

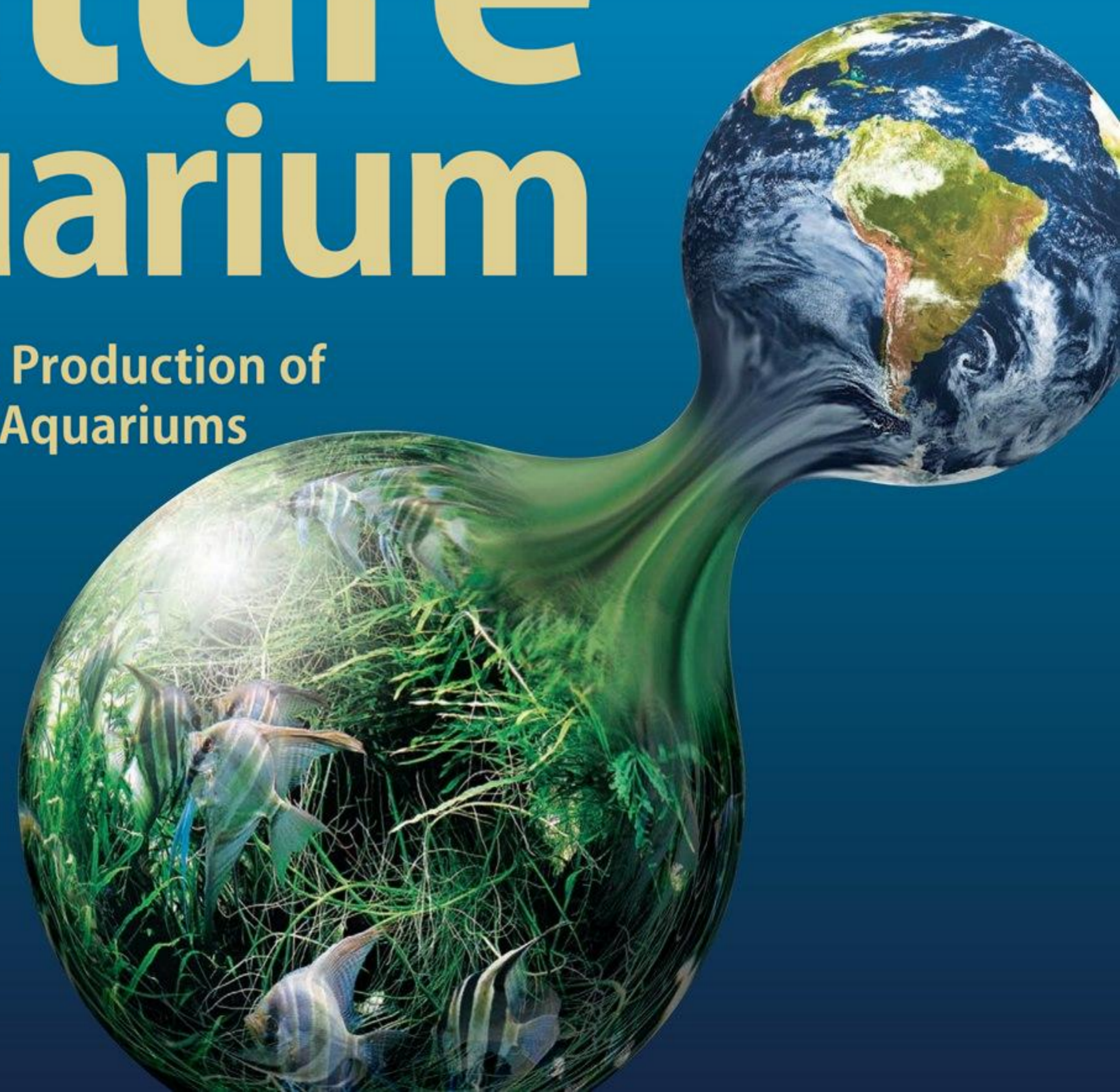
Nature Aquarium information magazine

AQUA JOURNAL

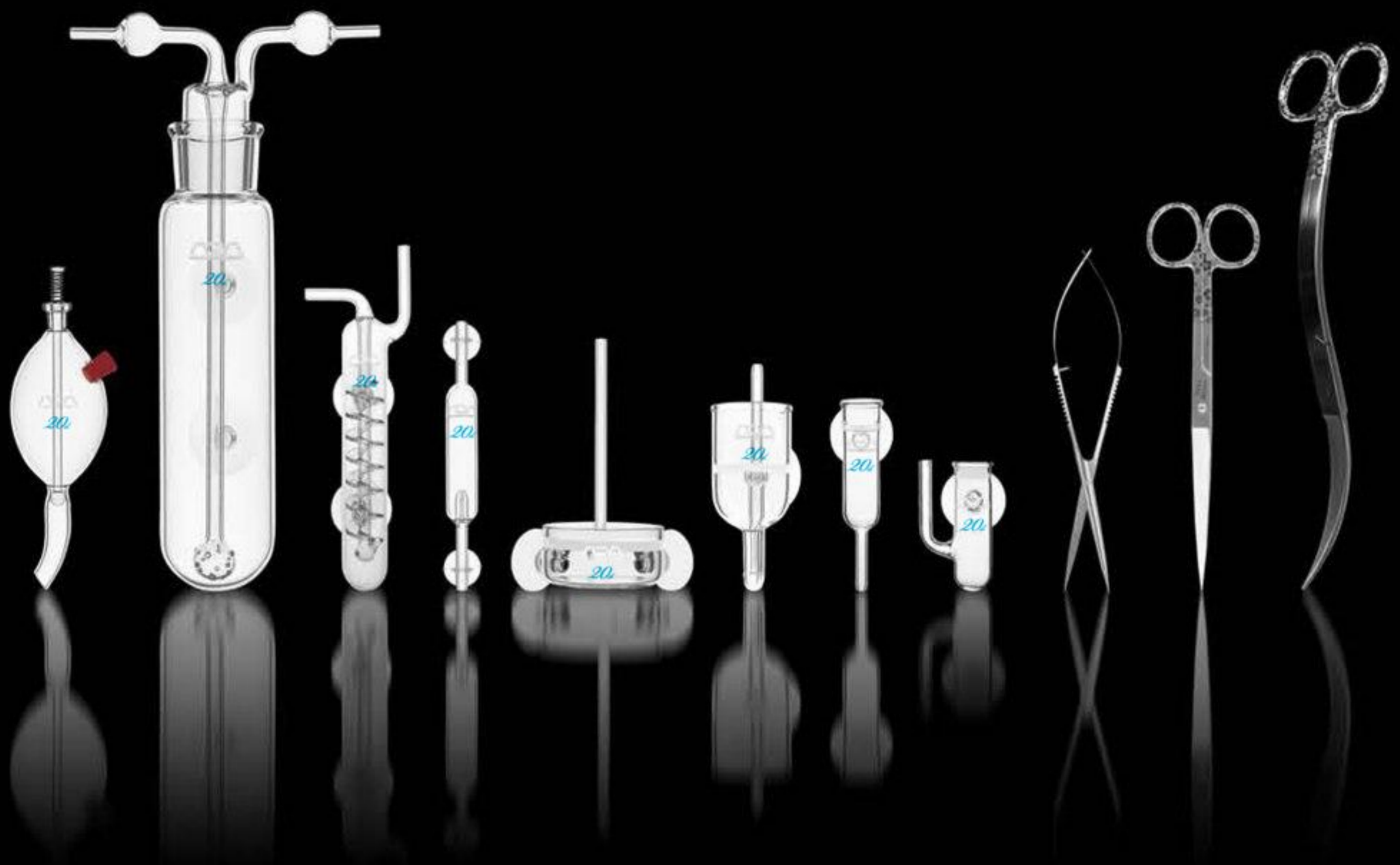


All About Nature Aquarium

The Challenging Production of
Gigantic Nature Aquariums



Passion Ignites Enjoyment of the Hobby
ADA PREMIUM



AQUA DESIGN AMANO The 20th ANNIVERSARY PRODUCTS

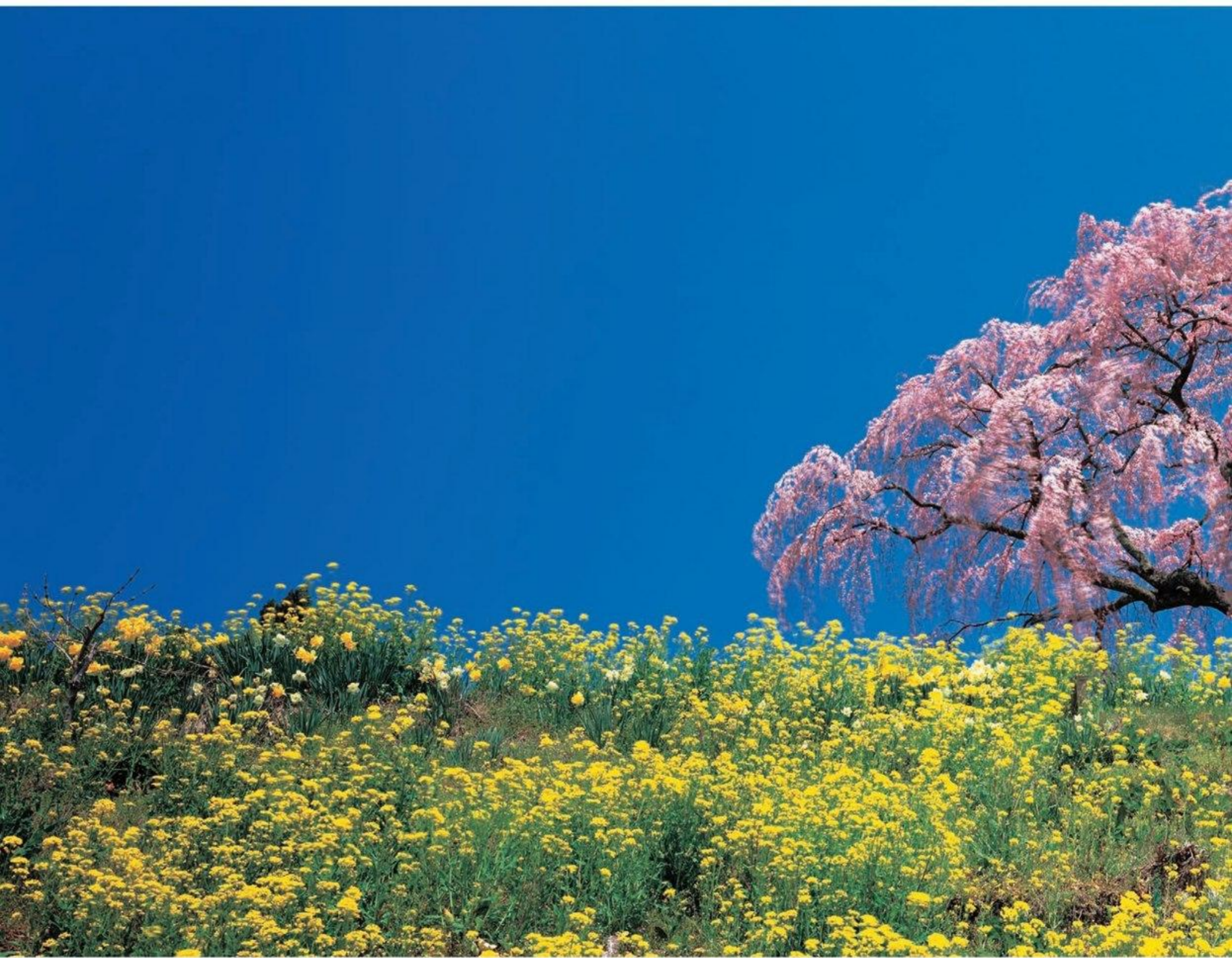




ADA products were born from actual hands-on experience with Nature Aquarium. “ADA-ism” is a reflection of our passion for product originality and has been proven through our product designs and high quality standard. For this reason, every single ADA product is a masterpiece that we proudly deliver to all of our loyal customers. With our 20th Anniversary, we are extremely excited to announce the release of “Anniversary Premium Goods,” as part of the celebration.

ADA Anniversary Premium Goods - Coming soon to your aquarium.

ADA's 20th Anniversary Pamphlet is now available in stores world wide. Please check your local ADA registered stores and distributors to get your copy! *Limited quantities available, so please act quickly.





