



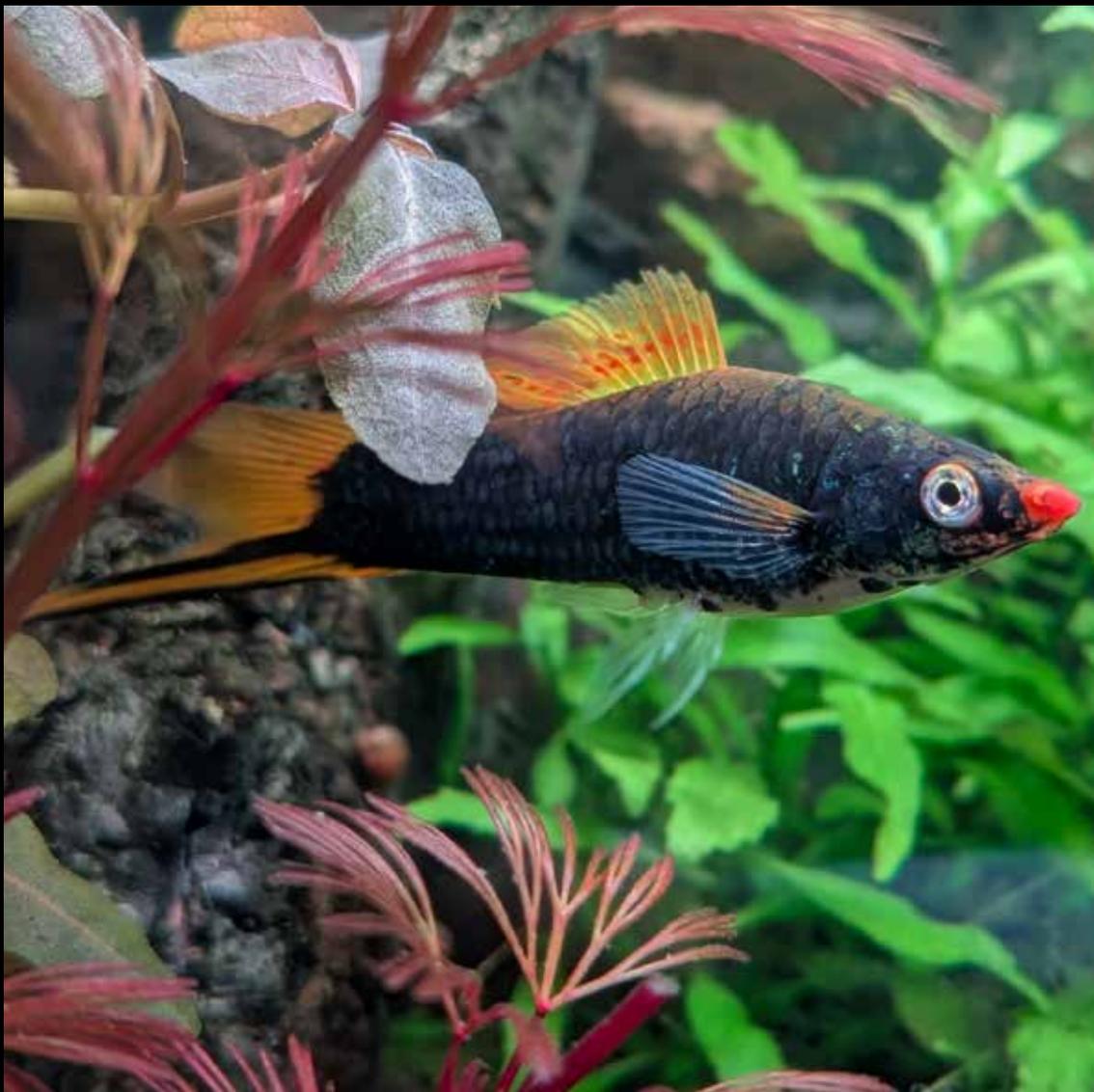
AQUATIC**News**

Brooklyn Aquarium Society Online Newsletter & Magazine

VOL. 7

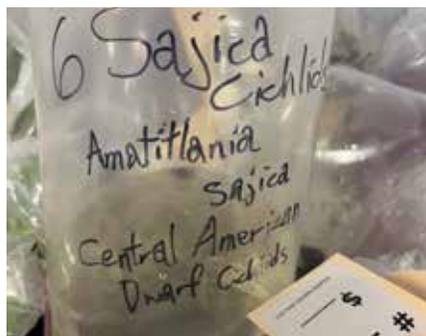
Winter – Spring 2026

No. 20





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Writing Contest Details

On the cover: Alexis Santiago took the winning picture of a Black Berlin-Montezuma Sword cross. Bred by Sammy Ng.

President's Message

We had terrific meetings in February and January, attended by over 100 members, and with more than 200 items for auction at each.

We're now using the new parking format where NYA is letting us use the parking lot from 7–8:30 p.m. then again from 10:30 p.m. to midnight. The days of meetings ending after midnight are gone.

The parking lot gates open at 7:00 p.m. sharp and close at 8:30 p.m. Anyone arriving after 8:00 should find on-street parking. The gates reopen at 10:30 to midnight. If you have to leave before 10:30, you must use street parking. Also anyone on arriving on foot has to use the entrance on the Boardwalk, accessible from West 10th Street. Please have your active membership card on you for entrance into Education Hall. If you don't have one, we will issue one free for the first time, afterwards we will charge \$1 dollar for replacement cards.

Our photo contest is still running, so enter your pictures. You can enter as often and as many as you like. As you know, taking good pictures of your fish is challenging, but showing off your tank is rewarding! Show us your stuff! There is also an opportunity to feature your tanks in the AquaticNews publication that is produced twice a year coming out in March and July. There is a feature called "Meet My Tank" which is a great way to show people what you keep and how you handle and display your fish, corals and plants. Please reach out to Ginny Cahill to present your personal history of the hobby.

The 50/50 continues each month, as it has been successful for both the club, and our members. Whatever livestock and plants members bring in, we split the proceeds 50/50 for their highest ten bags. This is for livestock only. We have had encouraging feedback from doing this, because it's a great way to make some money and enjoy breeding your favorite species.

