



[Special Feature]

Spring Color Aquarium

NATURE IN THE GLASS

ENJOY DOOA

ADA Review

How to use liquid fertilizers and additives properly

MAKE & KEEP

D00A System Aqua 30 & SOL Stand G

Mizukusa FOCUS / Plant Art Studio

Amano's view "The World of Ryōkan"



NATURE IN THE GLASS

“Spring Color Aquarium”

Daisuke Inoue

AQUA JOURNAL vol. 270

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Renders fun and healing by setting Rainbow fish
such as *Melanotaenia boesemani* swimming in
the spring like and colorful aquascape.

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NATURE IN THE GLASS

Creating a fun, spring-like atmosphere in an aquascape, using colorful stem plants.

Having a wide variety of stem plants, the main theme of this layout is to highlight the natural beauty of aquatic plants. In order to give viewers a sense of joy and healing, the layout was created with a feminine point of view, focusing on the charming appearance that fish make and on the beauty of plants, instead of a general masculine perspective which favors more

in the overall layout composition. Therefore, the layout does not use the type of driftwood and stone which generate a strong impression, but only uses small Unzan Stones entirely wrapped with moss. They also function as soil retainers. In addition, the number of composition materials was minimized to have large planting areas, in which

stem plants in various shapes and colors were arranged in a well-balanced manner. The aquascape renders a colorful and fun atmosphere.
(Daisuke Inoue)

DATA

| | |
|-----------------|---|
| Shooting date | October 26th, 2017 (ADA) |
| Creator | Daisuke Inoue |
| Aquarium | Cube Garden W120×D45×H60 (cm) |
| Lighting | Solar RGB × 2, turned on for 10 hours per day |
| Filter | Super Jet Filter ES-1200 (Bio Rio M) |
| Substrate | Aqua Soil-Amazonia, La Plata Sand, Power Sand Special L, Bacter 100, Clear Super, Tourmaline BC |
| CO ₂ | Pollen Glass Beetle 500, 3 bubbles per second via CO ₂ Beetle Counter (using Tower) |
| Aeration | 14 hours after the light is turned off using Lily Pipe P-6 |
| Additives | Brighty K, Green Brighty Iron, Green Brighty Nitrogen |
| Water change | 1/3 once a week |
| Water quality | Temperature: 20°C, pH: 6.8, TH: 20 mg/L |
| Aquatic Plants | <i>Hygrophila</i> sp. "Tiger" <i>Bacopa caroliniana</i> <i>Bacopa australis</i> <i>Rotala macrandra</i> <i>Rotala macrandra</i> "Green" |

Aquatic Plants

Rotala macrandra "Bangladesh"
Rotala sp. "Bangladesh"
Rotala sp. "Wayanad"
Rotala sp. "Manipur"
Rotala rotundifolia "Green"
Ludwigia peruensis
Ludwigia ovalis
Ludwigia palustris "Green"
Myriophyllum tuberculatum
Myriophyllum matogrossense
Hemianthus micranthemoides
Pogostemon sp. "Dassen"
Limnophila sessiliflora
Vesicularia Ferrei
Riccia fluitans
Melanotaenia boesemani
Bedotia geayi
Melanotaenia praecox
Crossocheilus oblongus
Otocinclus sp.
Caridina multidentata

Fish & Invertebrates

Bringing out the charm of stem plants:
how to create a substrate system with
cosmetic sand and arrange aquatic plants

When it comes to making a substrate system, you can make a layer of Aqua Soil with Power Sand. Besides this basic method, you can also separately place both Aqua Soil and cosmetic sand in a layout composition. When using a cosmetic sand, there are two methods which are commonly used: adding substrate materials after setting up cardboard partitions, or after placing composition materials, such as stones and driftwood pieces, which can retain soil and sand. This layout uses the latter method. Moreover, the plant arrangement was designed to bring out the charm of each stem plant.



1. Add height by piling Sansui Stones under a compositional material, Unzan Stones, to which Weeping Moss and Riccia were attached in advance.

