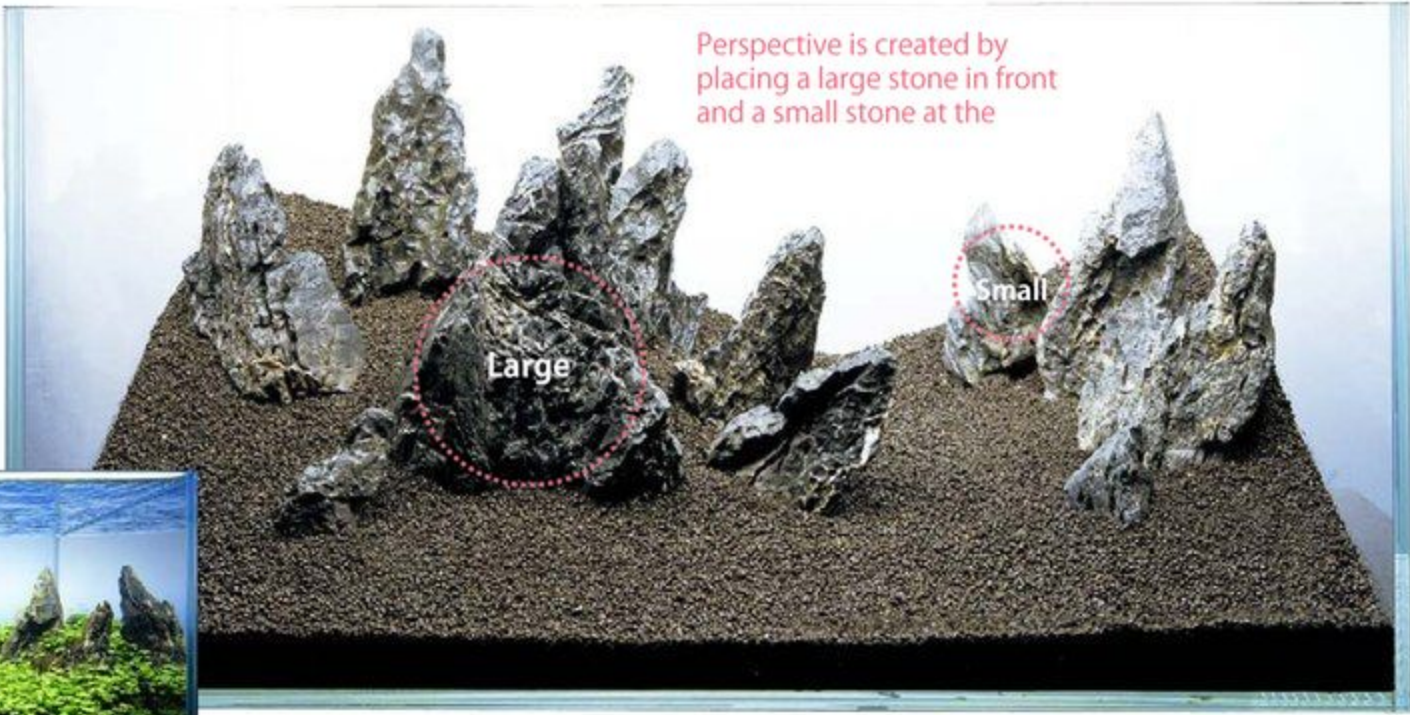
The point is the intricate outlines along the stones.

■ Ryuo stone / W180 x D60 x H60 (cm)

**Arrangement of Ryuo Stone Reminiscent of Rock Reef**  
Some stones are more suitable to lay flat depending on their shapes. The stones should be arranged to have a seamless flow with an image of a monolith having its base under the substrate.



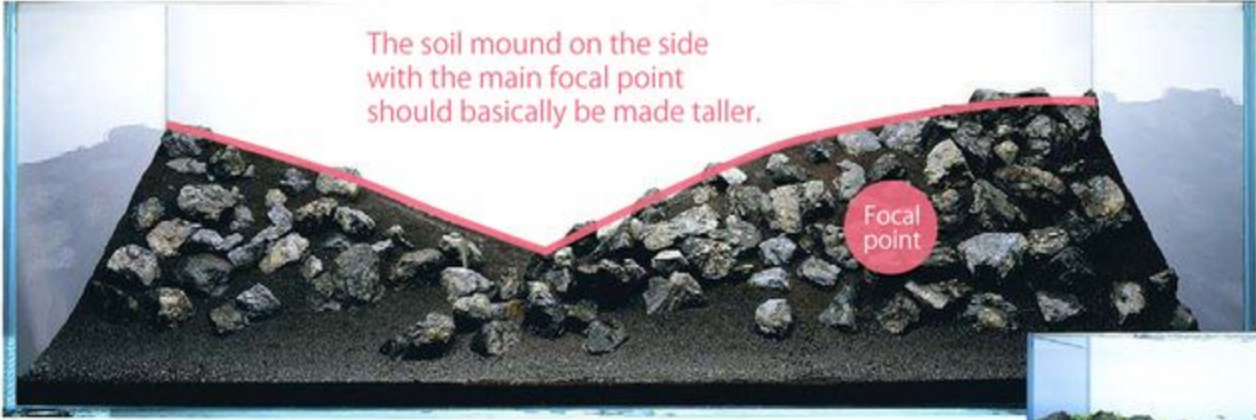
**Expressing perspective by different sizes of stones**  
The largest stone is placed at the main focal point on the front side while the small stone is placed at the very back. This arrangement provides perspective to the layout.