Let us know if you want speakers on a

particular aquatic topic. We need our members to be more involved as we are always trying to improve our club. So let us know your ideas! Also consider lending a hand at the meetings. It takes a lot of hard work from our board members to put on an organized, informative and entertaining show every month. Anyone wishing to help out, we will gladly give you something to do.



Remember to visit our Facebook page where we feature items for sale, manufacturers listing, and member's feedback. We always have tanks and equipment for sale. If you are looking for something aquatic, reach out to us. We probably have it in storage. We can't bring everything to the meeting! Also if you have any aquatic related items you don't need, we will always take them for our sales table.

Once again, after the auction ends, please exit the building promptly so clean up can occur. Only board members are allowed to be in the building after the auction ends. The aquarium security needs to leave at a reasonable time. We must stay on good terms with the Aquarium, so we can continue to meet there.

Our publication, AquaticNews, now published twice a year: Winter/Spring and Summer/Fall. is always on the lookout for hobby or aquatic information you hear or read about. Please share it with our editor, Ginny Cahill by emailing her at Editor@basny.org. We are always looking for your input on our publication and events!

For more info, please call our hotline at 718-837-4455, or visit our site at www.brooklyn-aquarium-society.org

Steven Matassa
—President



Join us on Facebook

<https://www.facebook.com/groups/BAS.FB/>

AQUATICNews



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**The On-Line Journal
of the Brooklyn
Aquarium Society**

VOL. 7. Winter–Spring 2026 No. 20

AquaticNews is published online four times a year by the Brooklyn Aquarium Society. Original articles may be reprinted by other non-profit organizations, provided proper credit is given to the author and AquaticNews, and two copies are sent to the Exchange Editor. Transcriptions of lectures may not be reprinted without written permission of both AquaticNews Editor and the Speaker. A notice of where original

AquaticNews articles have been published should be sent to the BAS Exchange Editor; P.O. Box 290610, Brooklyn, NY 11229-0011.

AquaticNews will exchange publications with all interested societies. If we do not receive your publications for three consecutive months, we will assume you no longer wish to exchange and your club may be removed from our mailing list.

ALL CORRESPONDENCE CONCERNING THIS PUBLICATION SHOULD BE SENT TO:

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The Brooklyn Aquarium Society Inc. is a non-profit organization 501(c) (3) for people interested in the aquarium hobby and the study of aquatic life. The Society meets the 2nd Friday of each month except July and August at the Education Hall of the New York Aquarium at Coney Island, Surf Avenue at West 8th St., at 7:30 PM. Meetings are open to visitors. Refreshments are served.

Upcoming Events

January 9 Kevin Carr — *From Guapotie to Vieja and Everthing in Between*

Feburary 13 Jen Williams — *Aquascaping*

March 13 Mark Soberman — *Corydoras*

April 10 James Perrenod — *Cichlids*

May 8 — Giant Auction

June 12 Julian Sprung — TBD

July & Augut No meetings. Have a nice summer!

Jan. 9, 2026

Kevin Carr — *From Guapote to Viega*

Kevin Carr is an Honorary Life Member of the North Jersey Aquarium Society and a Life Member of the American Cichlid Association. Kevin has won several awards showing tropical fish (mostly cichlids) including the ACA's Pat Mahoney Award. In addition to keeping tropical fish, Kevin also keeps several species of lizards, and was the first person in the U.S. to breed *Hyspilurus macrolepis*, the Makira Tree Dragon, from the Solomon Islands and *Lophosaurus dilophus* the Red Eye Color version of the Crowned or Combed Forest Dragon from Indonesia.

Naturescaper, creating living art underwater, in a glass box. She will lecture and demonstrate the art of aquascaping, inspiring all who practice.

March 13, 2026

Mark Soberman — *Corydoras*

Mark Soberman has kept fish for over 50 years has been a member of the Greater City Aquarium Society since 1984 serving on its board of directors for more than 20 years. Mark is an accomplished breeder of corydoras and other catfish, he also has bred cichlids, killies, characins and livebearers.

Mark has an extensive collection of antiquarian aquarium literature and ephemera.

Feb. 13, 2026

Jen Williams — *Aquascaping*

April 10, 2026

James Perrenod — *Cichlids*

Auction Rules

All fish lots must be properly bagged:
bag must have ample space and be filled with 1/3 water and 2/3 air.

No sandwich bags or Zip-Lock bags for fish!

Seller **MUST** put their name on each bag.

Seller must label all bags with species and sex if known.

Tags with lot numbers will be given to sellers at the time of registration, who will then tie the tag **SECURELY** to the bag.

Donations – Thank You!

Individuals for November, January & February

Bill Amely
David Manuel
Denis Vadaro
Katherine Hernandez
James Longo
Don Lang
Scott Peters
Justin King
Alexandr Vinnitsky
Al Turco
Ken Ip
Gene Kogan
Dan Puleo
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Harry Faustmann
Louis Cardenas
Serena Duenas
Michael Kostakos
Bernard Deren
Lev Blinder
Kevin Kelly
Enrique Cruz
Jisun Zaman
Brando Brigas
Varun Mehta

Stores/Mfg

All in One Petshop, Brooklyn, NY
Monster Aquarium, Queens, NY
Pacific Aquarium, New York, NY
Brooklyn Zoo & Aquarium, Brooklyn
Absolutely Fish, Clifton, NJ
Pop Coral, Brooklyn
Bull Reef, online, Herkimer County NY
Frank's Frag Farm, Staten Island
Tropical Showcase, Hicksville, LI
Empire Pet Fish, Queens
Nature' s Reef & Reptile, Queens

Open Board Positions

The board members meet once a month to discuss club business, and we can use your help!

There are four board positions currently available: corresponding secretary, treasurer, webmaster and recording secretary. If you'd like to attend

a meeting which are held the **1st Friday of the month**, September through June, please notify Steve Matassa at (347) 277-4793 by the Tuesday before the meeting.

BASNY Breeders Unite!

Do you know what the Breeders Award Program is all about? The Brooklyn Aquarium Society welcomes members to bring in fish, plants or invertebrates, bred at home, to offer at auction.

The club receives half of the auction sale and the breeder receives the other half. It is through this program that we measure our advancement and gain the necessary knowledge and skill as aquarists. The purpose of the **Breeders Award Program** is to encourage participation, recognize outstanding achievements and share knowledge of breeding techniques. This hopefully encourages members to breed species that are not readily available.