2. To create a firm soil retainer, secure the piled Sansui Stones by inserting smaller stones into gaps between them. The key here is not to place too many stones in the areas where Aqua Soil will be placed later for planting.



3. Spread a cosmetic sand in the foreground, and place stones covered in Weeping Moss around the Unzan Stones. For cosmetic sand, bright color La Plata Sand was picked because tall aquariums often make aquascapes look dim.



4. Add some Aqua Soil - Amazonia to the planting area located in the background. Leave relatively broad spaces for planting many stem plants.



5. Place stones covered in Riccia together with the moss covered stones. Using Riccia in the middle ground gives a bright impression to an aquascape.



6. Emphasize a sense of depth by spreading the cosmetic sand from the center of the foreground to the background as if it's running behind the Unzan Stone. Leave an open space to define the concave composition.



7. For easy planting, soak the foreground soil with water, then start planting stem plants with planting tweezers. Bamboo strips indicate the planting range for each stem plant.



8. The way to make a lovely cluster of fine-leaved plants is to plant them in high density. ADA's Pinsettes L is very useful in a situation like this.



9. The planting location of the red stem plant, which accentuates the entire layout, is particularly important. After visualizing fully grown clusters, its location and species are decided.



10. Stem plants are carefully arranged by size and shade of the leaves. The color of the red stem plant is further highlighted by green stem plants planted behind.



11. It is easy to plant long stem plants in a large area by holding them down in the same direction after planting. Insert plants diagonally into the soil to make them hard to remove.

Layout Composition



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Creating a bright spring image and perspective with various stem plants in a concave layout.

As stem plants grow older and lose their bottom leaves, unattractive white roots come out. Usually, other plants, such as ferns, are planted in the middle ground to hide the bottom of stem plants in the back-ground. In this layout, we used a different planting technique. The bottom of the stems hide behind other stem plants, which have a tendency to develop sideways. When creating bushes composed of many different kinds of stem plants, it is important to decide a trimming point for each kind based upon its growing speed.



Fine-leaved *Rotala* sp. "Bangladesh" and *Rotala* sp. "Wayanad", in the back of the left bush, are suitable for the background.



The terminal buds of *Rotala macrandra* "Green" are beautifully grown, and give a sense of unity to the bush.



Planting



Using small size Unzan Stones for the composition, the layout looks flat until the stem plants begin to develop.

Aquascape Completion



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In the left bush, *Hygrophila* sp. "Tiger", *Rotala rotundifolia* "Green" and *Bacopa caroliniana* hide the bottom of the stem plants behind them.



Create a bright impression in the aquascape by placing white La Plata Sand and Riccia in the foreground.



Vivid green *Bacopa australis* fill the gaps between the Unzan Stone pieces covered in Weeping Moss. This stem plant has distinctive, small, round leaves.



Myriophyllum matogrossense "Green" develops its stems sideways. After trimmings, the leaves increase in density and form a beautiful cluster.



Use liquid fertilizers depending on the tank environment.

Approximately thirty aquarium tanks are maintained at all times in the Nature Aquarium Gallery, and various types of aquatic plants and layout materials are used in them. As a result, the conditions of these tanks vary, and our maintenance staff properly use various liquid fertilizers depending on their conditions. Brightly K, which adds potassium that tends to be insufficient in an aquarium, and Green Brightly Mineral, which supplements trace elements, are the basic liquid fertilizers.

They are added every morning after the light comes on, starting about two months after the initial planting. Additionally, if the pH or carbonate hardness (KH) of the tap water is high or if a large amount of stones and gravel that tend to raise the pH are used, such as Ryuoh stones, Green Brightly Neutral K should be used in the place of Brightly K to prevent pH and KH from increasing as much as possible. After two to three months from the initial setup when aquatic plants are

growing actively and about to reach the first peak, Green Brightly Iron is added to the maintenance routine to prevent bleaching or stunting resulting from an insufficient iron level. Beautiful aquascapes are maintained through such day-to-day maintenance activities in Nature Aquarium Gallery. The experience gained there is often utilized in the development of a new product as well.