Travelling across Japan

Vol.44 Miharu-Machi, Fukushima, 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.

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

CO₂ / Pollen Glass Mini, 1 bubbles per second
(supply CO₂ by YA/ Ver.2)

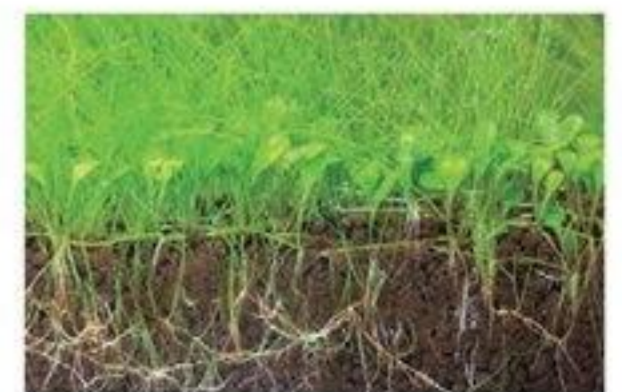
Additives / Brighty K, Green Brighty Step 2
1/3 once a week
Water Change / Temperature 25C pH:6.8 TH:20mg/l
Water condition / Wabi-kusa Glossostigma,
Aquatic Plants / Wabi-kusa Eleocharis parvula,
Wabi-kusa Hemianthus callitrichoides,
Wabi-kusa Stemmed Plants Mix, Wabi-kusa Karen
Hyphessobrycon amandae,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



Encourages photosynthesis with its high luminosity.



Provides a natural look with proper color temperatures.



Develops sturdy undergrowth plants.



Weeping Cherry Tree in Miharu (Miharu-Machi, Fukushima, Japan)

On April 21, 2011, about forty days after the Tohoku Earthquake, I went to take photographs of famous Miharu Takizakura, an ancient weeping cherry tree. On the way back, I heard there was another weeping tree called "Serigasawa Sakura" near the Miharu Interchange Exit and decided to make a stop there. This weeping cherry tree in full bloom created a stunning contrast with yellow mustard flowers around it against the backdrop of the clear blue sky. Even after the nuclear accident, the natural cycle still tells us precisely when spring has arrived.

Shooting data / Ebony 8x20, APO Symmar 480mm, 1/2 sec at f45, PL filter used, Velvia 100F 8x20 inch format film
Text and photographs by Takashi Amano

AQUA JOURNAL

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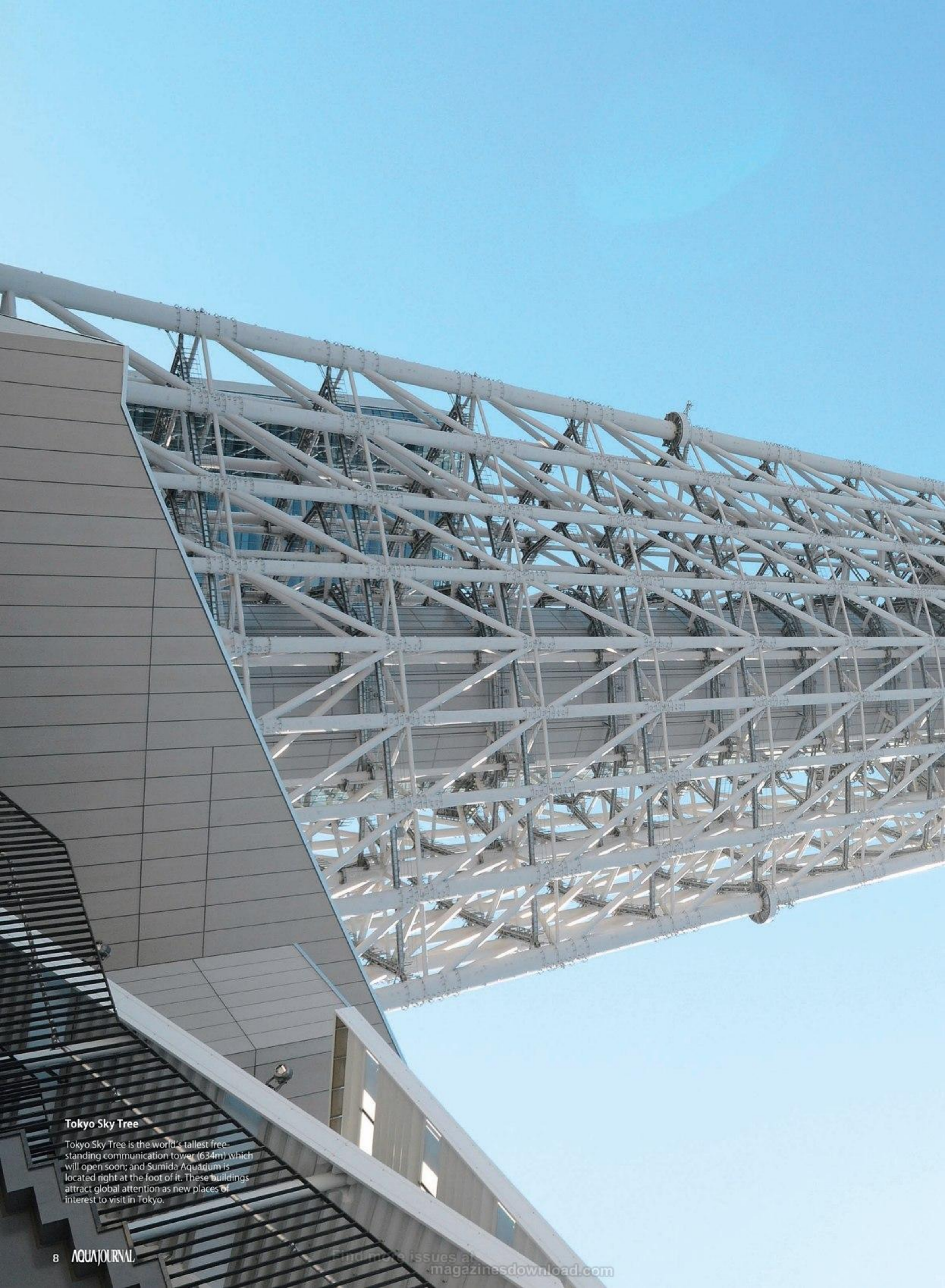
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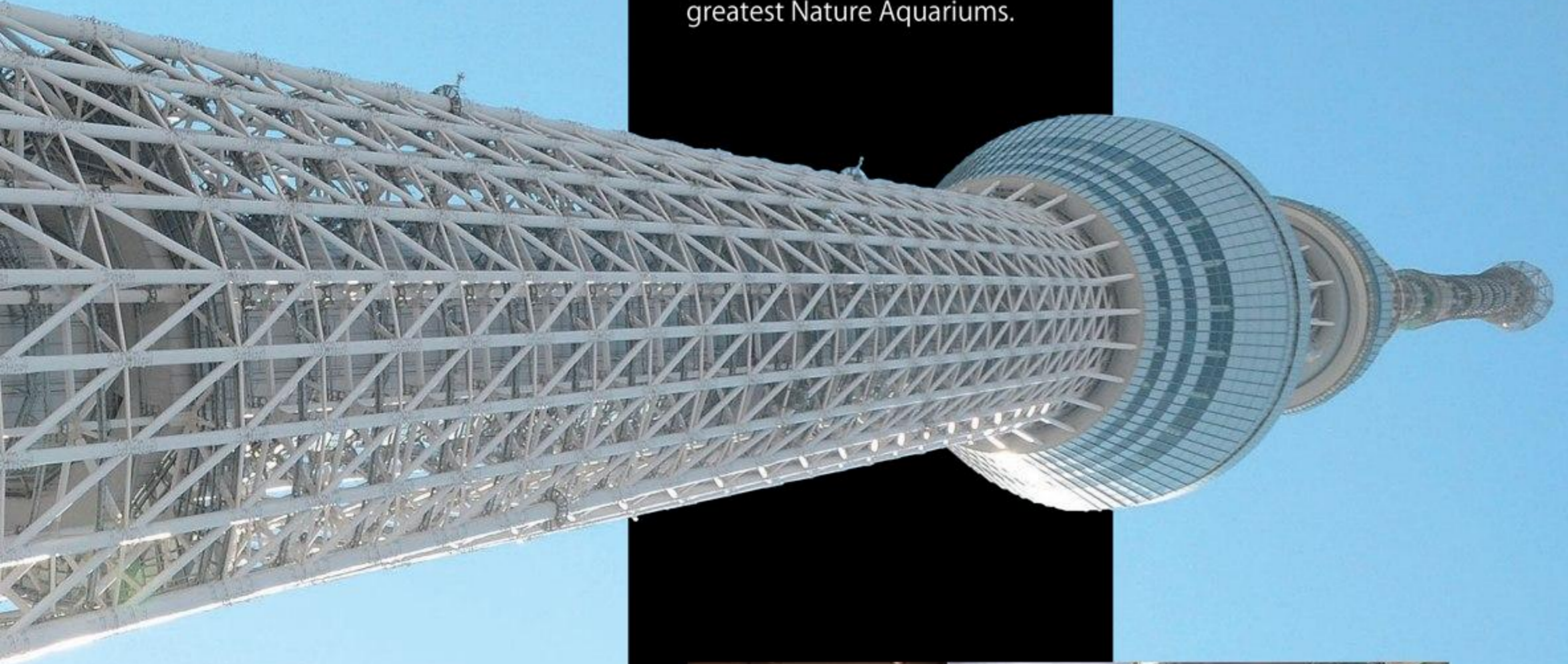
48 REPORT OF MIZUTSUCHI GAKKO



Tokyo Sky Tree

Tokyo Sky Tree is the world's tallest free-standing communication tower (634m) which will open soon; and Sumida Aquarium is located right at the foot of it. These buildings attract global attention as new places of interest to visit in Tokyo.

On March 13, 2012, the interior fit-out and surrounding works were progressing at a fast pace at the soon-to-be-opened Tokyo Sky Tree. Looking up from the Tokyo Sky Tree Town which is currently under construction, the observatories of the tower seemed to be located right above our heads. The world's tallest free-standing communication tower can boast two more world records; it has two Nature Aquariums contained within it that have the world's largest tank size and volume, respectively. This issue of Aqua Journal features full coverage of the production processes of these, the world's greatest Nature Aquariums.



Two Gigantic Nature Aquariums Created by AMANO's Great Passion







All About Nature Aquarium

The Challenging Production of
Gigantic Nature Aquariums

Photographs by Editorial department

Text by Masatoshi Abe / Tsuyoshi Oiwa

Translation support by Laura Findley

"A gigantic size of aquarium tank accommodating 10 tons of water"
Most of us certainly do not know what to start with when told to create our own layout in such a huge tank.
There are a number of things to consider, such as what and how much materials to prepare; what species of aquatic plants to use and how much of them are needed; and what lighting equipment and filters to be installed.
A vision of the completed aquascape must be in the eyes of Takashi Amano standing in front of the tank after the completion of careful preparation works.
This feature article begins with the preparations of the project.



A Layout Simulation Based on Actual Production Work

Processes Necessary to Transform the Concept into a Real Layout

In this project, the layout was produced in two huge aquarium tanks of W710×D110×H120cm (7m tank) and W414×D164×H170cm (4m tank). It was decided that an Iwagumi layout and driftwood layout would be made in 7m and 4m tanks, respectively, but there was no composition materials readily available and suited to such huge aquarium tanks. For this special layout production, Amano prepared extra-large Unzan stones and Amazon driftwood. Prior to the actual production, a simulation of the layout was carried out in the corridor of the ADA Head Office.

The composition materials were placed in the corridor and their pictures were taken to prepare the basic design plans for the layout. These plans are used to explain to the staff about the concepts on aquatic plants to be planted.