A non-competitive program recognizing members equally, the program should inspire breeders to experiment without the concern of

competing against breeders with larger setups or more time. All points earned are cumulative based on type of fish, plant or invertebrate bred/cultivated and whether the breeder has written articles discussing their experience.

Special recognition is given to members that breed multiple species or C.A.R.E.S. (Conservation Awareness Recognition and Responsibility Encouragement and Education and Sharing) species. <https://caresforfish.org/>

The BASNY Breeders Award Program is for freshwater fish, marine fish, corals, invertebrates and plants (both fresh and marine).

We welcome you to take the challenge. Download the breeders award form from our website now!

— David Manuel, *Vice President*



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Thank you to our
generous donors!



Tank Tip

Sometimes we have to put our hands in our tanks to fix or rearrange stuff, but that's not always advisable. Soap, cologne, perfumes or any foreign residue on your hands can be deadly to your fish or inverts. If you do have to put your hands in, wash them first, and make sure to not leave any residue on your hands. Keep your hands out of your tanks as much as necessary. Use tweezers or tongs when possible.



Current NEC affiliate clubs

If someone wants to travel, they can visit another club. Here's a list of the clubs.

Aquarium Society of Lancaster
Boston Aquarium Society
Brooklyn Aquarium Society
Bucks County Aquarium Society
Capital Cichlid Association
Cichlid Club of NY
Central New York Aquarium Society
Danbury Area Aquarium Society
Diamond State Aquarium Society
Erie Aquarium Society
Greater City Aquarium Society
Jersey Shore Aquarium Society
Koi Organization International
Long Island Killi Assoc
Long Island Aquarium Society
Metropolitan Area killifish Assoc.

Norwalk Aquarium Society
Nassau County Aquarium Society
New England Cichlid Assoc
New England Fancy Guppy Assoc
North East Live bearers Assoc
North Jersey Aquarium Society
Otter Valley Aquarium Society
Pioneer Valley Aquarium Society
Pioneer Valley Water Garden & koi
South Jersey Guppy Group
Southern New England killifish Assoc
Tropical Fish Club of Burlington
Tropical Fish Society of Rhode Island
Upstate NY killifish Assoc
Worcester Aquarium Society

HOLIDAY PARTY PHOTOS



HOLIDAY PARTY PHOTOS



John Allen, left, Dee Manuel center, Steve Matassa rightt, receives an Advanced Breeders Award.



Past Meetings Photos



Kevin Carr in January on *From Guapote to Viega*



Yes, Jack has a 300 gallon tank.



247 bags?
Or is it 246...



Past Meetings Photos



Name that fish



Happy 115th Birthday to BAS



Don Lang is awarded Breeder of the Year!

Zebra pleco went for \$105!! Well done Adam.



Rob!



Club Exchange



Justin King — BAS

MISSOURI AQUARIUM SOCIETY NEWSLETTER VOL. 52 JAN/FEB. 2026

Discussed is a project to create artificial structures that mimic beaver dams in order to provide habitat for rare fish. MASI is partnering with the Dept. of Conservation in this project. They're trying to save species like the Topeka shiner. For more info look into BDAs (Beaver Dam Analogs).



THE DARTER MINI MAG, SUNDA & SUNDRY AUGUST 2025

The August 2025 issue begins with BORARAS spp. *The Beautiful Dwarf Rasboras* by Mike Hellweg highlights the keys to success in raising multiple dwarf rasbora species.

The article *Snakehead Bettas* from Roberto Prati provides a species highlight on *Betta channoides*.

A genus and care guide of *Betta macrostoma*, also known as the Brunei Beauty.

An article on *Trichopodus trichopterus*, commonly known as the Three Spot Gourami.

THE DARTER MINI MAG, JAMBUDWEEPAN JEWELS OCTOBER 2025

The October issue begins with an interesting genus and husbandry article on *Dragon Loaches* by Sam Fernald.

The article *The Confusing Chameleon Fish* goes into a deep dive of this “oddball” species.

An article on breeding Zebra Danios.

A species guide on eight different types of loaches found in the hillstream of Bhavania, India.

THE DARTER MAGAZINE

The 51st volume centers species only found near Australia & Papua New Guinea. The lead article

features an extensive species highlight of a number of freshwater fish, including rainbow fish and silversides.

An article on the *Azure Kingfisher* bird that eats the aforementioned fish.

An in-depth species and breeding guide on the *Spotted Blue Eye Rainbow fish* by Sam Fernald.

The article *The Desert Goby* provides a species highlight on the tiny goby.

An instructional guide on *Habitatscaping an Arafura Swamp Billabong*.

The article *Adventure in Papua* describes the author's adventure encountering fish in West Papua over multiple trips.

A species and breeding guide on *Mogurnda Mbuta*.

A plant guide on Blood Vomit plants: *Centrolepis drummondiana*, commonly known as Blood Vomit, is a rare Australian, needle-leaved foreground aquarium plant prized for its intense, dark green foliage with red bases. It grows in dense, 1-inch-tall clumps, requiring high CO₂, strong lighting, and nutrient-rich substrate to thrive.

THE BUCKETTE, OCTOBER 2025 VOL. 38, ISSUE #10

www.BCAS.club

A care guide on *Blue Leg Poso Sulawesi Shrimp* by Laura Walters.

The article *Anubias bateri* showcases a guide on the hardy aquatic plant.

The article *Colors of Corydoras* discusses how breeding care can impact corydora catfish color.

An article on *Rainbow fish fry husbandry*.

The article *Bringing Baby Home* discusses steps to introduce plants into an aquarium.



THE BUCKETTE, NOVEMBER 2025 VOL. 38, ISSUE #11

The article *RO Water and my RO Buddie* is an interesting article testing how many gallons of water

per day a reverse osmosis system can actually make.

A species highlight on *Hypessobrycon elachys*, a colorful reed Tetra fish.

An aquarist tale of an impulse buy of *Farlowella vittata* and their experience with breeding and the growth cycle of the long nosed bottom feeder.

A guide on propagating *Crptocoryne balanseae*.

THE BUCKETTE, JANUARY 2026

An article entitled *Aquarium Gallon Rulers* by Tony Patti is about his method of measuring how far down the water level drops when he does a water change.

Mike Matthews has an article on *Setting up a Crayfish Spawn*. He says that the best time to spawn a female cray is within a few days after a molt...