*The supplementation regimen described here is the current one as of February 20, 2018.

“Select a potassium additive by taking the influence of the water quality into consideration.”

Brightly K

Pearl Grass is the primary aquatic plant in this aquascape produced with Aqua Soil-Amazonia as the substrate. Since this plant prefers slightly high pH and KH values, an addition of “Brightly K” is effective for this aquarium. Although the Pearl Grass is growing vigorously after two months from the production and “Iron” is normally used at this stage in addition to “Mineral”, only “Mineral” was added at this time, bearing in mind that the nutrient level was still excessive.



“A potassium supplement that does not raise pH and KH.”

Green Brightly Neutral K

This is a new 150 cm aquarium that was produced in anticipation of the Gallery Renewal Opening in spring. Since Ryuoh Stones and cosmetic sand are used, the pH and KH of the water are expected to increase. Although a small amount of increase should not be a concern, we wanted to avoid the slowing of plant growth due to the influence of pH and KH in order to bring the aquascape to the best condition in time for the opening. Therefore, we opted to use “Neutral K” to supplement potassium for this aquarium.



“Grow healthy plants by supplementing nitrogen.”

Green Brightly Nitrogen

While the substrate Amazonia Light in this aquarium enables even a beginner aquarist to easily control the water quality during the initial setup period, the aquatic plants in this aquarium are growing relatively slowly. The difference between Amazonia and Amazonia Light is primarily the nitrogen content. Since the development of algae has already settled down in this aquarium, nitrogen containing “Nitrogen” was added to encourage the plant growth. An advantage of a liquid fertilizer is that you can adjust the amount that you add if you find the nitrogen level to be too high, or excess amounts can be removed through a water change easily, unlike the nitrogen available from the substrate.



LIQUID FERTILIZERS & ADDITIVES

“How to use liquid fertilizers and additives properly”

“A basic fertilizer containing trace elements.”



Green Brightly Mineral

After 10 days had passed, the stem plants and Riccia were developing submersed leaves smoothly in the 120 cm aquarium. So, we started adding nutrients using the basic fertilizer combination for the initial period, “Brighty K” and “Mineral.” The standard amount for each fertilizer for this aquarium is 15 mL (1 mL per 20 liters). They are added daily after the light comes on. Since the bottle delivers 1 mL per press, an accurate amount can be added easily.



“Producing the water of the natural habitat of the tropical fish.”



Vita-Mix

Natural river water contains various biologically-derived vitamins that help to regulate the physiological functions of the fish. Vita-Mix provides various vitamins as the natural water does, and we start using it as fish are introduced in an aquarium. If added at the time of a water change, it also reinvigorates microorganisms and conditions the tank environment in addition to maintaining the health of fish and aquatic plants.

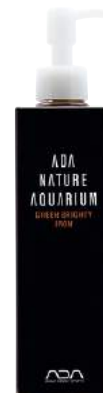


“Improves the color of the leaves by adding iron specifically.”



Green Brightly Iron

This aquascape with luxuriant stem plant colonies is ready for photographing. In addition to “Brighty K,” “Iron” was added to improve the color of the leaves. “Iron” is especially effective for red stem plants. The red color of the stem plants in this aquascape was splendidly intensified as well. Nitrogen was also supplemented using “Nitrogen” since the volume of the plants is very high and there is no algae growing in the aquarium. The addition of “Nitrogen” helps to develop healthy aquatic plants. The amount of fertilizers were increased to one and a half times the initial amount as the plants grew densely.



“Removes the cloudiness of water during the initial setup period quickly.”



Clear Water

The water in this large aquarium is slightly cloudy since it was just planted. This is a phenomenon often seen shortly after setting up an aquarium. It will clear up naturally through proper water changes and as microorganisms start functioning to purify the water. However, the water will clear up immediately if “Clear Water” is added and a water change is subsequently performed. Additionally, since it removes phosphate at the same time, it suppresses an algae outbreak as well. It is just like killing two birds with one stone. It is an indispensable additive for an initial setup period.



“Neutralizes the chlorine in the tap water.”