Perspective is created by placing a large stone in front and a small stone at the



■ Ryuo stone / W90 x D45 x H45 (cm)



The soil mound on the side with the main focal point should basically be made taller.

Focal point

■ Yamaya stone / W180 x D60 x H60 (cm)

**Layout with Random Stacking of Small Angular Stones**  
Yamaya stone smaller than the size of our fist is suitable for random stacking rather than for stone arrangement. This is a unique method of using Yamaya stone which is easily available in the market.



## Layout using Unzan Stone and Wabi-Kusa Created in a 180cm Tank

In addition to its natural volcanic-rock shape, Unzan stone is available in various sizes, allowing you to easily choose the ones in the size suitable for your aquarium. This stone also has pockets for the placement of Wabi-Kusa, which help you make diverse expressions. This layout using Unzan stone has been created through Sozo Haishoku where only aquatic plants were replaced while the stones were maintained. This process provided the layout with a brand-new impression by combining with Wabi-Kusa *Hygrophila pinnatifida*.



### DATA

Tank	/ Cube Garden W180×D60×H60 (cm)	CO <sub>2</sub> system	/ Pollen Glass Beetle 50Ø - 6 bubbles per second with CO <sub>2</sub> Beetle Counter	Aquatic plants	/ <i>Hygrophila pinnatifida</i> <i>Eleocharis vivipara</i> <i>Lilaeopsis brasiliensis</i> <i>Riccia fluitans</i> <i>Glossostigma elatinooides</i>
Lighting system	/ Grand Solar I (NAG-150W-Green / NA Lamp 36W Twin ×2) ×3 units Lighting for 10 hours a day	Air	/ Aeration with Lily Pipe P-6 for 14 hours when lighting is OFF at night	Fish species	/ <i>Nematobrycon palmeri</i> <i>Otocinclus</i> sp. <i>Caridina japonica</i>
Filtration system	/ Super Jet Filter ES-2400 (Bio Rio, NA Carbon)	Additives	/ Brighty K & Green Brighty STEP 2		
Substrate system	/ Aqua Soil - Amazonia, Power Sand Special L, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC	Water change	/ 1/3 water change once a week		
		Water quality	/ Water temperature: 25°C; pH: 6.8; TH: 20mg/ℓ		









## The Basic of Layout is to Make the Best Use of Great Features of Layout Materials

Each layout material has its unique features. A good example for this is Unzan stone's uneven surface and pocket for placing Wabi-Kusa. One of the basic aims of composing a layout is to make the best use of these features.

# In Iwagumi Layout, Sozo Haishoku Can be Enjoyed with Good Stone Arrangement

Unzan stone

Planting in the previous layout



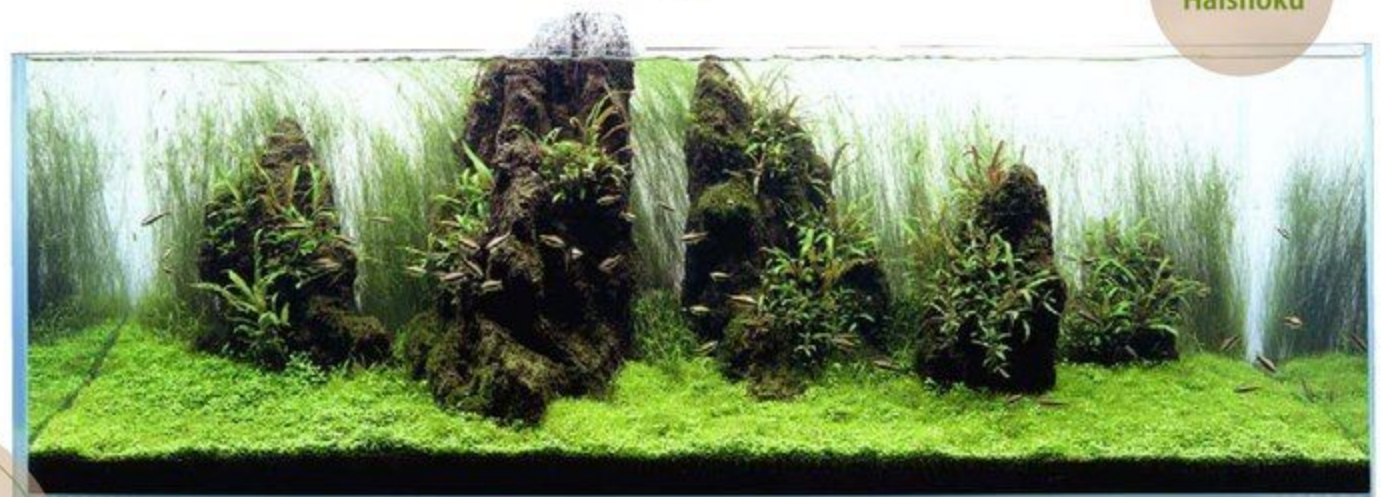
This layout depicts a group of stones standing on the field of *Eleocharis acicularis*. Its simple composition brings out the fineness of the stone arrangement.



Created following the basics of Iwagumi in terms of the position of the main stone, the size of each stone and the number of stones, this layout features the superb balance of arranged stones.



Sozo Haishoku



The significance of stone varies depending on aquatic plants

The impression of the stones was softened by *Eleocharis vivipara* and *Hygrophila pinnatifida*. Now the wonderful combination of stone and green can be naturally enjoyed.