Nicole Rojas has an piece on *Bacopa caroliniana*, a stem plant.

My 70-Year search for the Perfect Tropical Aquarium Fish, by Jule Birnbaum describes his search to fill his two fishrooms with the "perfect" fish.

THE BUCKETTE, MARCH 2026

Tony Patti explains his experience with growing Spider Plants in his aquarium. There's an article on Spawning Betta uberis by Steve Coxon.

Ed Koerner shares his experience with a shell dweller: *Lepidiolamprologus hecqui* or thte spotted shell dweller who is a Tanganyikan fish.

FINFORMATION AUGUST 2025

An article on *Amphiprion ocellaris* clownfish breeding and husbandry.

An article on *Parotocinclus haroldoi*, commonly referred to as the Dwarf Pleco.



FINFORMATION SEPTEMBER 2025

Making Friends at Conventions by Eric Bodrock describes the author meeting a young hobbyist at a catfish convention and the young hobbyist describes visiting the author's huge fish room.

How I Almost Lost My House to Beard Algae!, also by Eric Bodrock, uses Siamese algae eaters to handle a beard algae outbreak.

An article on *Deromgenus pusillus* the Platinum Wrestling Halfbeak husbandry experience.

FINFORMATION NOVEMBER/DECEMBER 2025

Pseudacanthicus sp. L427 - Jatupu Leopard Cactus Pleco by Eric Bodrock describes the author's experience with breeding these very cool looking pleco fish.

TANK TALES NOVEMBER 2025

A story by Timothy J. Brady on the many varieties of Pupfish.



TANK TALES JANUARY 2026

The lead article highlights the *Zoogoneticus* tequila, commonly known as the Tequila splitfin, an endangered freshwater fish from Mexico.

TANK TALES FEBRUARY 2026

Good article on shipping live fish by Timothy J. Brady. Discusses types of fish, preparation (1-2 days before shipping), fasting the fish, box preparation, hot and cold packs, bagging the fish, use of breather bags, packing the box and shipping logistics.

The Aquarium Club of Lancaster County announce their Keystone Clash being held September 25-27, 2026.

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My Pond

Steve Matassa — BAS

I STARTED MY BACKYARD fish pond about 25 years ago, but have changed it 4 times since then, each time to increase the size of it.

Currently it's about 400 to 500 gallons. But when I first started the pond, it was only 100 gallons and 3 ft round. Now, it's about 3 ½ x 7 ½ feet. And I love it.

I shut the pond down in November for the winter and usually reopen it in the spring, typically in April, depending on the weather.

The fish in there now are about 3 years old, I have 5 butterfly Koi's and 2 Subunkins goldfish.



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Confessions of a Tropical Fish Killer

Daniel K. Smith — BAS

I often describe myself as someone who kept fish as a kid and never grew out of it. My childhood dream was trying to maintain a tank where fish could spawn and thrive in a community tank—a self-sustaining environment if you will. After 60 years of aquarium keeping I've never come close to achieving that goal.

I had some success as a child raising fry in a community tank with swordtails, I had 3 10 gallon and 1 15 gallon aquarium but despite my best efforts, I endured a lot of crashes growing up with the smaller aquariums, including a physical crash when a family friend put his hand through one of the tanks while my big brother

was chasing him. I learned at a young age that the smaller the tank, the less stable it is. The temperature and water chemistry can go south quickly.

My only resource for fish and plants to me was what was offered at the back of Woolworth's—the fish they sold were mostly goldfish, kissing Gouramis, neons, swordtails and guppies.

Ooh-la-la

Eventually a pet store opened in my small Connecticut town and I was presented with a wider selection of fish. I wish what I know now, I knew when I was younger. I wouldn't have

killed so many chocolate gouramis (*Sphaerichthys osphromenoides*). I loved that fish even though I couldn't keep them alive. I would push heartbreak out of my head and tell myself "this one will be different" and come home with yet another victim. I would love to keep them now as an adult in a species tank and breed them to repent for my sins but that is a tall order. This fish is now listed by CITES as threatened due to habitat loss and over harvesting by the ornamental pet industry. I feel personally responsible for a part of that. One morning while inspecting my aquatic charges I noticed one of my newly acquired kribbs was missing. To my extreme delight I saw the missing fish guarding her fry.

Another fish that I loved to keep as a child and had more success with was the Egyptian mouthbrooder (*Pseudocrenilabrus multicolor*). The female frequently had a clutch of eggs in her mouth. I admired how she gently juggled the eggs to keep them healthy but I was never able to get any fry.

And for a brief period when I was older, I had success breeding some Tanganyikan cichlids (*Julidochromis transcriptus*) in a 29 gallon community tank. But I was also raising a family of humans and that took priority.

I have raised some angels in a 55-gallon community tank. The parents chased their tank mates away from the fry. They shared the tank with some Siamese algae eaters and small tetras.

They're Gonna Die

The fish I've had the longest is a Pictus catfish (*Pimelodus pictus*). That catfish lived for 18 years—it really pained me to see it starting to go down hill. You know how it's going to be. What's the best way to euthanize fish? Some say to throw it hard against a surface and knock it out until it's dead. I could not do that to this fish. I've read that the other humane way to euthanize a fish is to put it in a plastic container in the freezer in water with some clove oil. They slowly lose sense and die without any pain, but if you wanna start some trouble on the Internet, suggest this

method on any one of the Facebook groups and then watch out.

As an adult, I've tried discus and their irresistible color varieties, but as a long time BAS member once said about discus "I don't need another religion." If a discus sees that I'm bidding on it for at a BAS meeting it will commit suicide

For the past 20 years, I've been living in Brooklyn and raising fish in the city water and I



A Chocolate Gourami.

Photo credit: The Wet Spot

only keep fish that do well in Brooklyn water. I currently keep a 90 gallon aquarium with angels, South American cichlids, ruby barbs, and some Congo tetras. I see spawning activity among the tetras and I've planted a lot of java moss so if any eggs hatch the fry have a spot to hide.

A Large School of Rummy Nose

Want to know the secret to keeping a small school of Rummynose tetras (*Petitella rhodostoma*)? Start with a large school.

These days, I would describe myself as someone who likes to put water, fish and plants and some gravel in a tank and watch what happens. Occasionally, I see a baby appear in my community tank. And that's how I participate in the hobby as a *retired* killer.