Chlor-Off

Niigata, where the Gallery is located, is known to have very good water. The water quality of the tap water is pH: 6.8, $KH \leq 2dKH^\circ$, and $TH \leq 20 \text{ mg/L}$. Therefore, as long as the chlorine is neutralized well, the water is suitable for growing aquatic plants. Residual chlorine is harmful for both fish and plants. We must remove the residual chlorine completely using “Chlor-Off” during a water change.



“Turns the water slightly acidic, which is the condition that many aquatic plants favor.”



Soft Water

The pH and KH of the water tend to increase in an aquarium where Ryuoh Stones and cosmetic sand are used. This aquascape is a good example of it. We add “Soft Water” during a large water change to prevent the pH and KH from rising as much as possible. The increase in the pH or the KH tends to cause the bleaching of terminal buds in some plants, such as the *Pogostemon* sp. ‘Dassen’ used in this aquarium. Keeping the aquarium water slightly acidic is beneficial for many aquatic plants.





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

A new style layout in Neo Glass Terra produced with Ouko Stones

The majority of the past aqua terrarium layouts had either a lively impression with various types of stem plants or a subdued impression with driftwood and ferns. This layout was produced to create a new, simple style of aquascape that is different from any of the previous ones. The underwater section was produced with Ouko Stones and Colorado Sand to produce an image of wilderness. The above-water wall section expresses the vigor of new life with climbing aquatic plants. In addition, the number of types of aquatic plants were intentionally minimized to strengthen the impact of the unique impression of *Hydrocotyle leucocephala*. The contrast of the underwater and the above-water sections is the primary feature of this layout.

AQUASKY G 601 ■
 NEO GLASS TERRA H36 ■
 W60×D30×H16 / 36 (cm)
 WABI-KUSA WALL 60 ■
 Wood Cabinet (Off-White) ■
 W60×D30×H70 (cm)
 CO₂ Count Diffuser ■
 Stream Pipe V-1 ■
 Super Jet Filter ES-150 ■
 NA Control Timer II ■
 Aqua Soil-Amazonia ■
 Colorado Sand ■

[Aquatic Plants]

Hydrocotyle leucocephala

Hydrocotyle tripartita

Wabi-Kusa *Micranthemum* sp.

Wabi-Kusa Mat *Taxiphyllum barbieri*

[Fish & Invertebrates]

Danio rerio

Crossocheilus oblongus

Otocinclus sp.

Caridina multidentata

Shoot on October 25th, 2017 (ADA)

Creation & Text by Daisuke Inoue

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DOOA, an inspiring brand, helps you enjoy aquatic plants more freely, naturally and easily, and designed as a platform allowing everyone to further create concepts. Feel closer to nature, and bring beauty into your life.



The Ouko Stones function as a divider between the cosmetic sand in the foreground and Aqua Soil-Amazonia in the planting space. Since the substrate is shallow, small crushed stones were used to fix the angles of the larger stones.

Uniquely-shaped *Hydrocotyle leucocephala* spreads its vines not only above water, but also underwater and makes the impression of the scenery remarkably striking.



An empty space was created in the center to render a sense of depth to the underwater section. Wabi-Kusa New Large Pearl Grass (*Micranthemum* sp. Monte Carlo) were placed behind the Ouko Stones. Wabi-Kusa was used to retain Amazonia in the rear.



Willow Moss (*Taxiphyllum barbieri*) and climbing aquatic plants, *Hydrocotyle leucocephala* and *Hydrocotyle tripartita*, were used in the wall section to accentuate the impression of the layout.

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A striking Aqua Terrarium was produced with a simple composition.

The impact of this aqua terrarium was intensified by keeping the layout composition elements as simple as possible. An impression of wild landscape was created by using striking Ouko Stones as composition materials and combining them with similarly-colored Colorado

Sand. Furthermore, the impression of wilderness was intensified by planting short New Large Pearl Grass (*Micranthemum* sp. Monte Carlo) behind the Ouko Stones. In contrast to the underwater section, the vigor of life was expressed by planting a climbing aquatic plant over a Wabi-Kusa Wall. Arranging the vining aquatic plants on the left and the right sides of the Wabi-Kusa Wall as in a U-shaped composition maintains a continuity with the empty space in the center of the underwater section.