For Unzan stones that have a good shape, it is important to place them in a good balance rather than to arrange them. Using the Sozo Haishoku method, you can enjoy a layout having a different image just by replacing the Wabi-Kusa placed in the pockets on the stones.

### A collaboration with Wabi-Kusa Australian dwarf hydrocotyle



Australian dwarf hydrocotyle twining around the Unzan stones adds a natural ambience to the layout.

Australian dwarf hydrocotyle in yellowish green color softens the somber black color of Unzan stone.

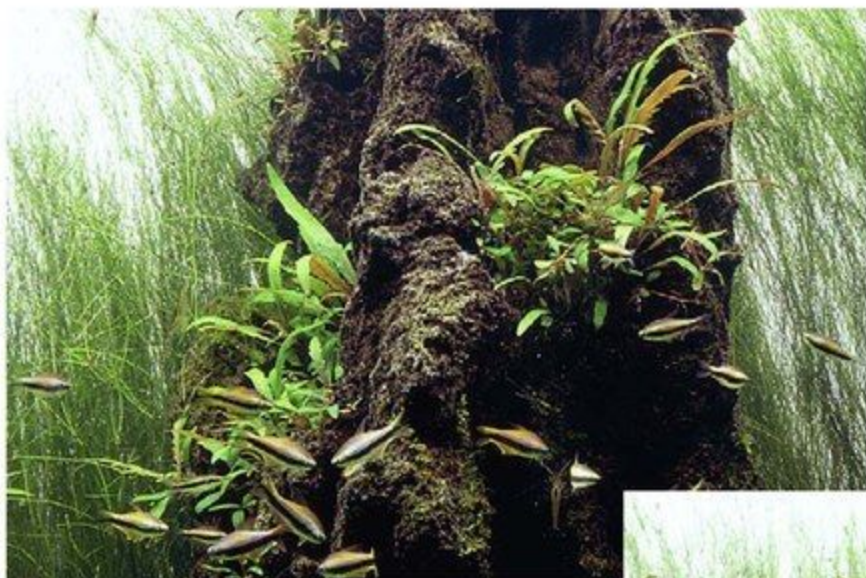


Australian dwarf hydrocotyle grows fast and propagates vigorously. However, its stem wilts quite fast and if the green stem turns reddish purple, the development of new leaves will slow down.



Wabi-Kusa Australian dwarf hydrocotyle

### Collaboration with Wabi-Kusa Hygrophila pinnatifida



Aquatic plants can easily be attached to Unzan stone thanks to its very rough surface. Hygrophila pinnatifida also matches this stone very well.

Epiphytic Hygrophila pinnatifida should adequately be thinned out because this plant will gradually cover the stone over time.



Hygrophila pinnatifida having epiphytic roots will develop large leaves once the roots start spreading. It is advised to trim off the excessively large leaves which may lead to layout imbalance for neater appearance of the aquascape.



Wabi-Kusa Hygrophila pinnatifida



### Layout Created in a 180cm Tank using Wabi-Kusa for Variation in Foreground Plants

An Iwagumi layout using Ryuoh stone evokes the image of an ocean rock reef or mountains in the distance. This image will be significantly different depending on what aquatic plants are combined with the stones. This layout expressed in a 180cm tank has been created through a renewal of aquatic plants under Sozo Haishoku. In this layout, the foreground plants consist of a combination of several types of plants, the majority of which is Wabi-Kusa type, to bring out the attraction of the wide and expansive stone arrangement. The use of vigorously-growing plants in the foreground brings a natural feel to the layout.



#### DATA

Tank	/ Cube Garden W180×D60×H60 (cm)	Air	/ Aeration with Lily Pipe P-6 for 14 hours when lighting is OFF at night	Fish species	/ <i>Paracheirodon axelrodi</i> <i>Crossocheilus siamensis</i> <i>Otocinclus</i> sp. <i>Caridina japonica</i>
Lighting system	/ Grand Solar I (NAG-150W-Green / NA Lamp 36W Twin ×2) ×3 units Lighting for 10 hours a day	Additives	/ Brighty K & Green Brighty STEP 2		
Filtration system	/ Super Jet Filter ES-2400 (Bio Rio, NA Carbon)	Water change	/ 1/3 water change once a week		
Substrate system	/ Aqua Soil - Amazonia, Power Sand Special L, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC	Water quality	/ Water temperature: 25°C; pH: 6.8; TH: 20mg/ℓ		
CO <sub>2</sub> system	/ Pollen Glass Beetle 500 - 6 bubbles per second with CO <sub>2</sub> Beetle Counter	Aquatic plants	/ <i>Utricularia Graminifolia</i> <i>Hemianthus callitrichoides</i> "Cuba" <i>Eleocharis acicularis</i> <i>Glossostigma elatinoides</i> <i>Riccia fluitans</i>		





## Effective Use of Multiple Types of Foreground Plants to Bring out the Best of Ryuoh Stone Arrangement

A makeover by way of Sozo Haishoku was given to this Iwagumi layout to bring out the best of the stone arrangement using Ryuoh stones. Both Wabi-Kusa and non-Wabi-Kusa foreground plants are effectively used for each location.



**1** *Utricularia reticulata* and *Eleocharis acicularis* were planted in the background of the layout. For *Utricularia reticulata*, the Wabi-Kusa type was used.

**2** *Glossostigma* and *Riccia* were planted in the foreground. *Glossostigma* was planted with Pinsettes so that it would not become excessively thick.



**3** Wabi-Kusa *Hemianthus callitrichoides* "Cuba" was planted in the mid-ground. It perfectly blends with *Glossostigma* which has spread its runners.