Meet My Tanks

John Allen — BAS

How long have you been in the hobby?

My dad had a 55 gallon saltwater tank when I was growing up, and I kept some freshwater fish occasionally in my room as a kid. But I hadn't kept fish in many years until the pandemic hit. That's when I got serious—I started breeding Endlers and Cherry shrimp in a 10 gallon tank, and it spiraled from there.

What really hooked me is the building and problem-solving side of the hobby. I love tweaking my fish room and coming up with optimizations—a vertical blackworm farm using file organizers, a multi-tier fry rack on a sump with restaurant-grade plastic pans, various breeding containers and snail traps. The fish are great, but figuring out a better, cheaper or more elegant way to keep them? That's what keeps me coming back.

How many tanks do you have?

Over 30, most of them in my basement fish room. The boiler for our home keeps the whole room at about 80 degrees, which works out nicely.

How many gallons each tank?

I've got everything from a small Japanese fish bowl up to a 60 gallon breeder. The basement is mostly smaller breeding setups and grow-out tanks.

Freshwater or saltwater?

All freshwater.



Fish bowl on desk with lamp. No filter, no heater—just a desk lamp for light.

Types of fish?

Right now I'm keeping Medaka rice fish, Crystal Red shrimp, Neolamprologus multifasciatus (shell dwellers), and a planted community tank stocked with goodies from BAS auctions over the years.

What do you feed them?

Mainly Aquarium Co-op community floating pellets and Magic small fish feed. I don't feed as many live baby brine shrimp as I'd like—kid schedules keep me distracted and it's hard to get down to the fish room on a regular enough schedule.

Do you have live plants?

Yes! The display tanks and the fish bowl are all planted.

THE TANKS

The Japanese Fish Bowl

This bowl was an anniversary gift from my wife. It's home to Medaka rice fish, plants, snails, and shrimp. No filter, no heater, just a simple desk lamp providing light.

Kids, dogs, and guests of all kinds are surprised and delighted to see this when they visit. It's become a real conversation piece.

The Caridina Shrimp Tank

I tried three different times to establish a breeding colony of Crystal Red shrimp, but lost the first two attempts. The culprit was likely high temperatures in my fish room.

The solution? Move the tank out of the fish room entirely and keep it at room temperature. I'm using the "Asian undergravel filter box" method with an active substrate. Caridina need low pH to breed, and the substrate in the box is Hard Akadama—normally used for bonsai plants, but it's a relatively cheap and available alternative to expensive ADA soils.

The box itself was designed and 3D printed by me to be cheap and material-efficient. Instead of building or paying for expensive acrylic boxes, I



Caridina tank showing the 3D printed box: The 3D printed undergravel filter box—cents worth of plastic, 18+ months of success. 3D printing files for autofeeder attachment can be found here:

<https://github.com/jra3/fishprints/tree/main/augetFeederAttachment>

printed this out of a few cents of clear plastic. The corrugated design gives it enough strength so the walls don't bulge out, but the plastic only has to be a single layer—0.2mm thick.

It's been working great for over 18 months now.



Living room tanks: 60 gallon planted community on top, shell dweller tank below, next page.

The Living Room Display

This is a two-tank stack in our living room. On top is a 60 gallon breeder—a planted community tank that I’ve stocked over time with finds from BAS auctions.

Below it, I set up a shell dweller tank with *Neolamprologus multifasciatus* because they reminded me of an ant farm. They love to dig and move things around constantly. My young kids can walk up to the tank and check out what they’re up to.

I have an autofeeder on it that doses out very small amounts of food so the kids can feed them when they want to. They’re good about asking first.



Adult L066 King Tiger Pleco. I've had them for 3 years and they just started breeding.

The stacked tanks — 60 gallon planted tank on top, (previous page) shell dweller tank sits below.



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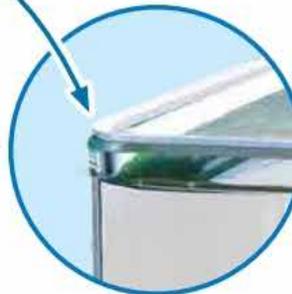
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KEEPING THE GIGAS CLAM

By jgreen — Algae Barn



THERE IS SOMETHING almost archetypal in the legend of man-eating clams. Perhaps this evokes allegorical imagery of a greedy or overly plucky sort of fool that meets their demise while attempting to steal a pearl from its ‘mouth?’ To highlight how persistent this image is in popular culture, consider that the U.S. Navy Diving Manual once provided instructions for escaping monster clams by cutting the adductor muscles that close the shell. We won’t even get into the cheesy aquarium ornaments from our childhoods that played on this same theme...

These tales appear to have come from early (and yes, likely uneventful) encounters with the giant clam *Tridacna gigas*. It’s worth noting here that all of its relatives (Family Tridacninae) may be referred to as ‘giant clams.’ However, *T. gigas* (also known simply as the gigas clam) is revered as THE giant clam. Despite its massive full size, it is fairly popular in the aquarium hobby, and is indeed a real pleasure to keep for those with a

large enough tank to properly house it.

Gigas clam natural history

The largest species in its family by far, *T. gigas* reaches a maximum length of nearly a few feet and might weigh over 700 pounds. It is indeed the largest living bivalve mollusk on Earth. *T. derasa*, which only grows about half as large, comes in at second place.

The gigas clam inhabits clear, shallow waters on coral reefs across the South Pacific and Indian oceans as well as the Philippines and Sabah (Malaysian Borneo). It most often is found on sandy or rubbly bottoms at depths of up to 20 meters (66 feet).

Larval gigas clams are planktonic, becoming sessile as adults. Adults rely much more on symbiotic algae called zooxanthellae than do juveniles. These algae live in the clam’s mantle and supply most of the host’s nutrition. The clam opens its shell to expose its mantle tissue

to the sunlight so that the algae may perform photosynthesis.

Young specimens look very much like other Tridacninae. Juvenile gigas clams often have a few scutes (flattened scale- or plate-like structures), but once they reach adulthood, their shells are smooth and lack scutes. The shell exterior often becomes covered with sponges, corals, algae, etc. Adult *T. gigas* is easier to distinguish from relatives because it is the only giant clam that is unable to completely close its huge calcium carbonate shell. That is, some of the mantle shows even when the shell is 'fully' shut (in contrast to the closely related *T. derasa*). Another way to distinguish the two is that *T. gigas* has four or five vertical folds in its shell whereas *T. derasa* has six or seven.