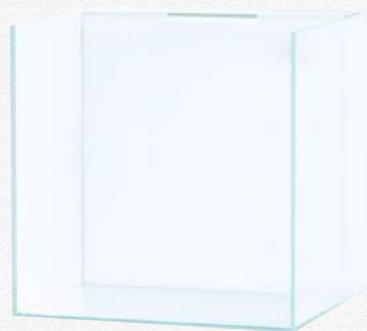
MAKE & KEEP

5

DOOA System Aqua 30 & SOL Stand G Enjoy a cheerful planted layout with stem plants and Riccia.

DOOA INTEGRATED AQUARIUM

SYSTEM AQUA 30



A DOOA integrated aquarium comes with a built-in filtration system. Combined with SOL Stand G, it can present an open-style aquarium, using a Wabi-Kusa Hanger. SOL Stand G was specifically designed for use with System Aqua 30. SOL Stand G mounting piece, which can securely anchor the stand, is sold separately.

External size: W30×D30×H30 (cm)

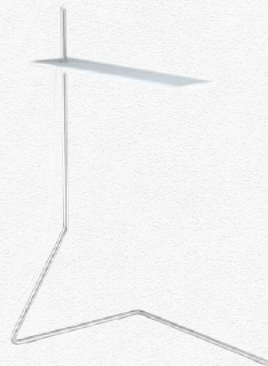
Tank size (excluding the filter section): W30×D20×H30 (cm)

DOOA SYSTEM AQUA 30 Easy-to-install, integrated aquarium

People may think installing a small aquarium is relatively easy. However, system set-up, for the most part, is the same as that of a tank 60cm in width or larger, because it still requires a filter, lighting, and CO2 systems. Furthermore, whether using a wall installation type filter or external canister filter, you will still need a space to keep the filter system. Moreover, not just the filter itself, but accessories like filter pipes and hoses are unsightly and may affect the aesthetic appearance of the whole installation area. On the other hand, DOOA System Aqua 30 combines a W30×D20×H30(cm) tank with a filtration system (external size including filtration

DOOA LIGHTING SYSTEM

SOL STAND G



An LED lighting system developed for small-size aquariums, such as DOOA System Aqua 30, Terra 30 and the Neo Glass Air series tanks. Its lighting unit not only slides up and down, but rotates back and forth around the stand pole, which allows for easy maintenance, such as the trimming of plants and water changes.

Power consumption: 18W / Maximum luminous flux: 1,500lm

W30×D30×H30 cm) and functions as a nice small aquarium for planted layouts, or for fish keeping. Equipped with sponge filter media and a filter pump, System Aqua 30 has a larger filter volume than most of the hang-on type filters for small tanks, and it offers easy installation. You can maintain a neat and clean appearance since it requires no externally-installed pipes and hoses. The aquarium water gets into the filter from the slit section located at the left top side of the aquarium, and then the filtered water is pumped out of the outflow section, located at the tank's top right side into the tank. Although System Aqua 30 does not come with a lighting system, it will be a complete aquarium system by adding DOOA SOL Stand G.

MAKE & KEEP

Every month, this column introduces useful knowledge, skills, and product information to make and keep your Nature Aquarium and Aqua-Terrarium. This issue showcases a simple layout using DOOA System Aqua 30 and SOL Stand G. Enjoy a cheerful, spring-inspired aquascape!

DOOA SOL STAND G Grows healthy sun plants with its brighter light output.