**4** Wabi-Kusa *Utricularia reticulata* was planted on the steep mound slope where planting is difficult. Wabi-Kusa helps prevent the mounded soil from sliding down.



# In Iwagumi Layout, Sozo Haishoku Can be Enjoyed with Good Stone Arrangement

Ryuoh stone

The Sozo Haishoku process begins with removal of existing aquatic plants. The *Hemianthus callitrichoides* "Cuba" used for this layout can be removed easily as it is Wabi-Kusa type.

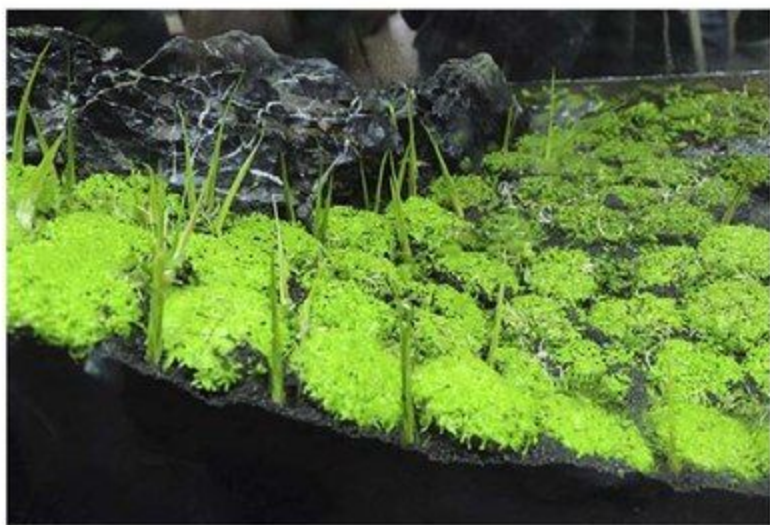


Even the area between the stones where it is impossible to lay down a thick layer of Aqua Soil, the layout can easily be done just by placing Wabi-Kusa.



The water has completely been drained. Taking this opportunity, the surface of Ryuoh stone was scrubbed and cleaned. For Aqua Soil, just the top layer was removed and replaced with new soil.

Sozo Haishoku Can be Enjoyed with the Same Iwagumi



Aqua Soil Powder type was poured in and the *Eleocharis acicularis* was planted between the patches of Wabi-Kusa *Utricularia reticulata* placed on the slopes of the aqua soil.



This layout was made during the NA Seminar with time constraints. For this reason, many Wabi-Kusas were used to speed up the layout production.

Ryuoh stone showing many different looks is the most suitable material for an authentic Iwagumi layout. If you have made a satisfactory stone arrangement, you can enjoy the Iwagumi for a long time just by replacing the aquatic plants.



Planting in the previous layout



Wabi-Kusa Hemianthus micranthemoides

This is a layout where Pearl grass was used as the main plant. Taking the characteristic of Ryuoh stone into account, Pearl grass that prefers relatively hard water was selected. Its neatly trimmed bushes are beautiful.



The essence of this attractive Iwagumi layout is skillful soil mound rather than outstanding stone arrangement technique. A wide aquascape view can be appreciated in this layout.



Sozo Haishoku



Wabi-Kusa Utricularia reticulata



This Iwagumi layout covered by short Utricularia reticulata and Glossostigma provides a wider image.

# Great for Beginners!

## Useful Notes on Layout Materials

### 01

**Branch Wood will show its natural color while being used in a layout.**

Branch Wood has a bright yellow color. However, this color is observed only when the wood is very new. It will eventually turn natural light brown as it is used in the layout. New Branch Wood is almost unseasoned and prone to fungal growth; but once the Branch Wood has turned light brown in the layout, it will no longer have the fungus problem. Buoyancy of Branch Wood differs depending on the dry condition of the wood. The wood would most probably float if it has been kept out of water.



### 02

**Be careful of excessive scrubbing of Ryuoh stone during cleaning.**

Due to the perception that calcium carbonate relates to white color, it is often thought the rise in total hardness of water is caused by the white lines of Ryuoh stone. Nevertheless, the white portion of the stone is not much different from other bluish black portion of the stone in terms of the effect on water hardness. Rather, the dust that occurred as a result of abrasion of Ryuoh stone is a great contributing factor to a higher total hardness of water. This dust is generated in the course of scrubbing the Ryuoh stone during stone cleaning. Accordingly, minimizing the scrubbing of the surface of Ryuoh stone helps restrain the rise in total hardness of water. When the surface of Ryuoh stone is scrubbed, it is advised to subsequently change the tank water to remove the cloudy water caused by the stone dust.



### 03

**The stone looks whitish when on sale.**

Have you had an experience where you found the layout materials sold in a shop to look different from the pictures you have seen in Aqua Journal? Stones usually look more whitish when they are in a dry state compared to the color that can be seen when they are underwater. This tendency is particularly prominent in Kei stone and Ryuoh stone, but these stones will turn their original colors when they are used in a layout. If you are concerned about what color the stone on sale will have in the layout, it is a good idea to request (of course, with an intention to purchase it) the shop staff to wet the stone to confirm its color.



Lastly, the notes on layout materials are featured on this page. The information covers every stage of hardscape layout, from purchase to actual use of the layout materials so that you will be able to use them effectively and create a wonderful aquascape.