The mantle border itself is covered in several hundred eyespots. In order to evade predators, the clam closes quickly when the eyespots sense a sudden shadow move over the mantle. The mantle is also heavily pigmented, generally a golden brown base color covered with numerous iridescent blue or green spots (often concentrated at the edges). The spots on larger specimens can be so dense that that the mantle looks bluish or purplish. It is this beautiful coloration that has for so long enchanted reef aquarists.

Aquarium care

Gigas clams are known to be among the hardiest giant clams in captivity. They grow fairly rapidly with intense lighting and proper calcium concentrations. Captive specimens may grow at a rate of over 4 inches per year and attain a length of over a couple feet within 10 years! Thus, some keepers (especially if they originally obtained a tiny, juvenile) are shocked at how soon they are forced to either re-home the animal or upgrade to a bigger tank. A 300 gallon tank (or even larger) is advised to keep this animal into adulthood. This shouldn't seem such an extreme investment, as a gigas clam may live well over 100 years!

Once considered a delicacy, the gigas clam

was hunted relentlessly in the wild. Thankfully, clam farming has significantly reduced pressure on wild populations. Some of these farmed specimens are offered in the aquarium trade and are sold as relatively teeny youngsters (just a couple inches or so in length). Most keepers simply place them on the bottom of the sand over a shallow bed of coral sand and/or coral rubble.



While *T. gigas* is pretty tough compared to some other tridacnid clams, good water quality is a must. In particular, aside from intense lighting, one must maintain appropriate calcium and alkalinity levels so that the animal may build its shell as it grows. Additionally, although it gets much food energy from the carb-rich photosynthates provided by its zooxanthellae, access to planktonic foods will greatly enhance the diet of this filter feeder. Live phytoplankton (such as OceanMagik) and live picoplankton (such as PNS ProBio) are both happily accepted.

For aquarists with a big enough system to fit them, gigas clams are undoubtedly one of the most magnificent species one may display in a reef tank. Their unusual behavior and lovely colors/pattern never get old—which is a good thing because this animal might easily outlive its keeper!

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Intro to Composting



INSPIRED BY FISH FOLK

Two different communities of scientists and enthusiasts with shared passion.

Hudson River Park Wetlab

The HRPK Wetlab at Pier 40 is a native aquarium and marine biology field station.



Brooklyn Aquarium Society

Dan Puleo spoke about water changes by the numbers in June at the New York Aquarium Education Hall.



News from the WetLab

By Jude Rene Vallon

Cartridge filters supplied with starter aquarium kits use non-biodegradable synthetic polymers as the outer membrane and are discarded monthly, adding to the accumulation of micro-plastic in the environment. Possible initiative aims to:

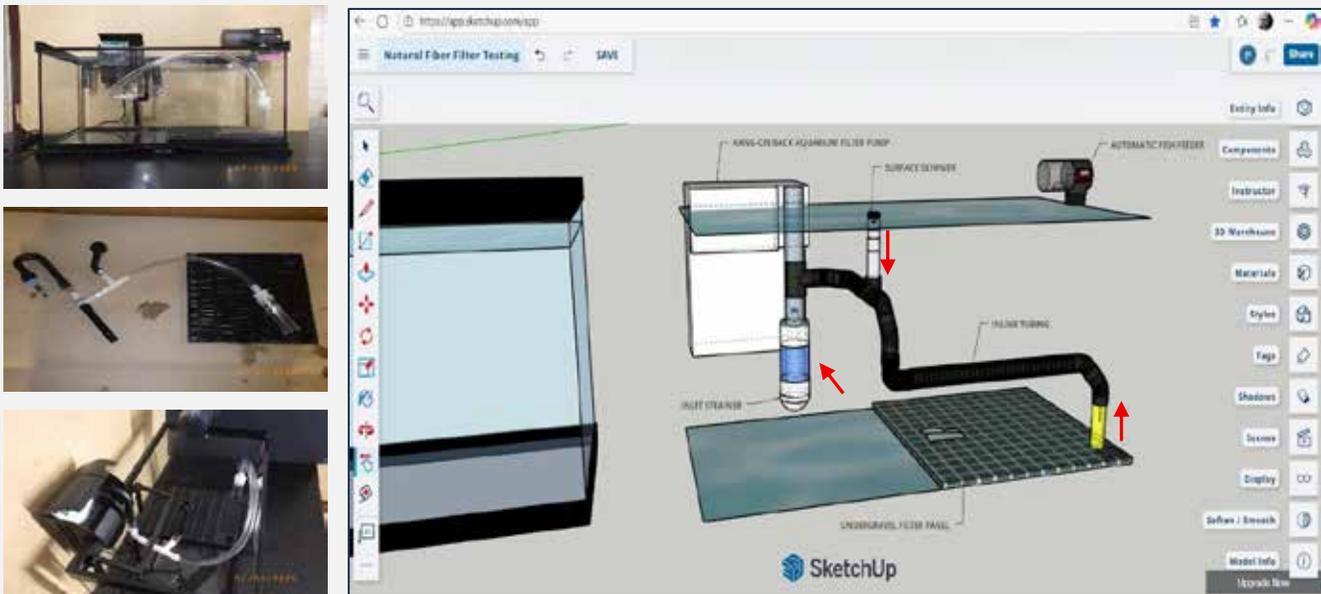
- Potential waste reduction strategy directed at product construction, thus the manufactured end.
- Increase awareness of the consumer about alternative and sustainable practices in the hobby.

The Proposal

Deliver viable natural, compostable substitutes through conducting lab experiments and collecting quantitative data.

HRPK Peir 40 Wetlab & BAS NY Aquarium Education Hall

A question was introduced on a popular aquarist discussion blog called Aquarium Co-op asking is there "Eco-friendly alternative to synthetic filter media"? Standard bio-bag or cartridge filters that are supplied with starter aquarium kits use synthetic polymers as the outer membrane to mechanically remove and contain undissolved particles through reverse osmosis. How can natural and synthetic fibers be tested against each other? The feasibility of this became apparent upon observations of different laboratory set-ups at the HRPK Wetlab. The aquarium irrigation could be modified by integrating three modules of filtration to optimize the experiment. Thus, the latter effort is to minimize variable within the containment of tank and the aquatic solution. Dan Puleo of BAS presented personal research he conducted to an audience of fellow aquarists showing how higher percentage of water change at greater frequency yielded healthier aquatic water quality. The presentation revealed the possibility of delivering a more scientific observation with quantitative data.