The most common cause of stunted plants, for not only small tanks, but aquariums in general, is using a lighting system with insufficient light intensity. Many lighting systems sold for small-size aquariums cannot generate enough light intensity; they may illuminate your tank, but they will not promote plants' healthy growth. Aquatic plants thrive underwater through photosynthesis, and that requires a lighting system with an adequate brightness (enough illuminance). DOOA SOL Stand G was designed specifically for growing aquatic plants. It was developed based on ADA's experiences and technologies acquired with other LED aquarium

lighting products, such as Solar RGB and the AQUASKY G series. The most remarkable characteristic of SOL Stand G is that its quality light makes plant's green color more vivid than any other conventional aquarium lights. You can bring the best out of SOL Stand G by combining it with System Aqua 30. The planted layout shown in this page uses Wabi-Kusa Stem Plants MIX and Riccia. These are types of plants which require adequately bright lights to grow. Their beautiful appearance in the tank tells us that the lighting system is providing them with sufficient light intensity.



Using System Aqua 30 together with SOL Stand G, you can create layouts with beautiful stem plants, Riccia and other sun-loving plants. These plants grow luxuriantly and their green leaves appear vibrant under SOL Stand G, specifically designed for planted layouts.

Cryptocorynes are the hidden stars of Nature Aquarium. Cryptocorynes grow naturally in Southeast Asian regions. Diverse characteristics of individual plant species have attracted aquatic plant enthusiasts worldwide for many years. In this issue, we are going to introduce a way to enjoy emerged leaves of Cryptocorynes using DOOA Neo Glass Air.

Enjoying Cryptocoryne gardens

Cryptocorynes in the Araceae family attract us with their diverse forms. *C. balansae* grows naturally in sunny streams and develops long, narrow leaves. On the other hand, *C. longicauda*, which grows in a dense swap forest, has relatively round leaves. Their leaves come in various shapes, textures, patterns, and hues, such as smooth leaves and hammer-tone, textured ones full of indentations. The flowers of Cryptocorynes are also highly ornamental. The name *Cryptocoryne* means “hidden inflorescence.” As the name indicates, its inflorescence is hidden inside a characteristic spathe. So, let’s enjoy attractive Cryptocorynes with DOOA Neo Glass Air allows you to enjoy *Cryptocoryne* easily in a way that matches your life style. Neo Glass Air in sizes W15× D15×H25 (cm) or W15×D15×H30 (cm) are both quite suitable for enjoying its emerged leaves. *C. spiralis* ‘Red’ or *C. wendtii* would be a great type of *Cryptocoryne* to start with. They are available in the Bio Mizukusa No Mori lineup, which are sturdy and easy to plant. For the substrate, spread Power Sand Special S, which encourages root growth, at a depth of 1 cm and

Tropical River Soil on top of it at a depth of approximately 5 cm. Tropical River Soil goes very well with the appearance of tropical plants. Tropical River Soil should be supplemented with nutrients as needed by using fertilizers, such as Multi Bottom, depending on the condition. Water should be added to the top of the soil for emerged growth. A Glass Cover for Neo Glass will be handy for not only keeping humidity, but also preventing dust and fungus spores from falling into the aquarium. The glass cover does not completely seal the aquarium and leaves an adequate gap for ventilation. Elegantly-designed SOL Stand G light works well with the Neo Glass Air. The height of the light fixture is adjustable so that the brightness can be adjusted depending on the type of Cryptocorynes. Although they are not flashy, Cryptocorynes are deeply enticing plants. There is no doubt that they will bring about for us a healing environment “in a cryptic manner.”

1. *Cryptocoryne spiralis* ‘tiger’

2. *Cryptocoryne wendtii* ‘Mioya’

SOL STAND G + NEO GLASS AIR W15×D15×H25 (cm)

3. *Cryptocoryne longicauda*

NEO GLASS AIR W15×D15×H25 (cm)