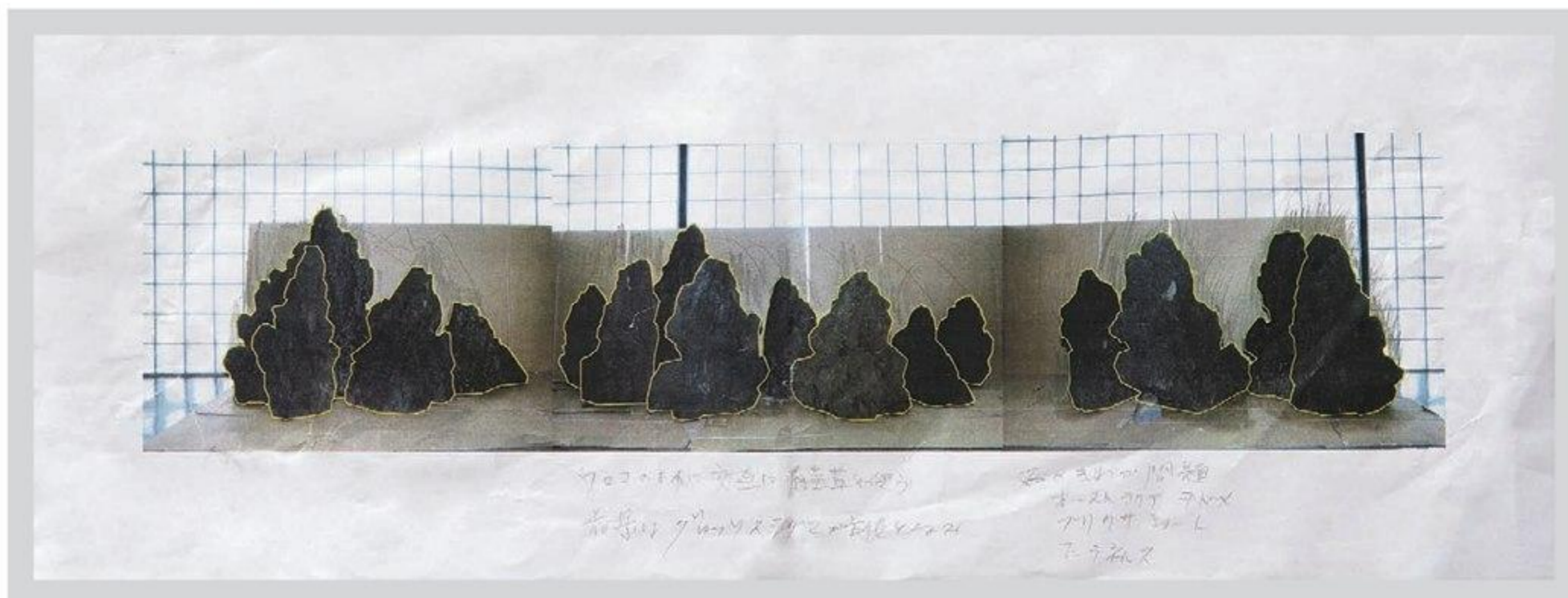


1

A set of cardboard sheets approximately equivalent to the size of the tank were placed on the corridor to determine the composition with Unzan stones. Air-filled plastic bags provide an indication of how much aquatic plants are to be planted.



This is the design plan of the 7m tank which was actually used by the ADA staff. The stones are edged with yellow so that the position of each stone can be clearly identified. Amano's handwritten instructions are also seen on the plan.



2



Amano telling the layout concept to his staff prior to actual production. He gives detailed instructions on the procedures for on-site operations and also on the aquatic plants to be prepared.



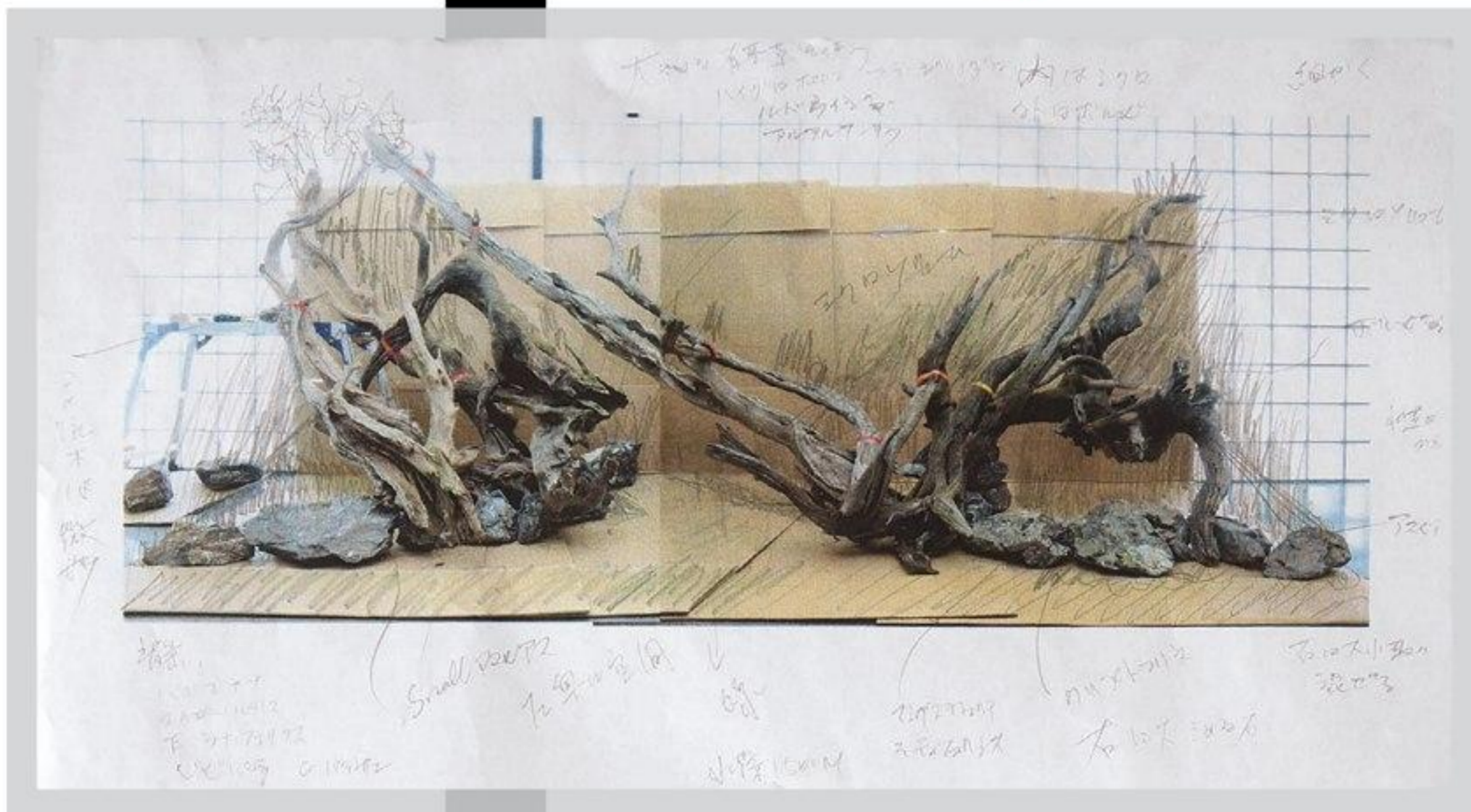
3

Layout simulation for the 4m tank is being performed. The driftwood is supported with a stepladder so it will not topple over. In the actual layout, the driftwood pieces will stand against the side wall of the tank.

This is the side view of the driftwood composition. The tank size is shown using cardboard to ensure the driftwood fits inside the tank. Too large driftwood is not suitable for use.



The design plan of the 4m tank with lots of Amano's handwritten instructions about the aquatic plants to be used. The red and yellow tapes are used as a guide for the arrangement of the driftwood in the actual tank.



Preparation of Driftwood and Aquatic Plants for Efficient Layout Production



Willow moss was attached to the driftwood in advance to ensure efficient layout production. The driftwood with willow moss is wrapped with dampened newspapers to prevent the moss from drying up.

It took a long time to attach willow moss to the driftwood because the driftwood used was much larger than usual. Moisture was occasionally provided to the willow moss during the work to prevent the drying of the moss.



Many sets of Wabi-Kusa were prepared on the floor before loading them for transportation. Effective use of Wabi-Kusa enhances the efficiency of the layout production.



Stem plants were put into dedicated transport containers. The old leaves and the leaves from the bottom of the stems of Cryptocoryne and stem plants were removed so that the plants were ready to be used at the production site.

3

Preparations for Efficient Production



The surface of the driftwood was moistened first. Then, a thin layer of willow moss was placed on the drift wood and tied on with Moss Cotton. Although this is a standard procedure for attaching moss to driftwood, it needed much more time and effort because the driftwood used was enormous!



4

Willow moss was attached to the driftwood with Moss Cotton. Making the willow moss layer as thin as possible and tying it tightly onto the wood with Moss Cotton will help the willow moss grow steadily on the driftwood.



Slow-growing ferns and Anubias have been growing in stock tanks since a few months ago. This also helps minimize the damage caused by pesticide.



Wabi-Kusa are being grown in a greenhouse. Besides the ones for ordinary shipping, the Wabi-Kusa to be used for this project are also being grown in the specially allocated sections.

Growing of Aquatic Plants In Advance Following the Schedule Determined by Counting Backward from the Scheduled Date of Layout Production

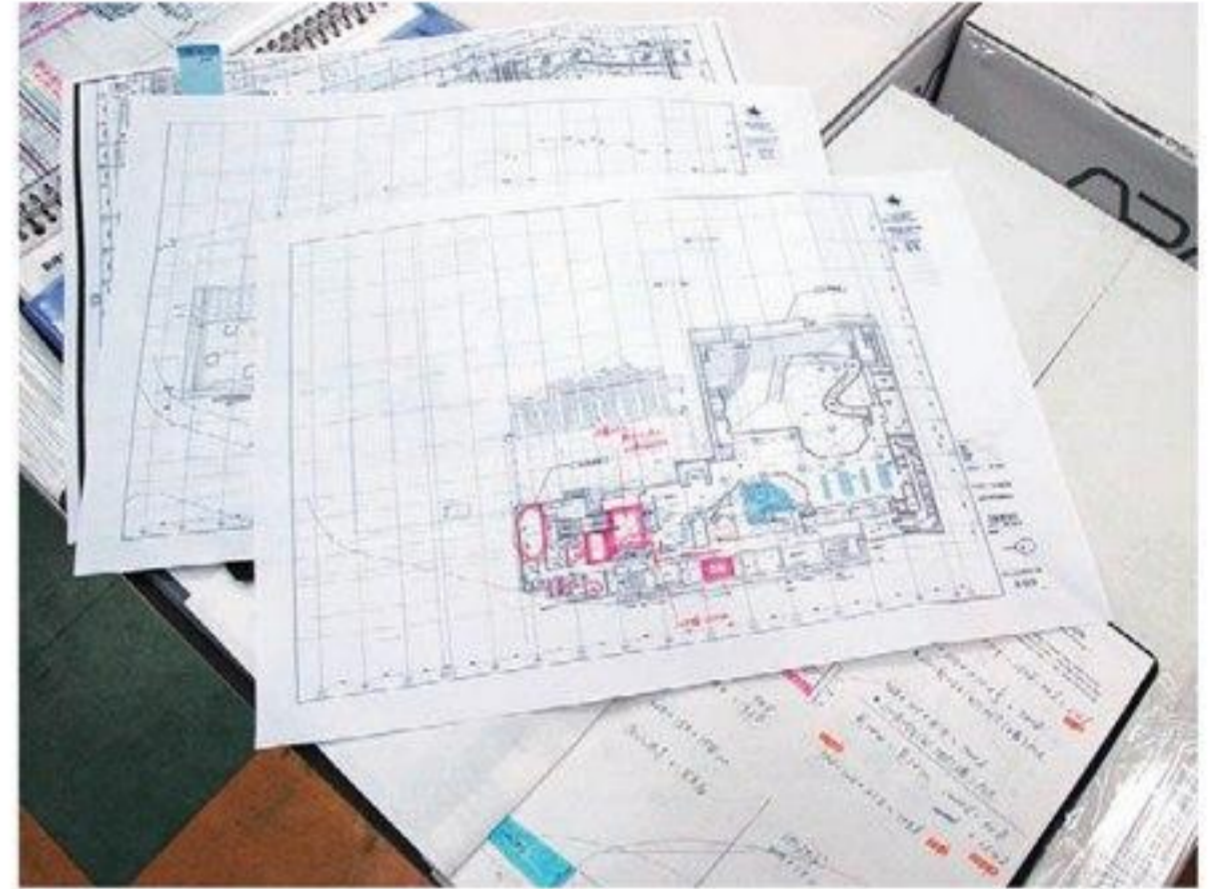
Good preparation of aquatic plants is vital for layout production in Nature Aquarium. In particular, a tremendous volume of aquatic plants needs to be used for gigantic aquarium tanks, like the aquariums in this project. To ensure the sufficient supply of aquatic plants used for this massive layout, ferns and Anubias that will surely be used have been growing in the stock tanks from a few months ago while the arrangement was made for the special production of Wabi-Kusa. Cryptocoryne, stem plants and foreground plants were adequately prepared in advance for easy and efficient planting work during the layout production.