With the design phase, SketchUp was utilized to create model (as shown above). The experimental apparatus is designed to maximize bombardment of undissolved particles within the aquatic tank onto the different filter cartridges (from the top): surface skimmer, inlet strainer, and undergravel filter.

The surface skimmer keeps buoyant and extends to the waterline allowing undissolved low-density food flakes to be funneled inside and captured into the stream of the main inlet conduit to the filter pump. The perforated inlet nozzle with strainer endcap is submerged to the bottom half of aquarium tank drawing particles floating midstream. Particles eventually settle at the aquarium floor, specifically within the undergravel filter panel that lies directly below the automatic feeder. The negative pressure at the vertical outlet enables suction of loose debris its enclosure. The residual debris that accumulate on the bare half of the aquarium floor is agitated by the flow crashing down from the waterflow outlet then re-uptake through the inlet nozzle.

Two 10 Gal with unfiltered aquatic wastewater, undissolved food flakes and leaf litter allowing nitrite level to peak at 20–25-day timepoint, this is referred as the nitrogen cycle. Water clarity will then be monitored and chemistry panel tested, providing a baseline. After establishing the baseline (T=0), the testing cartridges will be installed into the hang-on-back filters to run continuously for 30 days. Assessments will be taken T+1 (24hrs), T+7, T+14, T+21 & T+28 for the Treatment Period. The Washout / Falloff Period, assessments will be taken T+31 (24hrs), and T+45 monitoring rebound of toxins.

Treatment Preparation & Sampling

Of the recommended list of materials for testing in this experiment linen, reusable paper towel, and cotton, as the coarse dense filters and unbleached coffee filter paper as a fine filter were selected. First to be tested were the filter variables polysynthetic fiber filter #1 and the cotton fiber-paper filter #2. The internal contents activated carbon, zeolite, and ceramic balls composition were equivalent across both filter cartridges. These internal contents are responsible for neutralizing concentration of harmful chemicals, attraction and removal of heavy metals, and promote the rebalancing of healthy microbes, while the outer membranes retain solid particles. Matching the size of original synthetic sample, the cotton fiber-paper filter was constructed by cutting cotton fabric, layering the coffee filter paper then folding over into an envelope. The edges were sewn together and glued to ensure proper sealing. Upon insertion of the filter cartridges the waterfalls were monitored for continuous flow rate through the outer membranes and damming at the rear reservoir.



Additional considerations were taken into account in prepping for the treatment phase:

- Acrylic sheets were tapered to place on top of tanks to slow down the evaporation into the atmosphere allowing for recondensation at on the underside. This sustains a 10-percent (max.) water change with less frequency through the Tx period. Topping off the aquarium should minimize the impact of injecting fresh water with respect to the overall chemistry.
- In the absence of substrate material, the undergravel filter panel was weighed down by fishing sinkers to prevent uplift or displacement.
- Considering the capacity of a 10-Gal tank that can host 4-6 small tropical fish such as tetras or guppies, the automatic feeder was calibrated accordingly and set to dispense twice/daily.
- Lighting was directed away from tanks to mitigate the promotion of algae growth that may consume nitrogen produced due to the dissolution of food flakes.
- Samples were extracted using syringes to minimize external agitation of the water. These sample were then pipetted into dedicated collection vials to prevent cross-contamination prior to testing.
- Floating barrier was placed around the front face of hang-on back filter to buffer the waves generated by the waterfall. This allows the undissolved particles at the surface to be drawn into surface skimmer instead be drawn down into the cascading waterfall.

Appreciated donation of wastewater from feeder tank by Jose Velez, owner of local Whole Pets Market (Bed-Stuy), to initiate nitrogen cycle (1 Gal container per 10-Gal tank).

Observation & Monitoring

T=0, Baseline

Ammonia levels for both tanks dissipated thus converting nitrite and nitrate as expected at the climax of the nitrogen cycle. The nitrite and nitrate levels were steadily approaching the threshold with 5.0 ppm and 20 ppm respectively. The pH, GH, KH and total Alkalinity (TAL) were observed to be within the targeted range. There were zero (or null) amounts of metal detected. Water was completely clear of any particulates. Treatment filter cartridges were inserted into their designated test tank.

T+1, 24Hr-post

The nitrite levels for both tanks fell drastically to 1.0 ppm. The nitrate levels remained at 20 ppm both tanks as well. A slight reduction in pH 6.6 but keeping within range. No changes observed to the GH, KH and total Alkalinity (TAL), nor to metals Iron, copper and chlorine. Water remained clear.

T+2, T+3, T+5

Although the value of collecting a continuous stream of data would have been ideal, it was not integral to the primary end goal. Eventually attempts to sample daily were aborted due to experimenter testing fatigue. Also concern arose while trying to compare the results of the dip testing strips to the testing tubes of the API Mater Test Kit; the scales were not equivalent. Without the technical information to convert, the testing strip values cannot with confidence be included in the final analysis. However, these observations within week #1 did reveal an uptick in nitrate level for both tanks at 40 ppm where crested and plateaued (not yet transitioning to unhealthy or harmful levels). Differential readings were observed for the nitrite levels of the two tanks. While tank #1 (Synth) nitrite decreased to safe level of 0 ppm after two days, tank #2 remained high the entire week. The filter cartridge #2 had to be reset because of water damming at the rear. Water remained clear for both tanks.

T+7, Week #1

The nitrite level of tank #2 starts to descend reading 0.25 ppm, and Tank #1 continued to be 0 ppm. Nitrate levels uniformly decreased to 10 ppm. A sudden spike in ammonia was detected at 0.25 ppm; a retest was performed to verify. Water was clear for both tanks.

T+14, Week #2

The nitrite level of tank #2 finally dissipates to a reading 0 ppm. Tank #1 nitrate level rebounds to 20 ppm, however, ammonia level also dissipates to 0 ppm. Both filter cartridges had to be reset because of water damming at the rear. Water was clear for both tanks, but lightly dispersed sediment began to settle on the bare floor.