## 04

### Grab layout materials having attractive shapes when you find them.

When it comes to driftwood and stones which are natural layout materials, it is apparent that no two are ever the same. It is therefore advisable to purchase your favorite shape of layout materials when you discover them. The chance to come across your desired item will be greater if you visit a shop dealing with a wide range of materials. It is also important to keep good communication with the shop staff so you will receive useful information such as when good layout material is coming in.

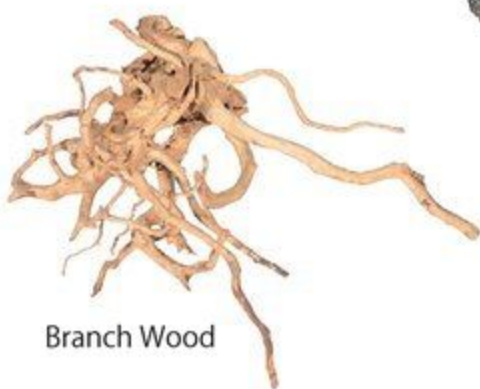


Horn Wood

## 05

### What are beginner-friendly layout materials?

It can be said that the layout materials naturally having a good shape are beginner-friendly materials because they look great just by placing them in a layout. Some examples of such materials include multi-pronged Branch Wood and mountain-like Unzan stone. These materials also have additional advantages that they do not cause yellow water due to tannins leached out from them and also hardly give any impact on water quality such as rise in water hardness.



Branch Wood

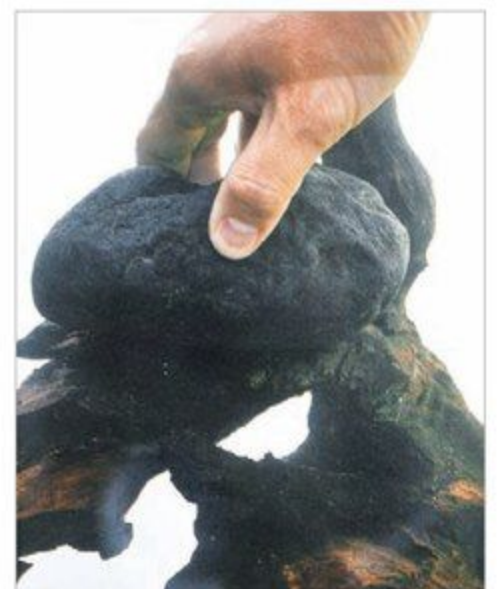


Unzan stone

## 06

### Notes on the first use of the purchased layout materials

The biggest concern about driftwood is buoyancy; and the buoyancy of wood differs depending on the wood species and the extent to which it is dry. Branch Wood has high buoyancy and requires pre-soaking as well as some stones to be placed on it as a weight. By the way, many articles say that boiling driftwood is a good preventive measure against leaching of tannins and other organic acid, the cause of yellow water. This method is, in fact, not recommended since the resin of some types of driftwood may leach out in the boiling process. The water discoloration is mainly due to humic acid which does no harm to living organisms. In view of this fact, it is advisable to use driftwood in a layout without pre-boiling and solve the yellow water problem by frequent water change and the use of NA Carbon. For stones, the concern of a rise in pH levels and water hardness can be offset, to a certain extent, by the use of Aqua Soil-Amazonia. In the event where the total hardness of water rises by more than 100mg/ℓ, a Softener (water softener) should be installed in the tank, otherwise the growth of aquatic plants is likely to slow down.



## Layout Makeover Using the Best Use of Layout Materials

Planted aquarium hobbyists will eventually face the need to do a makeover of their layout. There are two ways to do this: one is a total remake of the layout and the other is Sozo Haishoku using the current arrangement. Even in the case of a total remake of the layout, the existing materials can be used for the new layout. The Nature Aquarium Notes of this issue introduce the points of layout makeover making the best use of layout materials.

### ● Advantages of Repeated Use of Layout Materials

Being natural products, the layout materials used in the Nature Aquarium such as stones and driftwood are all different and each of them has its own unique features. By bringing out these features, you will be able to make your own distinctive layout. If you have found a layout material you like, you can fully bring out what it has by using it repeatedly. This is the first advantage of the repeated use of layout materials. In the event that a particular stone or driftwood has been exhausted in its place of origin or its production area is hit by a disaster, the material may no longer be available. In view of this, every layout material you come across in shops has incomparable values. Considering that natural layout materials are limited, it is meaningful to use them repeatedly through the change of arrangement and combinations. Another advantage of repeated use of layout materials is that the stones and driftwood that have been in use repeatedly for a long time cause less impact on water quality, allowing easier growing of aquatic plants and maintenance of the aquarium tank. For example, Ryuoh stone tends to cause the total hardness and carbonate hardness to rise due to fine dust particles initially observed on the stone as well as calcium carbonate leached out from the stone surface exposed to water. A rise in total hardness and carbonate hardness can lead to smaller leaves, whitening and poor growth of the aquatic plants that are vulnerable to the change in water hardness. Nevertheless, Ryuoh stone will eventually leach less calcium carbonate because of the layer of algae and microorganisms formed on the stone's surface. This means the repeated use of Ryuoh stone in layouts helps mitigate its impact on water quality; and the same applies to Manten stone and Yamaya stone as well. In view of this, the repeated use of these stones, which more or less contain calcium carbonate and