Now Off to Tokyo Sky Tree! Loading and Unloading of the Materials

1



Restrictions were imposed on the access route to the Tokyo Sky Tree because it was currently under construction. The staff double-checked the location of the loading/unloading bay of the Sumida Aquarium to get ready for the transport of the materials the next day.



A considerable amount of substrate materials including Amazonia and cosmetic sand were also prepared. Driftwood was covered by a plastic wrap and hand loaded onto the truck because it was impossible to store it in a pallet.

2



Heavy composition materials such as Unzan stone and Manten stone were put in a container and stored in pallets. These were loaded onto the truck using a forklift.

Two 4-ton Truckloads of Composition & Substrate Materials and Equipment for the Layout of Two Gigantic Tanks

March 12, one day before the layout production, was the day of loading the materials to be brought to Sumida Aquarium. The composition and substrate materials as well as equipment that have been packed in the pallets were loaded onto the trucks with a forklift. After the loading, two 4-ton trucks were full with the materials to be used for the layout of the tremendous size of aquarium tanks. These trucks departed for Tokyo Sky Tree, followed by a station wagon loaded with perishable aquatic plants.

3



Aquatic plants in the transport containers were temporarily brought to the staff area of Sumida Aquarium. Perishable aquatic plants were kept in the refrigerator until planting.



Large Unzan stones were carried by a few staff. The stones were placed in front of the 7m tank in the approximate order of arranging within the tank.



Sumida Aquarium is located within the Tokyo Sky Tree Town. The loading bay is right at the foot of the Tokyo Sky Tree. The staff are all getting excited!



The driftwood unloaded from the truck was placed in front of the 4m tank. Preparations for the layout production were progressing steadily with the floor fully covered with tarps.

Intensive Flow of Layout Production in 7m Aquarium Tank

2012.3.13

13:30 After Amano gives instructions about how to place the Unzan stones in the 7m tank, all eight staff start placing the stones in the tank. They adjust the position, height and tilt of the stones following Amano's instructions. Placement of the stones is completed in about two hours.

15:40 The staff start building the substrate. The substrate of the 7m tank is made with Power Sand Special and Aqua Soil-Amazonia in view of the plan to cover the whole substrate area with aquatic plants. After the soil is mounded and a thin layer of Aqua Soil-Amazonia Powder type is spread over it as a finishing touch, the 1 hour 40 minute setup of the substrate is completed.

2012.3.14

8:30 The refrigerated aquatic plants are removed from the refrigerator and brought in front of the 7m tank. Water is poured in until the substrate is just submerged.

9:55 The staff start sticking the bamboo sticks in the points indicated by Amano. These bamboo sticks provide a guide of planting positions. Amano gives the instructions on the aquatic plants to be planted at the side of the stones.

10:50 The planting starts from the side of the stones. The staff also start planting *Glossostigma*, the foreground plant.

13:00 Planting work is resumed after the lunch break. In parallel with planting of foreground plants, *Wabi-Kusa Hygrophila pinnatifida* and Dwarf hairgrass are placed in the pockets on Unzan stones.

15:10 Planting of the foreground plant is completed. The staff start adding water to the tank so they can plant aquatic plants in the background.

15:30 One of the tilted Unzan stones starts to topple. The staff stop filling up water and rework the stone arrangement as well as the substrate.

16:40 The rework of the stone arrangement and substrate is completed. Planting of background plants is resumed.

17:50 The staff start attaching ferns to Unzan stones.

18:30 Planting work is completed.

20:00 The tank is filled with water. The layout of the 7m tank is now complete.



Magnificent Panoramic View of Unzan Stone Iwagumi in the Huge 7m Tank

A panoramic Iwagumi layout was created using Unzan stones in the enormous tank taking advantage of its lateral width exceeding 7m.

A Placing stones in the tank with great care

The Unzan stones used for the layout were extraordinarily large and very heavy, so the staff needed to be extra careful when placing them in the tank. All eight staff engaged in the layout production worked together for this job.



B Fine adjustment of the tilt of the stones during the layout production

While the position of each stone has been almost determined through the simulation, the fine adjustment of the tilt of the stones needed to be made at the site. The staff working within the tank carefully tilted the stone following Amano's instructions.

C Tall soil mounds made with Aqua Soil

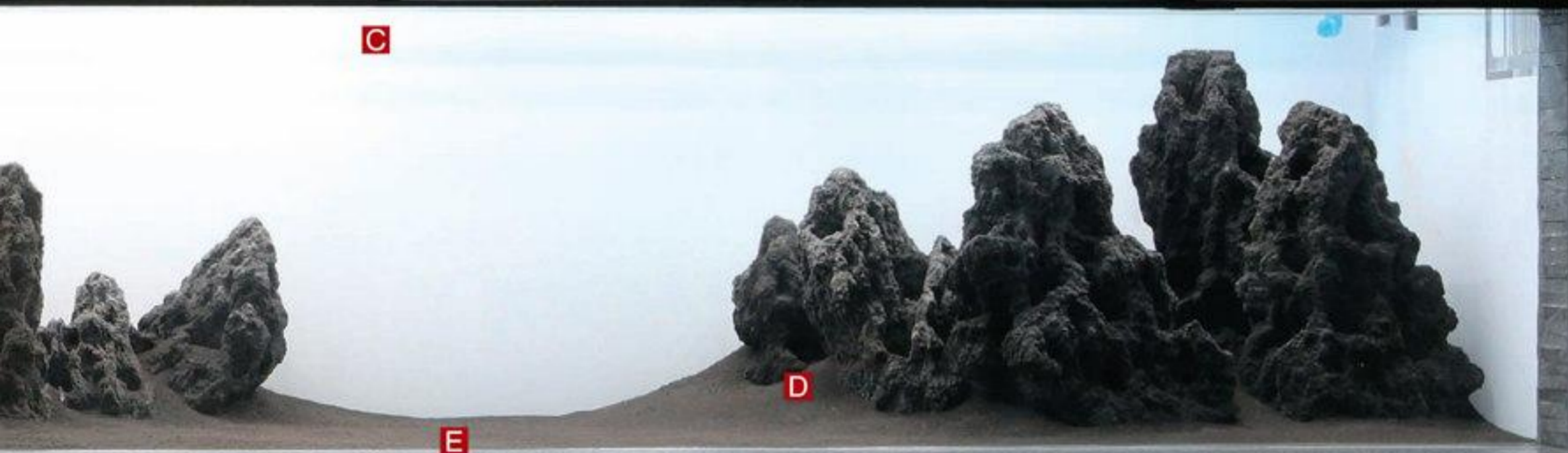
This layout was made with a basic substrate consisting of Aqua Soil-Amazonia on top of Power Sand Special and substrate additives including Bacter 100. Tall soil mounds were built with Aqua Soil.



Fine Balance of Unzan Stones

D Adjustment of stone height with Styrofoam sheets

Because the tank was 20cm taller than expected, the height of the Unzan stones was adjusted by placing Styrofoam sheets under them. This Styrofoam sheets were completely buried in the substrate.



E Giving the finishing touch to the substrate using a broom

The substrate surface is usually flattened with a brush or Sand Flattener when a layout is made in an ordinary-sized tank. For this extremely huge tank, a broom is used instead to flatten the substrate surface.

- Material DATA
- Unzan Stone × 18
- Power Sand Special L × 13
- Aqua Soil-Amazonia 9L × 84
- Aqua Soil-Amazonia Powder type 9L × 6

26 Species of Aquatic Plants Planted during the Eight-Hour-Long Planting Work

Iwagumi of Unzan stones creates a spectacular ambience with a variety of stem plants. The layout production was a really hard work due to the depth of the tank and large planting area.



A Marking the planting range with bamboo sticks

The staff stuck bamboo sticks at the points indicated by Amano using a laser pointer. This is to mark the planting range of aquatic plants in the background and at the side of the stones. The planting of aquatic plants was carried out using these bamboo sticks as a guide.



Placing Wabi-Kusa in the pockets on Unzan stones

Wabi-Kusa *Hygrophila pinnatifida* and Dwarf hairgrass are placed in the pockets on Unzan stones with Aqua Soil-Amazonia Powder type. This is a technique that can only be used with Unzan stone.

B Planting Wabi-Kusa and individual stem plants in the background

Besides stem plants in Wabi-Kusa form, a lot of individual stem plants were also planted in the background. The staff carefully planted each plant using tweezers although they were in an acrobatic position.



■ Plants DATA

Wabi-Kusa Hygrophila polysperma
 Wabi-Kusa Hygrophila pinnatifida
 Wabi-Kusa Ludwigia glaundulosa
 Wabi-Kusa Ludwigia repens
 Wabi-Kusa Rotala sp.
 Wabi-Kusa Rotala nanjean
 Wabi-Kusa Rotala sp. Vietnam Hra
 Wabi-Kusa Rotala sp. (Ceylon)
 Wabi-Kusa Rotala rotundifolia (Green)
 Wabi-Kusa Hemianthus micranthemoides
 Wabi-Kusa Eleocharis acicularis
 Ludwigia sp. "Super Red"
 Ludwigia lacustris

Ludwigia sp.
 Myriophyllum mattogrossense (Green)
 Rotala macrandra (Narrow Leaf)
 Pogostemon sp. "Dassen"
 Nesaea pedicellata
 Staurogyne repens
 Blyxa novoguineensis
 Glossostigma elatinoides
 Eleocharis acicularis
 Echinodorus latifolius
 Echinodorus sp.
 Microsorium sp. (Trident)
 Hydrocotyle sp.

Meticulous Planting in 7m Tank



📍 Dense planting of foreground plants

In this layout, Glossostigma was planted as the foreground plant to fill the space between each of the three groups of lwagumi. The top view shows how dense the initial planting was.



A secret item to support the body

Since the staff could not go in the 7m tank for planting, the staff performed the planting work while supporting their bodies with an equipment called sucker. Originally used for carrying glasses, this tool steadily sticks to the tank wall using vacuum force.



Extraordinary Maintenance Methods for Daily Care of 7m Aquarium Tank

Once the planting is completed and the tank has been filled with water, the daily care of the aquarium begins on the very next day. The enormous tank requires extraordinary maintenance work to achieve steady and healthy growth of the aquatic plants.

30
days later

A Legendary Pro Pinsettes G for partial replanting of aquatic plants

Replanting is needed in case of decay or poor growth of aquatic plants. However, it is hard to do this work with an ordinary pair of tweezers this time due to the extreme depth of this tank. In this project, the 63cm-long Pro Pinsettes G are used as a useful tool.



28
days later

B Sufficiently tall footing for efficient maintenance works

Footing is important for efficient maintenance of the deep tank that is also standing on a higher level than the floor. A container is also used as a footing for some locations.



27
days later

C Most of the aquatic plants are growing steadily about one month after the planting

Aquatic plants are growing vigorously after about one month has elapsed since they were planted. Adding fishes to the tank helps supply nutrients such as nitrogen and phosphorus and also promotes the growth of aquatic plants at a higher rate.



27
days later

D Effective cleaning method that prevents sludge from building up between the leaves

Sludge accumulated between the aquatic plant leaves can result in algal growth or plant diseases. The sludge should be suctioned off effectively with a strainer made with a plastic bottle.



30
days later

E Pinpoint trimming of aquatic plants with a modified telescopic pruning shears

Some aquatic plants need to be pruned on a pinpoint basis even when they are growing steadily. For this purpose, a telescopic pruning shears with curved blades like Pro-Scissors Angle is used.