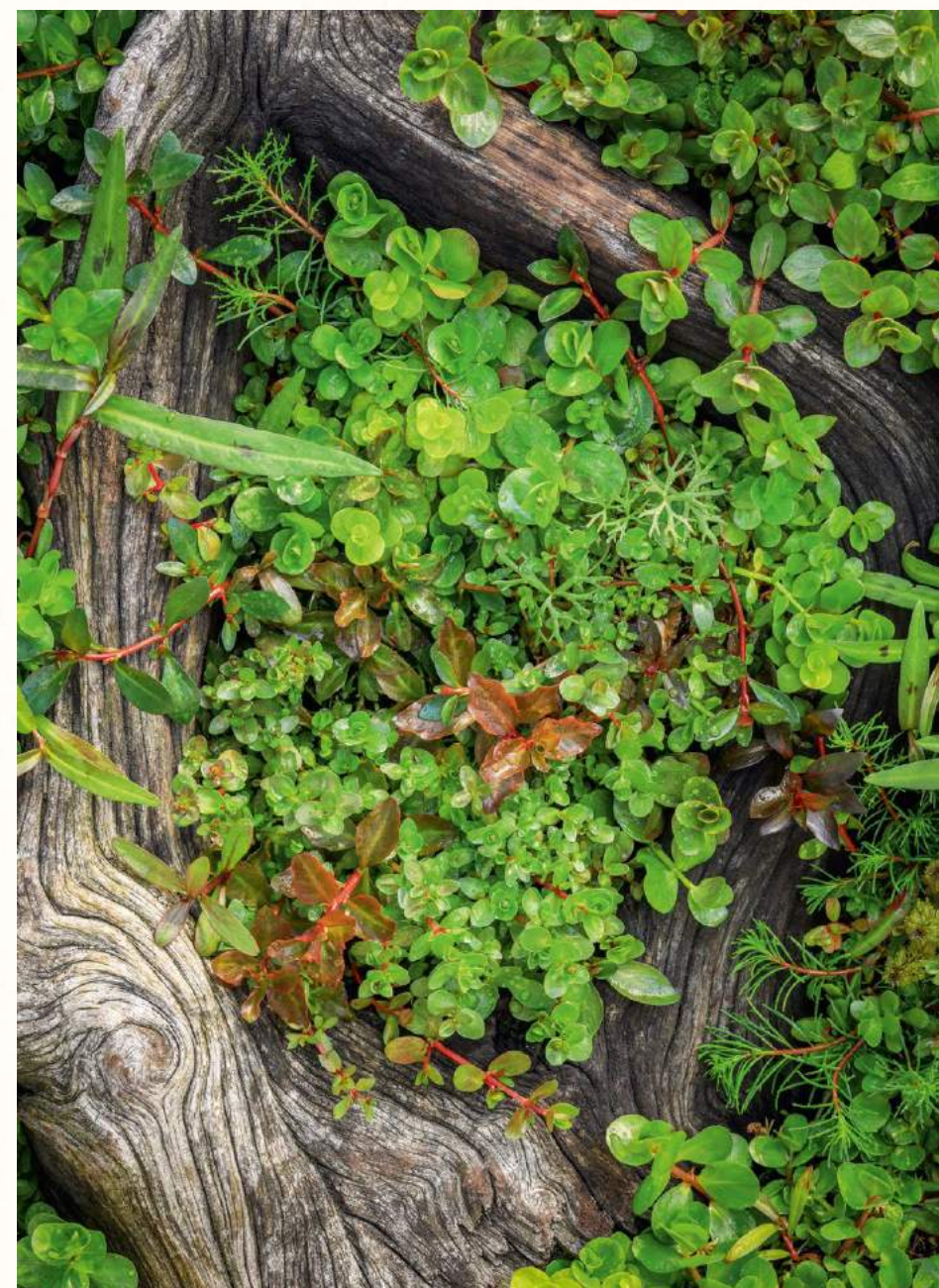
1.

2.



3.

Plant Art Studio



05

An impressive combination of the texture of driftwood with the green of aquatic plants. It reminds us that we are all part of nature, much like driftwood, eventually returning to soil.

Photo / Yusuke Homma



[Amano's view]
Nature Aquarium World

The World of Ryōkan
Photo&Text/ Takashi Amano



They are abundant in Niigata, but the Prefectural Flower is the tulip, which also blooms during the thaw. After the long hard winter, the reds, whites, yellows and blacks of tulip flood the hills of Niigata. I sometimes think that if only there were a windmill, it would be the picture of Holland.

*Photograph of the hepatica is replaced for this issue.

INFORMATION

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