magnesium carbonate, offers the benefit of reducing impact on the tank water. Another example of reduced impact on water is organic matters and coloring substance leaching out of driftwood. Fresh driftwood usually leaches a lot of these substances, but their amount will become less as the wood is being used over time. Horn Wood, a type of driftwood, leaches a large amount of coloring substance when it is just placed in a layout, but the amount of the substance will be gradually reduced through repeated change of tank water. As for Branch Wood which contains a substantial amount of organic matters when it is still new, fungal growth is observed on the wood's surface immediately after it is used in a layout, but this problem will eventually be resolved as the organic matters contained in the wood reduces over a long period of usage. From these facts, it can be said that driftwood that have been repeatedly used causes less problems compared to new ones. On top of this, the epiphytic plants including ferns, moss and Anubias that have been attached to driftwood and stones can be carried forward to the new layout. Doing this allows the hobbyists to save time and effort of reattaching the plants to the layout materials, and also helps the slow-growing ferns grow big over time. The ferns which have grown to a considerable size look splendid and also provide an enhanced natural feel to the layout. As can be seen from the above, the repeated use of layout materials not only has various advantages but it is also a technique to create a more perfect layout.

### ● Notes on Aquarium Makeover

Although the Nature Aquarium can be maintained for a long period of time by the trimming and cutting-and-replanting of aquatic plants, it will eventually reach its life limit for reasons such as deteriorated substrate condition. Particularly when the water flow within the

substrate has been affected as a result of high compaction and broken grains of Aqua Soil or excessive sludge build up, the substrate will not receive adequate oxygen and will become anaerobic. In an anaerobic environment, reduction of nitrate to nitrite and deteriorated water quality caused by decayed organic matters are observed. Such an environment also promotes the growth of algae that prefers anaerobic conditions and leads to poor growth of aquatic plants. These problems are solved by rebuilding the substrate; and this process requires the removal of layout materials and aquatic plants prior to removing the existing substrate layer. Firstly, you need to pour some tank water into a pail to transfer the fishes and shrimps from the tank into the pail. Sometimes it may be difficult to scoop out the fishes and shrimps with a net because some of them hide in the plants or the driftwood used in the layout becomes a hindrance. In this case, it is advised to cut off the bushy stem plants from their base or remove the driftwood from the tank to facilitate the removal of the fishes and shrimps. At this time, be careful not to cause cloudy tank water. Besides, you need to pay particularly careful attention in the case where a part of the driftwood is buried within the substrate or the runners of the foreground plants twine around the driftwood. The situation in which more than one piece of driftwood have been attached together by epiphytic plants growing on them also requires your particular attention because the driftwood may move unexpectedly in line with the movement of another piece of driftwood which is connected to it, resulting in partial hollowing out of the substrate. In view of the fact that most of the stones are partially buried within the substrate, the fishes, shrimps and aquatic plants should be removed from the tank before removing the stones in order to facilitate the stone removal work. If epiphytic plants such as ferns and moss are attached to the driftwood



There is a method of using Riccia Line other than the method of securing the driftwood with Wood Tight. The driftwood pieces that have been skillfully joined in good balance will not easily break into pieces if they are secured at several points.

which is to be transferred to the new layout, you should cover the driftwood with dampened newspaper and then store it in a plastic bag or plastic wrap. You can keep this driftwood in a cool place for a few days. If you are planning to make a new layout more than a few days later, you are advised to keep the driftwood together with epiphytic plants on it in the aquarium tank filled with water. If the driftwood is too large to be kept in the tank, you can remove the plants from the driftwood and keep them in the tank water. If the willow moss has grown too much on the driftwood for the new layout, the moss should be plucked by hand or trimmed with scissors to an adequate level. As long as some portion of it, no matter how little, remains on the driftwood, willow moss will eventually grow large again though it may take some time. Before placing stones in the new layout, it is advisable to scrub and clean them with a brush.

#### ● Sozo Haishoku

Sozo Haishoku, a process of replacing aquatic plants without changing the composition framework of the layout, is mainly performed for Iwagumi layouts, since heavy stones are difficult to be removed particularly from large tanks for rearrangement, unlike driftwood which is light in weight. A totally identical Iwagumi cannot be achieved even if the same combination of stones is rearranged in the same way. This is also why it would be a great idea to enjoy the satisfactory Iwagumi for a long time just by replacing the aquatic plants. Stones which are stable in contrast to driftwood are suitable for Sozo Haishoku because the composition of the layout will not be easily affected even during removal of the fishes, shrimps and aquatic plants. The procedures of Sozo Haishoku are the same as for an ordinary aquarium makeover up to the process of scooping out the fishes and shrimps as well as the removal of aquatic plants. Before removing the

aquatic plants, it is advisable to drain the tank water beforehand to facilitate the work. The foreground plants which spread by runners, such as *Glossostigma*, should be removed from the substrate as if we rip up a rug from the floor. At this time, you should not get rid of the Aqua Soil around the plant roots. With soil on the roots, the plants can be kept in a container such as a foam carton for a certain period of time. In case of casual Sozo Haishoku, what you need to do after the removal of fishes, shrimps and aquatic plants is to add Aqua Soil, preferably Aqua Soil Powder type, to the substrate to compensate for the loss in soil during the removal of aquatic plants and then plant new aquatic plants on the renewed substrate. When performing a full-scale Sozo Haishoku for a large aquarium tank, the Aqua Soil must be scooped out from deep inside the substrate. Then, Aqua Soil (normal type) should be added and lastly, Aqua Soil Powder type should be spread on the substrate surface. Doing this allows to restore the deteriorated substrate to a certain extent and facilitate the healthy growth of aquatic plants. Before proceeding with this work, you should dig out a part of the substrate to drain almost all the water that remains within the substrate. This is necessary to drastically improve the anaerobic condition of the substrate by draining the water and exposing the inner side of the substrate to the air. When adding Aqua Soil to the substrate, the hobbyist can make a different style of soil mound from the previous layout. It is recommended to consider the change of the height of the soil layer because a tall mound of soil can add a different dynamic image to the Iwagumi.