■ Aquarium DATA

- Tank / W710×D110×H120 (cm)
- Lighting system / Grand Solar I (NAG-150W-Green / NA Lamp 36W Twin ×2) ×20 units
Lighting for 12 hours a day
- Filtration system / Overflow Filter system
- Substrate system / Aqua Soil—Amazonia, Power Sand Special L, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC
- CO₂ system / Direct injection system
- Additives / Brighty K & Green Brighty Special LIGHTS
- Water change / 1/4 water change once a week
- Water quality / Water temperature: 25°C; pH: 6.6; TH: 30mg/ℓ



Flow of Layout Production in Spectacular 4m Aquarium Tank

2012.3.13

- 17:40 The plastic wrap and newspaper are removed from Amazon driftwood. The staff start putting the driftwood in the tank.
- 18:07 After adjusting the height and angle according to the design plan and Amano's instructions, the driftwood is secured in place with Manten stones.
- 19:00 Power Sand Special and Aqua Soil-Amazonia are placed to build the substrate in the background.
- 19:24 Cosmetic sand blended with La Plata sand (white) and Colorado sand (reddish) is placed in the foreground. The setup of the substrate is completed with flattening of the surface with a broom.
- 20:06 A humidifier is installed within the tank to prevent drying of the willow moss on the driftwood's surface. The staff cover the tank with plastic sheets and close the lid to keep the appropriate moisture level within the tank. Work for the day is now over.

2012.3.14

- 8:57 Since the composition looks nearly symmetric, it is suddenly decided to change the position of one piece of driftwood under Amano's instruction. This position change is completed in about 30 minutes.

2012.3.15

- 8:28 The staff remove the plastic sheets from the tank and moist the substrate as a part of the preparations for planting.
- 9:02 The staff remove the containers of aquatic plants from the refrigerator and bring them at the side of the 4m tank.
- 9:11 Unnecessary Manten stones on the driftwood are removed following Amano's instructions.
- 9:36 The staff start planting *Cryptocoryne* around the driftwood. *Anubias* that grows in a dim environment is planted in the shade of the driftwood.
- 10:30 The staff start attaching ferns and *Anubias* to the driftwood. While checking the overall balance, Amano gives the instructions using a laser pointer on the positions to which the plants are to be attached. This work continues with lunch break in between.
- 13:57 Planting of the background plants commences. *Wabi-Kusa Ludwigia glandulosa* are placed in the background.
- 14:18 Stem plants and tape-like aquatic plants are planted in the background. Planting work is completed in about one and a half hours.
- 16:22 The staff starts filling the tank with water but the water becomes cloudy due to cosmetic sand. To improve the problem, the tank water is drained and added again.
- 18:06 The water is poured into the tank at full rate. It takes a long time to fill the tank with water due to insufficient supply of warm water caused by the equipment malfunction.
- 21:00 The tank is filled with water. The layout of the 4m tank is now complete.

Dynamic Amazon Driftwood Layout Created in 4m Tank

A dynamic layout filled with a great sense of perspective was created in the overwhelmingly voluminous 4m tank by using huge Amazon driftwood and cosmetic sand.



A Putting the driftwood into the tank in accordance with the layout order

This huge 4m tank has two beams on its top. The orientation and arranging order of the driftwood must be determined taking this fact into consideration. The tank is covered by blankets for protection.



B Use of blended cosmetic sand

Cosmetic sand is blended with whitish La Plata sand and reddish Colorado sand to have more natural color. The sand was spread out in the foreground towards the inner side of the center part of the tank to emphasize the perspective of the layout.



C Adjustment of driftwood height with Manten stones

Because the tank was much deeper than expected, the height of the driftwood was adjusted on the spot by stacking Manten stones under them. The Manten stones were carefully stacked up so they will not collapse.

D Burying the drain pipe in the substrate

Power Sand Special L and Aqua Soil-Azoniam were used for the background substrate. The visible drain pipes of the overflow filter were concealed by burying them in the substrate as much as possible.



E Placing Manten stones on driftwood to keep the wood in place

The arranged driftwood is secured in place by placing Manten stones on it. Many small stones in a bucket were placed on the driftwood, and then unnecessary stones were removed from there just as doing the subtraction.



Making the Composition Framework with Amazon Driftwood



Preventing drying of moss with a humidifier

A humidifier was installed within the tank to prevent drying of the willow moss on the driftwood until the planting on the day after next. The top surface of the tank is covered with plastic sheets to keep the appropriate moisture level within the tank.



- Material DATA
- Driftwood from Amazon × 8
- Manten Stone
- Power Sand Special L × 4
- Aqua Soil-Azoniam 9L × 29
- Aqua Soil-Azoniam Powder type 9L × 2
- La Plata Sand
- Colorado Sand

A Full-Scale Natural Aquascape Reproduced in a 4m Tank

Twenty species of aquatic plants of different types were used for the Amazon driftwood layout created within the 4m aquarium tank to express the underwater environment in tropical rainforest endowed with abundant natural richness.



A Planting shade-loving aquatic plants under the driftwood

Shade-loving *Cryptocoryne* was planted around the driftwood while *Anubias barteri* var. *barteri* having a higher tolerance to shade was planted in the area which is in complete shade of driftwood.

Selecting the ferns having the optimal size and shape

The size and shape are of great significance for the ferns to be attached to the driftwood. The ferns to be used are selected by looking at the layout being created within the tank. Some ferns were trimmed by Amano on the spot so they have optimal shape and size.



Balanced placing of ferns

Ferns are attached to the driftwood in a balanced manner by looking at the overall balance of the layout. Amano gave instructions on where to attach the ferns using a laser pointer and the staff working in the tank placed the ferns on the driftwood accordingly.



D Planting considering the biological characteristics of the plant

Sun-loving stem plants were planted in bright places while *Anubias* and other shade-loving plants were planted in dim places. A number of tape-like aquatic plants were also used to conceal the drain pipes.



B Untangling the aquatic plant leaves

Once the planting is done, the leaves of aquatic plants are untangled while pouring water. Failure to do so can result in poor growth of aquatic plants. A tool made by attaching tweezers to the tip of a rod was very useful for this work.

Finely Worked-Out Planting for the 4m Tank



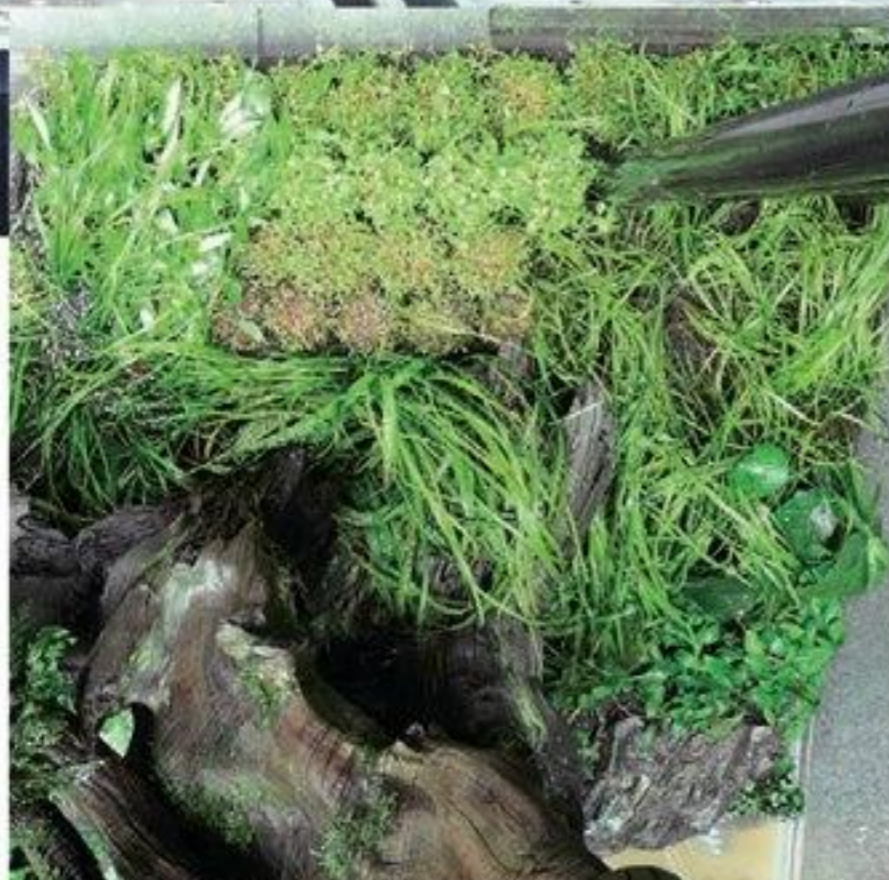
C Adjusting the size and orientation of plants

The ferns attached to the driftwood need to be adjusted if their sizes or orientations do not look natural. It is important to place the ferns in a correct orientation based on their growing directions.

Plants DATA

- Wabi-Kusa Ludwigia glaudulosa
- Wabi-Kusa Hygrophila polysperma
- Wabi-Kusa Rotala sp.
- Wabi-Kusa Rotala sp. (Ceylon)
- Wabi-Kusa Rotala sp. Vietnam Hra
- Cryptocoryne balansae
- Cryptocoryne wendtii "Real Green"
- Cryptocoryne wendtii (Green)
- Cryptocoryne beckettii var. petchii
- Cryptocoryne sivadasanii
- Vallisneria neotropicalis

- Vallisneria nana
- Echinodorus angustifloria
- Hygrophila stricta var. Thailand
- Eleocharis vivipara
- Anubias barteri var. barteri
- Anubias barteri var. nana "Petit"
- Microsorium sp. (Narrow Leaf)
- Bolbitis heudelotii
- Taxiphyllum barbieri



Effective Daily Maintenance of 4m Tank Using Accumulated Experiences and Innovations

Since the size of this 4m tank is close to the tank installed in Amano's private residence, some of the experiences that have been learned to date, along with new innovations, can be tapped into for the maintenance of this 4m aquarium project.

27
days later

A Carefully trimming off the discolored emerged leaves of *Cryptocoryne*

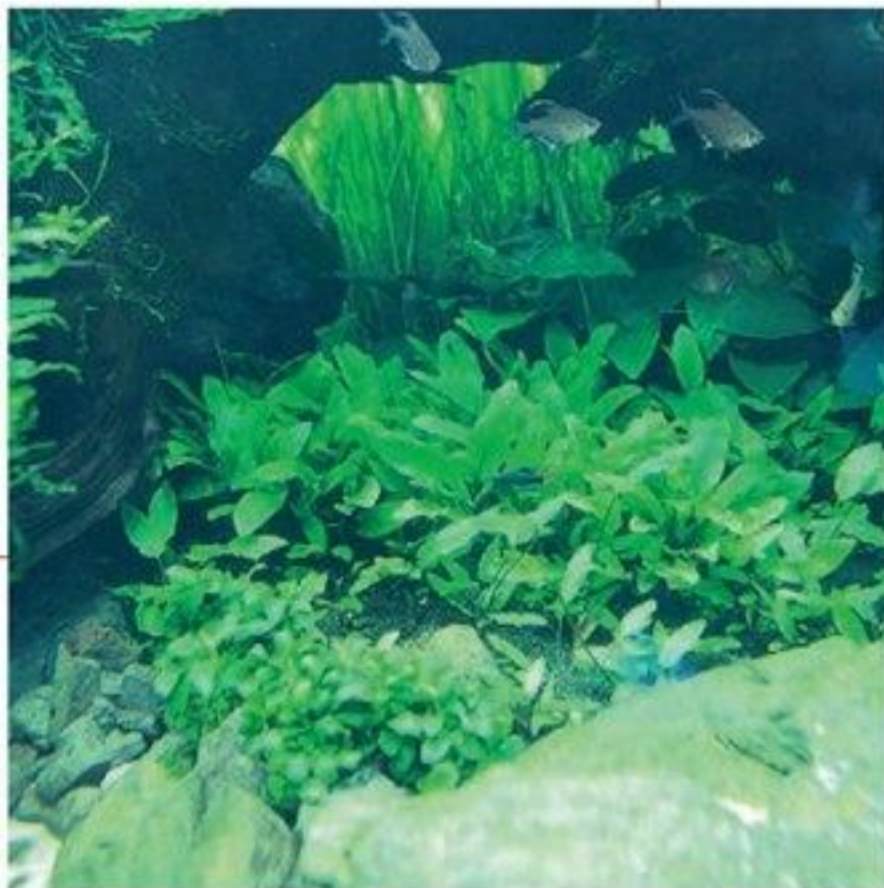
One month has passed since *Cryptocoryne* was planted and it is developing the submersed leaves steadily. However, its emerged leaves gradually discolor as the submersed leaves grow. Discolored emerged leaves should be trimmed off carefully one by one with the trimming scissors.



28
days later

B *Cryptocoryne* around the driftwood steadily developing submersed leaves

"Cryptocoryne melt" will result in poor growth of new leaves. To avoid this, careful maintenance has been performed considering the optimal amount of water to be changed since *Cryptocoryne* was planted.



28
days later

C Know-how on placing sand exactly on the target location developed through accumulated experiences

Dirty cosmetic sand should be suctioned off and replaced with new sand. Use of a long pipe enables us to place the sand exactly on the target location. This is a know-how developed by Amano through the maintenance of the tank in his residence.



27

days later

D Cleaning inside the tank with utmost care to prevent scratching or damaging the acrylic

The gigantic tanks in Sumida Aquarium are made of acrylic that can scratch easily. Therefore, utmost care should be taken even when removing algae on the inner surface of the wall. For this reason, ADA has developed a scraper designed specifically for these tanks.

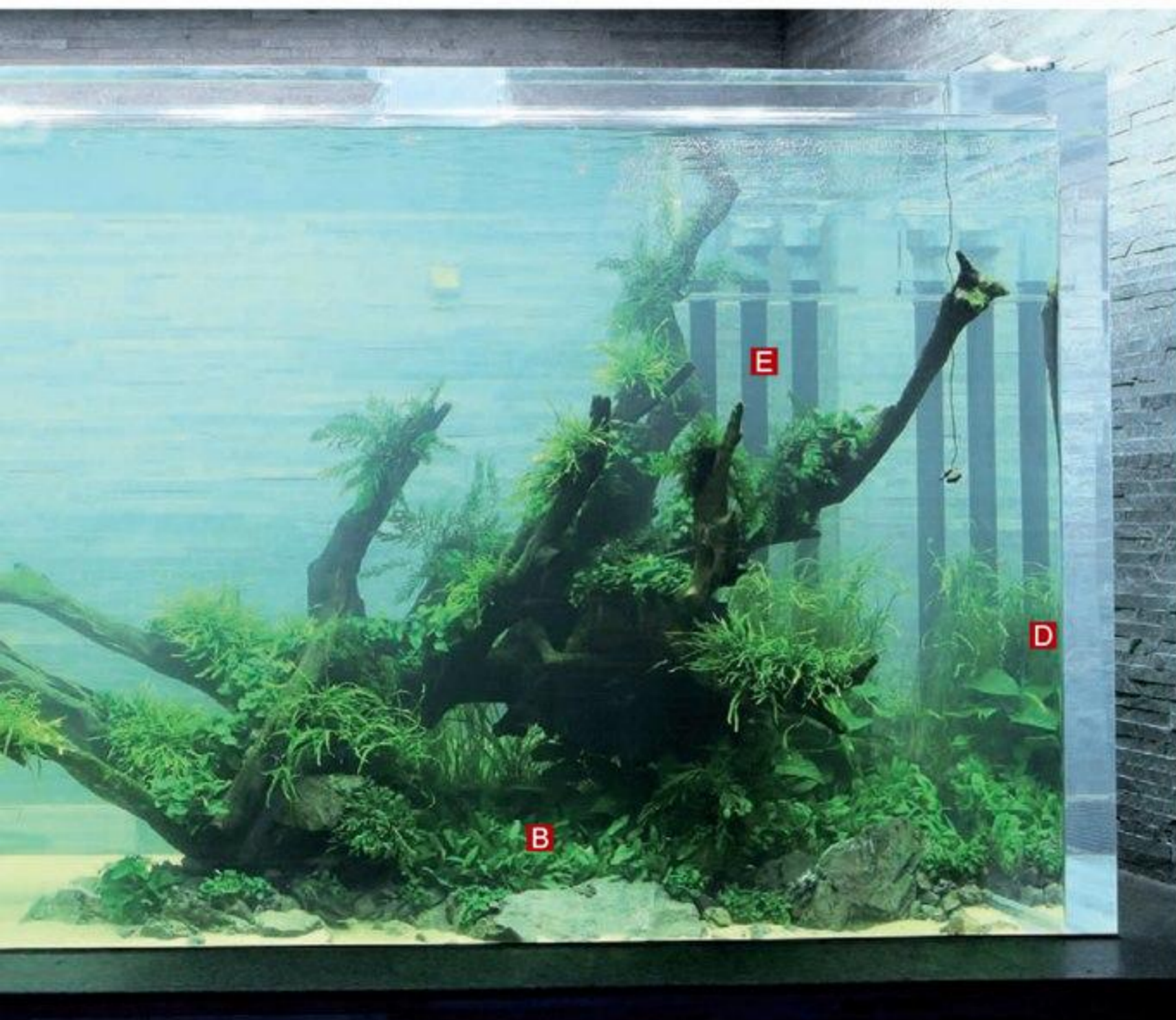


28

days later

E Wabi-Kusa stem plants in the background developing submersed leaves steadily

The Wabi-Kusa stem plants that were placed in the background still look short in this deep tank, but they are actually big and developing submersed leaves steadily. The risk of failure can be minimized by the use of Wabi-Kusa.



28

days later

Filter and filter media are important for avoiding failed setup of aquarium tank

Overflow filters having a large filtering capacity are used for this huge tank. In addition, Super Jet Filters that have been well established were also used during the initial setup period.



■ Aquarium DATA

- Tank / W414×D164×H170 (cm)
- Lighting system / Grand Solar I (NAG-150W-Green / NA Lamp 36W Twin ×2) ×14 units
Lighting for 12 hours a day
- Filtration system / Overflow Filter system
- Substrate system / La Plata Sand, Colorado Sand, Aqua Soil-Amazonia, Power Sand Special L, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC
- CO₂ system / Direct injection system
- Additives / Brighty K
- Water change / 1/4 water change twice a week
- Water quality / Water temperature: 25°C; pH: 6.6; TH: 50mg/ℓ

The Thoughts I Put into the Gigantic Nature Aquariums

Takashi Amano proudly considers the world's largest Nature Aquariums to be displayed in the soon-to-be-opened Sumida Aquarium as his masterpieces. Wondering how he created these layouts, we asked Amano about the thoughts he put into these Nature Aquariums before he was leaving for Sumida Aquarium for a meeting.

AJ: Why did Sumida Aquarium want you to produce these gigantic Nature aquariums?

Amano: Sumida Aquarium is the newest aquarium in Japan but it is relatively small in size. On top of that, the aquarium is located between the Tokyo Sea Life Park (Kasai Rinkai Aquarium) and the Sunshine Aquarium, two of Japan's best aquariums attracting a great number of visitors. Under such circumstances, Sumida Aquarium must have a theme and proposals, which must be meaningful and of high quality. In the end, Sumida Aquarium had decided to display 'environmentally-friendly aquariums' and selected ADA's Nature Aquarium as the best choice. This is how we created and displayed two Nature Aquariums presenting the concept of Sumida Aquarium at the aquarium entrance.

AJ: So, you mean the gigantic Nature Aquariums come into our sight right after we step in Sumida Aquarium?

Amano: That's right. The spectacular layouts will spread in front of us. The 4m tank installed at the front side after the entrance shows the natural aquascape in real size while the 7m tank at the right side displays a natural, wide aquascape. Both of them were produced through meticulous calculation and taking into consideration the overall atmosphere of the entrance floor. We have made very careful simulations. Before we produced the layouts in Sumida Aquarium, we made an experimental layout using the same Unzan stones within a tank in the

NA Gallery (refer to page 38-41). We have looked into all the possible concerns through simulation, including whether the staff can really maintain the completed layout. And since pure white cosmetic sand has too much contrast and easily becomes dirty, we managed to get the most natural-looking cosmetic sand by blending two different types of sand at different ratios. I didn't want to regret that I should have done things some other way. So, these are one of the layouts into which I put my very best efforts and spirit in my life. They are truly my masterpiece.

AJ: Yes, we know you have made really thorough simulations. Did you feel pressured about making the layout in these tanks of unprecedented sizes; the W414×D164×H170 (cm) tank having the world's largest volume and the W710×D110×H170 (cm) tank having the longest width ever?

Amano: I had no worries at all about the size of the tanks, but their depth was the problem. Before I arrived at the production site, I was informed that the tank depths were 100cm and 150cm. But later I found out the actual depths were 120cm and 170cm, which gave me a little shock. When we placed the layout materials in the tank, their height did not look as we had expected; but it was not surprising because the actual tank size was much larger than the size we used for our simulation. Fortunately, we could raise the layout materials using the things we had prepared for raising the level. I knew from my past experience this kind of thing could happen. Besides this, there were

NA Gallery (refer to page 38-41). We have many more other things. I had made some instructions on the configuration of the filter but they were not followed. The company in charge of the filter was the major construction company and they are the only company in Japan that has a department handling aquarium affairs. But even that company did not properly understand what I had said. When I came to know about it, I really felt I should have given more detailed instructions. I know if I do everything on my own, there won't be problems of this kind, but if I leave things to someone, I have to handle things in a more detailed and precise way. I learned this lesson from the experience I had this time. Well, I felt that I overcame these troubles because I have the experience, skills and knowledge accumulated over these twenty to thirty years. Nature Aquarium is formed not only from aesthetic elements: it has physical, chemical and biological elements, and then the aesthetic element comes last. The layouts produced for Sumida Aquarium are made up of these four elements in perfect balance. You know, I have a meeting on the background design of the aquariums later today.

TAKASHI AMANO X SUMIDA AQUARIUM

AJ: Could you tell us about the main features of each Nature Aquarium.

Amano: The 4m tank was created using Amazon driftwood under the theme of jungle and real-size nature. So, I think it will give the people who see it an impression that they are in the waters of a tropical rainforest. I believe the 7m panoramic tank will let the viewers feel nature on a dynamic scale because of its overwhelming width. These two huge tanks that sit in the entrance hall give a totally different impression but in fact they look perfectly natural being together. They are well in harmony within the entrance area. I hope you understand what I mean. The TV cameraman who recorded our layout production said he realized the perfect balance of the two layouts and got very surprised only when he took a zoomed-out shot of the overall aquascape after the stone arrangement was done. He commented, "That was great", so I responded by saying, "I know, right?" I think it's impossible to create something great that can move others without having great confidence. I know most Japanese people will not say these kind of things out loud – to me, I feel that is a bad thing about Japanese people. I think it's fine to praise your own self because we have to be confident in ourselves. Am I right? I always say my rival is Leonardo da Vinci. Well, I know Leonardo da Vinci is a little more famous than I am (LOL).

AJ: Oh, Leonardo da Vinci is not a person you respect but your rival. How great! I heard you used Wabi-Kusa as a part of aquatic plants. Did you have anything particular in mind about planting?

Amano: Unlike the NA Gallery where most of the visitors are planted aquarium hobbyists, many of the visitors to a public aquarium have no interest in aquatic plants. In view of this, I had to create a layout that can impress even such a visitor. In other words, I had to create something that can win popularity. So, I used a lot of stem plants to produce a colorful aquascape in the 7m tank. But I can't make the 4m tank colorful because it was created under the concept of an underwater world of the tropical rainforest. So I used cosmetic sand to give a very natural ambience to the layout and also express the perspective of the layout. Besides cosmetic sand, I also used driftwood to show dynamism. The layouts displayed in a public aquarium must be a work that can satisfy everybody, from ordinary visitors to planted aquarium enthusiasts. And they have to be something that can amaze all the people who see them – I think achieving this is hard even for Leonardo da Vinci (LOL).

AJ: Lastly, Sumida Aquarium introduces Nature Aquarium as the natural aquascape that depicts nature in a condensed form. How do you feel about it?

Amano: In many TV interviews featuring the giant layouts I created this time, I told the reporters that this natural aquascape can serve as a good model for us to learn about the environment. I hope people will focus more attention on this point. For example, many people nowadays feel CO₂ harms the Earth, but it is totally

wrong. Plants can perform photosynthesis only with CO₂ and we all can survive with the oxygen produced by plants in their photosynthesis process. The point is the balance between our production activities and the amount of plants; and this balance is now being lost. We cut down many trees while emitting more and more CO₂, so we are now facing environmental problems. We can know this by looking at the Nature Aquarium carefully. So, we should plant trees to have more greenery to improve the global environment. Now electricity saving and the promotion of hybrid cars are encouraged to reduce CO₂ emissions. It seems people think CO₂ will be reduced and global warming can be prevented just by those measures, but I say No to it. I think we should plant more roadside trees rather than controlling automobile exhaust emissions. Automobile manufacturers should allocate a part of their profits to tree planting and the factories should plant trees in their compounds. We can realize these things by looking at the natural aquascape where aquatic plants perform photosynthesis and produce oxygen in the good balance between CO₂ and light; and fishes swim in a lively way. I feel the children and younger generations need to know the system of the natural environment. Children can learn a lot from the Nature Aquarium because it has all the scientific aspects on top of the aesthetic aspect, as I mentioned earlier. This fact makes the Nature Aquarium a rich, high-level hobby. On top of that, aquascapes comprising water and aquatic plants have a healing effect and can also be used as a good aqua-interior item. I believe in the future society, spiritual wealth will be more pursued instead of materialistic prosperity. I would be happy if people receive my message through viewing the Nature Aquariums in the Sumida Aquarium.