#### ● Storage of Layout Materials and Utilization of Layout Goods

When the layout materials such as stones and driftwood are not to be used for a long period of

time despite their feature of being repeatedly usable, they should be kept in an appropriate manner. Stones should be left outside so that it will be exposed to rain, allowing the stone surface to be kept clean and ready for subsequent reuse for another layout. Driftwood, on the other hand, should basically be kept dry to prevent damage caused by propagation of fungi as a result of being placed directly on the ground or in moist conditions. Before storing driftwood, the aquatic plants and algae on the wood's surface should be removed by brushing. Note that the driftwood that has once been used in a layout may float in the water again if the wood has been dried to a certain extent. This symptom is often observed on Branch Wood which is light in weight. To reuse the driftwood which is likely to float, it should be pre-soaked in a pail filled with water; or some stones in adequate size should be placed on the arranged wood in the layout. In either case, the wood will stop floating in about one to three weeks time. Manten stone and Yamaya stone having a suitable size are useful as a weight /support for driftwood and it is handy to keep a stock of these stones. For joining two pieces of driftwood and securing the joined driftwood, the use of Wood Tight, one of ADA's layout goods, is useful. Wood Tight, which is a brown wire having a similar color to driftwood, will securely fix the driftwood without being noticeable. The layout will not look unnatural if the joint of the driftwood is covered by epiphytic plants to conceal the Wood Tight used. If several pieces of driftwood are skillfully joined in good balance and the joints are very obvious, it is also a good idea to use less-noticeable Riccia Line. This item will be barely visible if epiphytic plants are attached on top of it. More sophisticated driftwood layout will be made possible by making good use of stones in suitable sizes and various layout goods.



Reused driftwood may float depending on its dry condition. It is advised to place some stones as a weight on larger driftwood having greater buoyancy until it stops floating. Once it stays in water, the stones placed on it may be removed.

# NATURE AQUARIUM

# Q&A

The month of May filled with fresh young green leaves has gone and the rainy season is starting. This season will bring blessed rain to the plants. The plants exhibit their wet and shining leaves as though delighted to receive water from the sky. Some of you might feel a little down when it starts raining, but you can refresh your mind by looking at the green outside or in the aquarium.

**Q** The bubbles of injected CO<sub>2</sub> usually go up towards the water's surface. However, I can see these bubbles circulating throughout the aquarium if water flow is injected towards them. Could you tell me which leads to better dissolution of CO<sub>2</sub> in water?

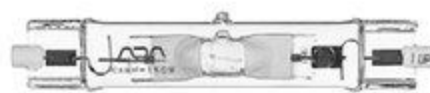
**A** Tiny CO<sub>2</sub> bubbles from Pollen Glass gradually dissolve in water while they are floating towards the water's surface. If you closely look at CO<sub>2</sub> bubbles near the water's surface, you can find that they have become smaller as a result of dissolution. As for water injection, the CO<sub>2</sub> bubbles can dissolve more in water if they float longer in the injected water flow. In view of this, injecting water towards CO<sub>2</sub> bubbles can be construed as an innovative idea for efficient CO<sub>2</sub> injection. For your information, Pollen Glass is designed to provide an adequate CO<sub>2</sub> diffusion efficiency if it is installed at the middle level of the tank height, the optimal, balanced position, and the CO<sub>2</sub> injection amount is appropriate.



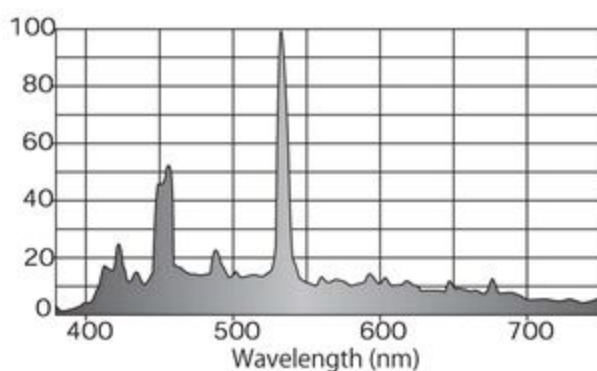
Injecting water flow towards CO<sub>2</sub> bubbles is one of the innovative ideas to enhance CO<sub>2</sub> diffusion efficiency.

**Q** Does Solar I equipped with a metal halide lamp have an UV block effect? If yes, UV is blocked by the glass surface or metal halide lamp?

**A** A UV-blocking film is provided to the tube of ADA's metal halide lamp to block most of the light in the ultraviolet region (380nm or below). The advantages of coating the lamp with a UV-blocking film include maintaining the superior UV blocking effect continuously through replacement of the lamp, and therefore there will be no worries about UV deterioration of aquarium accessories exposed to the light from the metal halide lamp.



Metal halide lamp 150W



Wavelength distribution of NA Lamp MHG-150G

**Q** Do I need to use a substrate cleaner to clean the cosmetic sand area? How is the cosmetic sand maintained in the Nature Aquarium Gallery?