An Experimental Layout using Unzan Stone and Wabi-Kusa

NEW LAYOUT STYLE
UNZAN STONE & WABI-KUSA

Unzan stone is a new layout material that was released at the end of last year. In fact, the development and commercialization of this stone is related to the gigantic aquariums of Sumida Aquarium. Amano focused early attention on Unzan stone as a material to be used for the Iwagumi layout for the 7m tank. Unzan stone, a natural volcanic stone, is available in various sizes, ranging from tiny pieces to giant sizes. While large stones were needed for the Iwagumi layout to be created in the 7m tank which has a depth of 1m (precisely, it was 1.2m), Amano could not find any Ryuoh stone or Manten stone that was big enough. Even if such a giant-

sized Ryuoh or Manten stone was available, it would have been too heavy to carry it into the tank. In the pursuit of the optimal stone material, a new idea was raised about using Unzan stone as a candidate material for the 7m tank, in view of its advantages in relatively light weight even for a piece as large as one meter in diameter. Nonetheless, it is impractical to use a very new material with no proven track record for the full-scale layout. This is why Unzan stone was used in some of the aquarium tanks in the Nature Aquarium Gallery as a pilot since last autumn. Here we see how a W180×D120×H60cm overflow aquarium was created using Unzan stones.



The above photo shows how the aquarium looked immediately after planting. A fresh, unique Iwagumi layout was created.

1: Various sizes of Unzan stones are placed in the Nature Aquarium Gallery. Some of them will be selected to be used for the layout. **2:** Amano carefully selecting the Unzan stones to be used while placing each stone in the tank to see the suitability. **3:** The large stones are set in place first, and then the smaller stones are arranged. **4:** Cosmetic sand was spread out in the foreground towards the inner side of the center part of the tank to emphasize the perspective of the layout. **5:** The substrate in the background is built with Power Sand and Aqua Soil. **6:** Aqua soil spills from the gap between the stones. **7:** A special sheet to fill the gap between the stones. **8:** Only necessary size of sheet is cut out from the roll. **9:** The rear view of the tank shows that the sheet is holding the Aqua Soil. **10:** Aqua Soil is mounded up to the top line of the sheet. **11:** Aqua Soil Powder type is sprinkled as a finishing touch.



An Experimental Layout using Unzan Stone and Wabi-Kusa

NEW LAYOUT STYLE
UNZAN STONE & WABI-KUSA

The pockets on the surface, which are one of the great features of Unzan stone, are made for the purpose of placing Wabi-Kusa inside.

1



2



3



4



6



5



7

1: Wabi-Kusa *Hemianthus callitrichoides* "Cuba" is placed on the steep slopes. 2: Wabi-Kusa stem plants were placed near the water's surface so they develop their emerged leaves. 3: The gaps between Wabi-Kusa are filled with Aqua Soil Powder type. 4: Aqua Soil Powder type is also placed within the pockets on the Unzan stones. 5: Aquatic plants are planted in narrow spaces with tweezers. 6: Wabi-Kusa is placed inside the pockets with Aqua Soil on Unzan stones. 7: Lastly, branchwood to which willow moss has been attached is placed as a finishing touch.

Various attempts are made for this Unzan stone layout in preparation for the production of the 7m tank of Sumida Aquarium. One of them is the selection of Wabi-Kusa to be placed inside the pockets on Unzan stones. There are differences in growth rate between different species of aquatic plants. Through the production of this layout, Wabi-Kusa *Hygrophila pinnatifida* and Dwarf hairgrass were selected for their good growth rate.

The difference in height created by Unzan stones and soil mounds is effectively used to express natural vegetation comprising a flow of emerged and submersed plants.



Expression of Iwagumi with Manten Stone and Wabi-Kusa

IWAGUMI STYLE
MANTEN STONE & WABI-KUSA

1: Wabi-Kusa *Hemianthus callitrichoides* "Cuba" is placed on the steep slopes. 2: Wabi-Kusa stem plants were placed near the water's surface so they develop their emerged leaves. 3: The gaps between the patches of Wabi-Kusa are filled with Aqua Soil Powder type. 4: Aqua Soil Powder type is also placed within the pockets on the Unzan stones. 5: Aquatic plants are planted in narrow spaces with tweezers. 6: Wabi-Kusa is placed inside the pockets on the Unzan stones. 7: Lastly, branchwood to which willow moss has been attached is placed as a finishing touch.



[Before Sozo Haishoku]



Sozo Haishoku is primarily performed in an Iwagumi layout. Compared to a driftwood layout, replanting and the replacement of substrate materials can be done easily in an Iwagumi layout while maintaining composition materials. On top of it, the technique of Sozo Haishoku is often used in Iwagumi layouts for the reason that many hobbyists wish to maintain their favorite Iwagumi for a long time because they made the Iwagumi through hard work in collecting and arranging the stones. Sozo Haishoku can be made easy by using Wabi-Kusa.





A Wabi-Kusa *Utricularia reticulata* is placed with appropriate gaps between them.



B *Glossostigma elatinoides* is placed in the spaces between the stones.



C Wabi-Kusa can be cut or divided according to the location in which it is to be planted.



D No Wabi-Kusa is used but instead aquatic plants are planted with tweezers in the foreground so that the foreground substrate will not become excessively thick.

[About two months later]



[Immediately after Sozo Haishoku]



E *Utricularia reticulata* has grown and the gaps between them are now invisible.



F *Glossostigma elatinoides* in the foreground is maintained at the appropriate thickness.



G *Utricularia reticulata* and *Glossostigma elatinoides* are nicely blended when grown.



Enjoying Repeated Creation of Iwagumi Layout by Sozo Haishoku using Wabi-Kusa

Iwagumi layouts do not normally collapse easily or become dislodged as long as the stones are arranged in a proper manner. With this great feature of Iwagumis, you are able to makeover the Iwagumi layout just by Sozo Haishoku, i.e., replanting aquatic plants, even when the condition of plants has deteriorated so badly that they can be hardly maintained. In this way, you will enjoy a fresh layout repeatedly. The layout shown on this page uses Wabi-Kusa *Utricularia reticulata* as the main plant.



DATA

Tank	/ Cube Garden W180×D60×H60 (cm)	Additives	/ Brighty K & Green Brighty STEP 2
Lighting system	/ Grand Solar I (NAG-150W-Green) ×3 units Lighting for 10 hours a day	Water change	/ 1/3 water change once a week
Filtration system	/ Super Jet Filter ES-2400 (Bio Rio L, NA Carbon)	Water quality	/ Water temperature: 25°C; pH: 6.6; TH: 20mg/ℓ
Substrate system	/ Aqua Soil – Amazonia, Power Sand Special L, Bacter 100, Clear Super, PENAC W for Aquarium, PENAC P for Plants, Tourmaline BC	Aquatic plants	/ <i>Utricularia Graminifolia</i> <i>Glossostigma elatinooides</i> <i>Eleocharis acicularis</i>
CO ₂ system	/ Pollen Glass Beetle 50Ø – 6 bubbles per second with CO ₂ Beetle Counter	Fish species	/ <i>Hyphessobrycon rosaceus</i> var. <i>Crossocheilus siamensis</i> <i>Otocinclus</i> sp. <i>Caridina japonica</i>
Air	/ Aeration with Lily Pipe P-6 for 14 hours when lighting is OFF at night		



Nature Aquarium

WORLD REPORT in MALAYSIA



Exploring River Fields in Malaysia – Enchanting Home to Wild Cryptocoryne

Reported by: Mr. L C Chan, the CEO of Aquatic Creation
Technology (ADA distributor in Malaysia)
URL: <http://www.adana.com.my>

Cryptocoryne is naturally distributed in tropical regions including the Malay Peninsula and East Malaysia; and each area has its indigenous species. Local planted aquarium hobbyists sometimes go into the fields to pick Cryptocoryne on their own. It is certainly a fun activity that only local people can enjoy, but on the other hand, it is reported that the natural habitats of Cryptocoryne are reducing every year by deforestation. Here's a special field report from Malaysia.



A clump of *Cryptocoryne affinis* can be seen under the water's surface.



Cryptocoryne affinis growing above the water



The place where masses of *Cryptocoryne bullosa* are seen



Cryptocoryne bullosa in green color



Cryptocoryne is seen out of water during dry season when the water level decreases.



Long leaves (top) and short leaves (bottom) of *Cryptocoryne bullosa*



Crossbred *Cryptocoryne auriculata*. This is a rare species.



Cryptocoryne auriculata observed on clay layer



The reporter having fun in the river which is a home to *Cryptocoryne*



Beautiful spathe of *Cryptocoryne schulzei*



A clump of *Cryptocoryne keei* (green) having beautiful indented leaf surface



Spathe of *Cryptocoryne keei*



Dark-green *Cryptocoryne elliptica* with round leaves



Cryptocoryne ferruginea are also seen.



Cryptocoryne longicauda prefers low-pH water.



Cryptocoryne keei (red) is a really beautiful species.



Cryptocoryne jacobson with a beautiful tigroid appearance



Cryptocoryne lingua densely grown beside a fallen tree



Cryptocoryne cordata var. *zonata* was also seen.



This is relatively small for *Cryptocoryne ciliata*

The leaf shape and color of *Cryptocoryne* vary greatly depending on their native environment. In a bright place, the leaves of *Cryptocoryne* are usually short and brown or reddish in color while they are long and dark green in color in more shaded environments. *Cryptocoryne* with hammered leaves can usually be found in bright streams with sandy bottoms. This type of *Cryptocoryne* can grow even in a strong current. In the rainy season, the water level sometimes rises by a few meters. Even in such a harsh environment, it is observed that *Cryptocoryne* hold themselves in place by anchoring their roots into the substrate and supporting each other taking advantage of their unique net-like shape. The size of *Cryptocoryne* is an important factor to know the level of the current

that each *Cryptocoryne* can withstand. Besides that, observing the leaf color of *Cryptocoryne* is equally important. *Cryptocorynes* that are dark green in color generally grow in low-light and low-nutrient environments and they tend to grow tall. The pH level of the water in which this type of *Cryptocoryne* grows is around 6.5. The field data is useful in controlling the color, shape and size of *Cryptocoryne* growing in the planted aquarium by way of controlling the light intensity. Meanwhile, the habitat of *Cryptocoryne* having the smooth surface is usually a swamp or muddy land. This type of *Cryptocoryne* requires acidic environments with low light and high nutrient levels. In the event that the water is not controlled to the required pH level, this type of *Cryptocoryne* will melt easily,

since they naturally grow in places at pH 4.0 or below with a high humic acid level. For your information, it has been found that *Cryptocoryne lingua* and *Cryptocoryne ciliata* grow in places with high pH levels in nature even though they have smooth leaves. These days, many forests are facing deforestation or being converted to plantations due to industrialization and the development of residential areas. This also causes contamination of the water surrounded by affected forests and as a result, the habitats of *Cryptocoryne* are significantly affected. I have been watching how the habitats of *Cryptocoryne* were severely contaminated. Sadly, *Cryptocoryne* can no longer be found in such contaminated rivers; they are gone forever.