**A** Cosmetic sand has advantages such as providing a bright look to the aquascape and ensuring an open space in the layout. On the other hand, there are also disadvantages of cosmetic sand including that it can get dirty easily and that excessively thick cosmetic sand may easily

become anaerobic. To improve these disadvantages, it is advised to keep the cosmetic sand layer as thin as about 1cm in a 60cm tank. In addition, you need to agitate the cosmetic sand periodically with a substrate cleaner. Doing this helps prevent worsening of anaerobic condition of the cosmetic sand and also keeps the foreground free from algal growth. The grains of cosmetic sand are fine and light. When using a substrate cleaner, lightly pinch the hose with one hand to regulate the vacuuming speed. The method introduced here is also used to clean the cosmetic sand in Nature Aquarium Gallery.



Periodical cleaning of cosmetic sand is essential. (Example of cleaning with a fine tube)

**Q** An aquascape with Unzan stones and Moenkhausia pittieri was introduced in ADA View. I think it is standard to select slender, streamlined fish for the layout using stones. Then, what type of layout should I make if I choose a deep bodied fish? Please tell me the key points.

**A** Among Iwagumi layouts, a simple Sanzon Iwagumi combined with only one to three species of short foreground plants (such as Eleocharis acicularis and Glossostigma) is a good match with streamlined fish because this type of layout has a wide open space. For the Iwagumi layout



### Send us your questions!

We welcome your questions and inquiries about the Nature Aquarium. Please feel free to send your questions to the ADA Editorial Department by email (aj@adana.co.jp) or to our postal address listed at the end of this magazine.



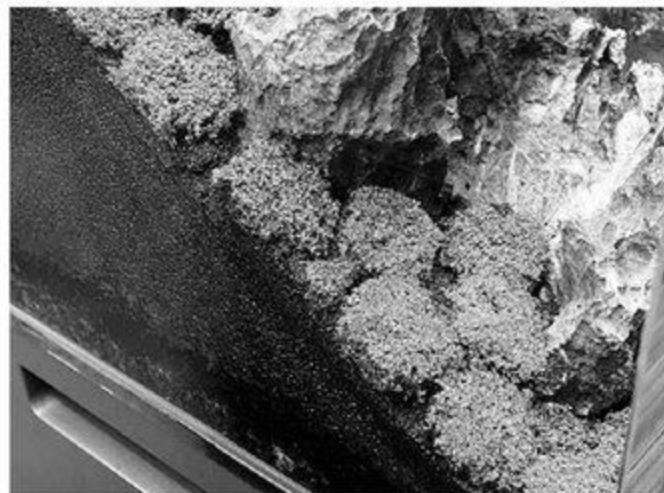
Deep bodied fish look great in an aquascape with dense plants.

where various species of aquatic plants, including stem plants in the background, are planted, the open space is smaller and the stem plants have a greater presence than the stone arrangement. Deep bodied fishes match relatively well with this type of layout. The Iwagumi layout featured on ADA View was a colorful layout using plenty of stem plants together with Unzan stones, which was a good match with deep-bodied *Moenkhausia pittieri*.

light base easily move with water flow and their roots will not spread well if they are simply placed on the substrate. To make this series of Wabi-Kusa creep sideways, it is important to slightly bury a part of the plant in the substrate. Wabi-Kusa *Hemianthus callitrichoides* "Cuba" has thin and short roots. It is advisable to place a thin layer of Aqua Soil Powder type on the substrate surface and fill the gaps between the Wabi-Kusas patches with the same soil to help the plant take root.

**Q** I am using Wabi-Kusa *Hemianthus callitrichoides* "Cuba". It does not really creep sideways but instead, it grows as if it swells up. How to make the Wabi-Kusa creep sideways?

**A** The answer to this question is given on the assumption that there is no problem with the plant's growing conditions. Are your Wabi-Kusa *Hemianthus callitrichoides* "Cuba" just placed on the substrate? Unlike Wabi-Kusa Stem Plant Mix, the Wabi-Kusa foreground plant series (such as *Hemianthus callitrichoides* "Cuba", *Glossostigma* and *Eleocharis parvula*) having the



Wabi-Kusa should be slightly buried in the substrate.



Trimming Scissors Curve type are ideal for a first pair of aquascaping scissors.

**Q** After I watched the trimming process on ADA View, I wanted to have my own pair of Trimming Scissors. I accessed ADA website, but the lineup of Trimming Scissors was too broad and I didn't know which I should get as my first pair. I would appreciate it if you could advise me as to which you would recommend.

**A** Pruning of stem plants and foreground plants accounts for the greatest portion of trimming of aquatic plants. Trimming Scissors with long handles are useful for the pruning of stem plants while the scissors with curved blades are suitable for the pruning of foreground plants. If we need to pick only one type of scissors that will be useful for both of these pruning works, we recommend the Trimming Scissors Curve type. Initially, you should use this pair to accumulate trimming experiences. As you improve your trimming skill, you may need to have other types of scissors which meet the needs of certain types of aquatic plants and cater for certain circumstances. At that time, you may purchase the additional pairs you require. Being selective about the tools not only helps you make and maintain more elaborate and more beautiful layouts but it also makes layout maintenance fun and enjoyable.

# Thanks a million!

ADA View hit

# 1,000,000

Video Views!



Commercial videos promoting ADA 20th Anniversary Products are now showing in the  
**ADA View documentary film "ALL ABOUT NATURE AQUARIUM"!**

ADA View started with live-broadcasting the Nature Aquarium Party on USTREAM in September, 2011.  
 It has exceeded over 1,000,000 video views on YouTube since its launch.  
 Commercial videos casting ADA staff members are currently released during  
 the documentary film featuring the Nature Aquarium project at the Sumida Aquarium!



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