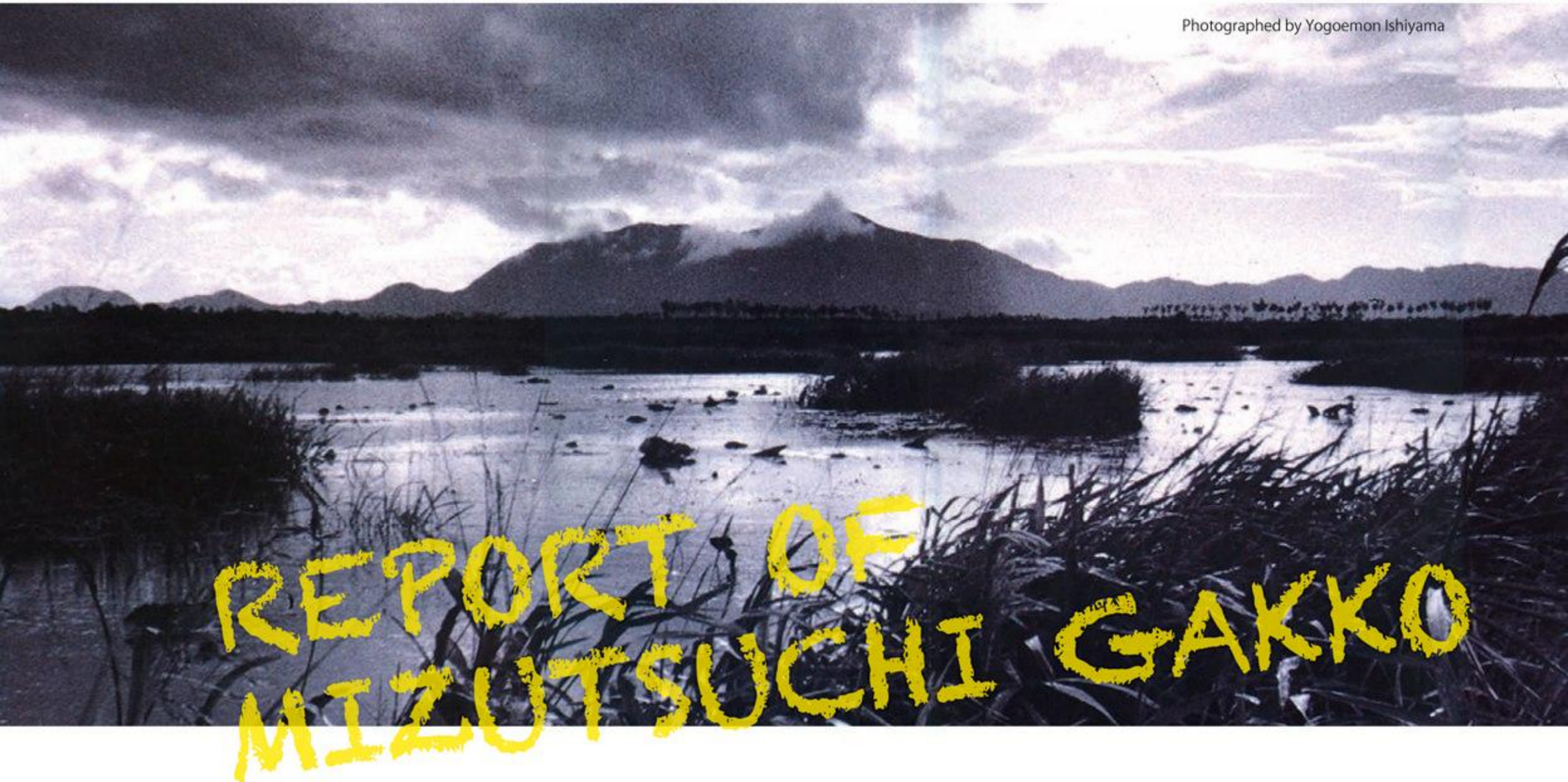
The Kanbara Plain, Niigata where the ADA Head Office is situated has a vast area of paddy fields, which are a common sight in Japan's best rice production area. The name "Kanbara" literally means "the field of *Typha latifolia* or Common Cattail" and as it suggests, the Kanbara Plain used to be a lowland swamp covered by lush common cattails and dotted with lagoons. Yoroigata was one of the large lagoons in the Kanbara Plain having an area of approximately 273 hectares, but it has been converted into paddy fields through lagoon reclamation about fifty years ago. The ADA Head Office is located at the edge of the former Yoroigata. If Yoroigata still remained without the reclamation activity, we could have enjoyed the panoramic view of Yoroigata from the upper floor of the ADA Head Office.

According to the materials currently available, Yoroigata was endowed with rich fauna and flora, including 52 species of aquatic plants, 25 species of dragonflies which is a representative aquatic insect, 46 species of fishes and 141 species of birds.

And the harvests from Yoroigata, such as lotus roots, carps, crucian carps and snakehead fish, were appreciated by the local people as their precious food. Even after its extinction by lagoon reclamation in 1986, Yoroigata still clearly remains in the memory of the local people including Takashi Amano.

Amano spent his boyhood catching fishes and enjoying the blessings of Yoroigata with abundant wildlife. Cherishing the memory of the biodiversity-rich lagoon which is a symbol of Niigata with water and fertile land, the talk & discussion session titled "Talking about Yoroigata" was held as a part of the "Mizutsuchi Gakko (School of Water and Land)" programs with Takashi Okuma, an honorary professor of Niigata University, and five panel members from Nishi Kanbara region including Takashi Amano. The discussion started with the question raised by Professor Okuma, saying "The total reclamation of Yoroigata brought benefits to rice farming but it did not create any new culture. Is it possible for us to restore at least a part of Yoroigata to get back the biodiversity and create value-added commu-

Photographed by Yogoemon Ishiyama



Yoroigata – The Starting Point of Nature Aquarium

Yoroigata, a lagoon in Niigata, has been often introduced by Amano as the starting point of the Nature Aquarium during his talks and essays. Although it has disappeared since lagoon reclamation took place in 1986, the event titled "Mizutsuchi Gakko (School of Water and Land) - Talking about Yoroigata" was held recently as a preliminary event of "Water and Land - Niigata Art Festival 2012". ADA's Nature Aquarium Gallery was selected as one of the places to visit for this event and Takashi Amano was invited as a panel member. Here is a special report of the event.

Reported by Tuyoshi Oiwa



nity business in good harmony with nature?" During the discussion, Amano who has been closely watching Yoroigata and its surrounding living environment said he hoped to regain Yoroigata's abundant wildlife like before and also pointed out that the paddy fields made on the former Yoroigata have now become a "green dessert" where no living creatures can survive. Through the slide show presentation, Amano explained in detail that the paddy fields in these days are just like a rice factory that focuses only on yields and productivity; and no living creatures can live on that land as a result of revetment lining the bed and banks of the water channel and the massive use of pesticides. Amano asked, "We have lost that rich biodiversity of Yoroigata in only fifty years. Do you want to eat rice grown in paddy fields where no living creatures can survive?" This question made us think deeply about the natural environment and agriculture. While showing a picture on children's school route with the U-shaped roadside gutters covered with wilted grass due to herbicides, he explained the current situations of the former Yoroigata area and raised the concerns, saying, "Children walk across the place where no wildlife can survive to go to school every day. In this circumstance, they sing famous folk songs about killifish and red dragonflies without knowing how they actually are. Now the people focus on radioactive pollution as a very sensitive issue but they don't show their interest in the problems of pesticide." Later on, some participants commented that they only now realized that the living creatures around us like tree frogs and red dragonflies have decreased without noticing it. Another panel member who is engaged in farming said, "Through lagoon reclamation, the Yoroigata area has become a place for effective agricultural production. It is important to think how to make good use of the current land rather than restoring the original state. We are trying hard to reduce the use of pesticide and chemical fertilizers, but at the same time, we are also facing cheap rice prices which pose an obstacle to practicing biodiversity-friendly agriculture. The consumers' attitude and perspective also need to be changed." This discussion was a good opportunity for us to stop and think of our values and lifestyles. This event also featured the presentation of a black and white film of Yoroigata in those days and a service of dishes using crucian carps and snakehead fish, which brought back the memories of Yoroigata in the past and the lives of our predecessors. What were impressive were the words of the local people who said that the sight of the former Yoroigata is always on their minds. As Amano said that the aquascape of Yoroigata in his boyhood is the starting point of all of his creative activities, we once again realized that Yoroigata was a precious natural environment which was a home to various living creatures. Without Yoroigata, the Nature Aquarium layout style might not have existed.

Aspiration for Revival of Biodiversity-Rich Environment, Even Just a Little Bit



Many opinions were actively exchanged on pros and cons of revival of Yoroigata during the talk & discussion session in which local residents also participated.



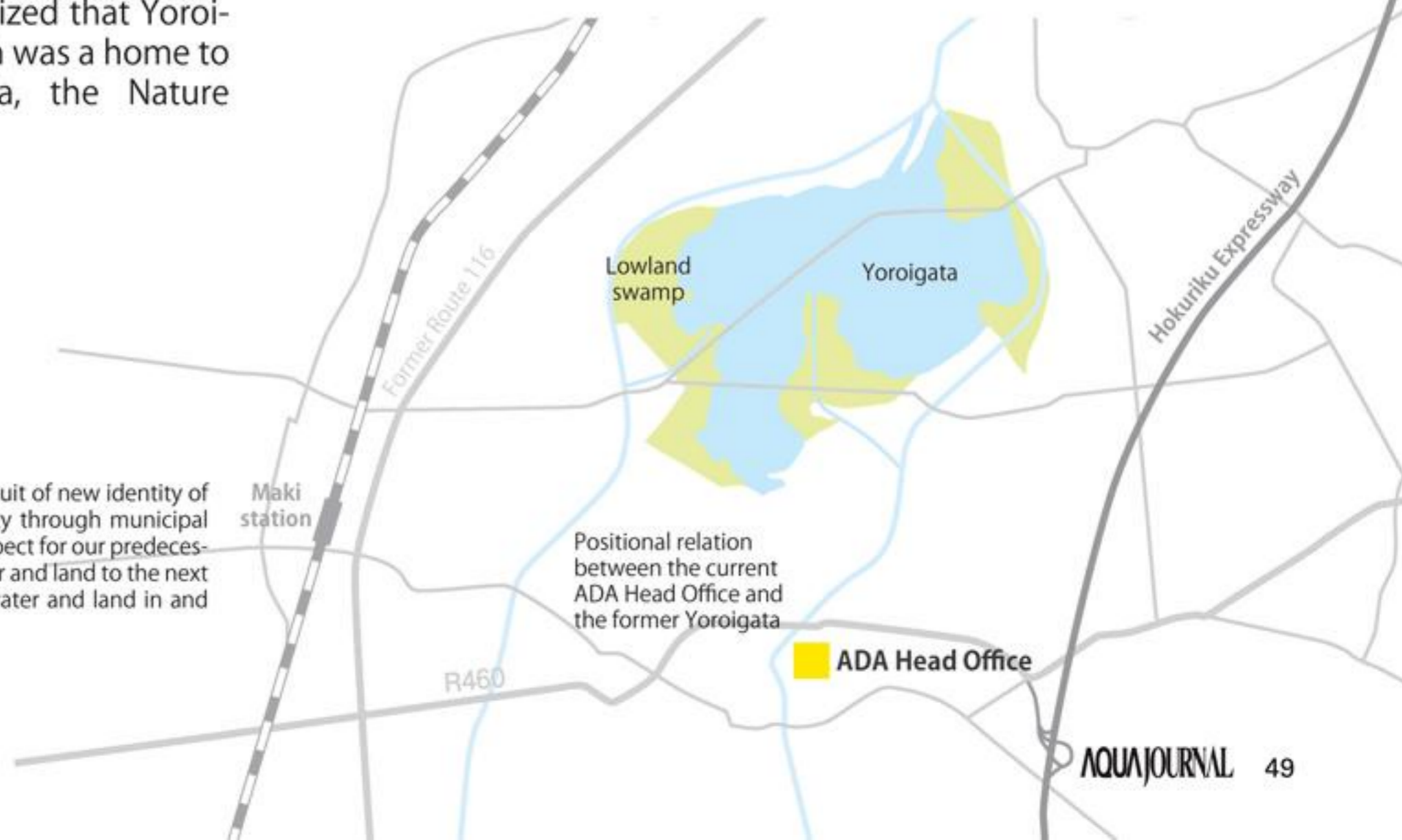
©Takashi Amano

The grass along children's school route was wilted by herbicides. Children pass by the environment in which no living creatures can survive to go to school.



Wide paddy fields spread out in the Yoroigata area after lagoon reclamation. This is a view from Yoroigata Clean Center (observatory), one of the places to visit for this event.

※ "Water and Land - Niigata Art Festival" is an event organized in pursuit of new identity of Niigata City, which has recently become an ordinance-designated city through municipal merger, and with the aim of "appreciating water and land; showing respect for our predecessors; valuing the local culture; passing down all the treasures from water and land to the next generation of children; and spreading Niigata's beautiful culture of water and land in and outside of Japan by the power of art".



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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