Tank #1 - Synthetic Poly-Fiber | Tank#2 - Cotton w/ Coffee Filter



T+21 & T+28, Week #3 & #4

All values had fallen to safety levels. Tank #1 nitrate level plateaus at 20 ppm. Before removing the filter cartridges at T+28 (Week #4) the top surface, a protein film layer began to form between the floating barrier and surface skimmer to the particles were drawn. Tank #2 amassed a 6" Dia. (~15% of surface area), thick slightly translucent film layer. The buildup of tank#1 was less than 5% of the area with a light transparent film.

Tank #1 - Synthetic Poly-Fiber | Tank#2 - Cotton w/ Coffee Filter



Accumulated debris was present at the bare half of the tank floor. Tank #2 floor surface scattered debris started clumping together into a sedimentary layer, in comparison, Tank #1 light speckle of granules were visible.

Tank #1 - Synthetic Poly-Fiber | Tank#2 - Cotton w/ Coffee Filter



Immediately following the T+28 sample testing, the filter cartridges were removed to exam various conditions: structural integrity of the membranes, color change, and saturation or fullness. Filter cartridge #1 was removed and set aside. The outer membrane was saturated with sludge and color darkened by it. The outer membrane of cartridge #2 had disintegrated, only leaving a thread of fabric held by the top clasp of cartridge frame. The inner coffee filter paper was completely gone. With further investigation, the remnants of the inner contents had deposited to the bottom of the rear reservoir of the hang-on back filter unit.

Tank #1 - Synthetic Poly-Fiber | Tank#2 - Cotton w/ Coffee Filter



T+31, Post-Treatment

Between periods quick maintenance of both hang-on back filter units was performed. The meshes were rinsed clean and the reservoirs were flushed out to remove all deposits. All values remained at safe levels.

T+45, Washout / Fallout Period

During 15 days' post treatment, the values remained relatively the same except for the nitrate levels. Both fell slightly lower to 5 ppm.

Aquarium Water Quality / Tank Cycling Tracker - use with API FRESHWATER MASTER TEST KIT

Date	Day#	pH	Ammonia (NH3/NH4+)	Nitrite (NO2-)	Nitrate (NO3-)	Water Hardness (CACO3)	Carbonate (CO3/HCO3)	Alkalinity (TAL)	Chlorine (CL2)	Iron (FE)	Copper (CU)
Filter Cartridge #1											
R = reset, filter cartridge reset after observing water damming; r* = retest, sample test repeated to verify results											
29-Jul	T=0	6.8	0 ppm	5.0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
30-Jul	T+1	6.6	<0.02 ppm	1.0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
31-Jul	T+2	6.4	0 ppm	1.0 ppm	40 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
1-Aug	T+3	6.6	<0.02 ppm	0 ppm	40 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
3-Aug	T+5	6.4	<0.02 ppm	0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
6-Aug	T+7	6.8	0.25 ppm	r*	10 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
13-Aug	T+14	6.8	R	0 ppm	0 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
20-Aug	T+21	6.6	0 ppm	0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
27-Aug	T+28	6.6	0 ppm	0 ppm	10 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
30-Aug	T+31	6.6	0 ppm	0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
12-Sep	T+45	6.4	0 ppm	0 ppm	r*	5.0 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm
Filter Cartridge #2											
R = reset, filter cartridge reset after observing water damming; r* = retest, sample test repeated to verify results											
29-Jul	T=0	6.8	0 ppm	5.0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
30-Jul	T+1	6.6	<0.02 ppm	1.0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
31-Jul	T+2	6.4	0 ppm	1.0 ppm	40 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
1-Aug	T+3	6.6	R	<0.02 ppm	1.0 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
3-Aug	T+5	6.4	<0.02 ppm	1.0 ppm	20 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
6-Aug	T+7	6.8	0 ppm	r*	0.25 ppm	10 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm
13-Aug	T+14	6.8	R	0 ppm	0 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
20-Aug	T+21	6.6	0 ppm	0 ppm	10 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
27-Aug	T+28	6.6	0 ppm	0 ppm	10 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
30-Aug	T+31	6.6	0 ppm	0 ppm	10 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
12-Sep	T+45	6.4	0 ppm	0 ppm	r*	5.0 ppm	75 ppm	0 ppm	0 ppm	0 ppm	0 ppm

Target Safety Range >	pH	Ammonia	Nitrite (NO2-)	Nitrate (NO3-)	Water Hardness	Carbonate	Alkalinity	Chlorine (CL2)	Iron (FE)	Copper (CU)
	6.5 to 6.8	0 ppm	0 ppm	< 40 ppm	25 to 150 ppm	40 to 120 ppm	40 to 120 ppm	0 ppm	0 ppm	0 ppm
	6.0	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm	0 ppm
	6.4	0.25 ppm	0.25 ppm	5 ppm	25 ppm	40 ppm	40 ppm	0.8 ppm	5 ppm	10 ppm
	6.6	0.50 ppm	0.50 ppm	10 ppm	75 ppm	80 ppm	80 ppm	1.5 ppm	10 ppm	30 ppm
	6.8	1.0 ppm	1.0 ppm	20 ppm	150 ppm	120 ppm	120 ppm	3 ppm	20 ppm	100 ppm
	7.0	2.0 ppm	2.0 ppm	40 ppm	300 ppm	180 ppm	180 ppm		40 ppm	200 ppm
	7.2	4.0 ppm	5.0 ppm	80 ppm		300 ppm	300 ppm		80 ppm	400 ppm
	7.6	8.0 ppm		160 ppm						

High Range pH
7.4
7.8
8.0
8.2
8.4
8.8

Interpretations

The material composition of cotton outer membrane with a coffee filter paper inner membrane of cartridge filter #2 failed to sustain structural integrity for the duration of monthly cycle. Although biodegradable neither material in this combo were proven to be viable substitute.

Between T+21 and T+28, the inner contents of filter cartridge #2 that are responsible for the chemical filtration may have continued to perform task of attracting and neutralizing the waste matter in the reservoir as the water flow through it extracting ions from the minerals. Mechanically it seems the process had converted into being a cold Passover system similar to humidifier, but instead of extracting moisture there was the process ion-exchange and adsorption

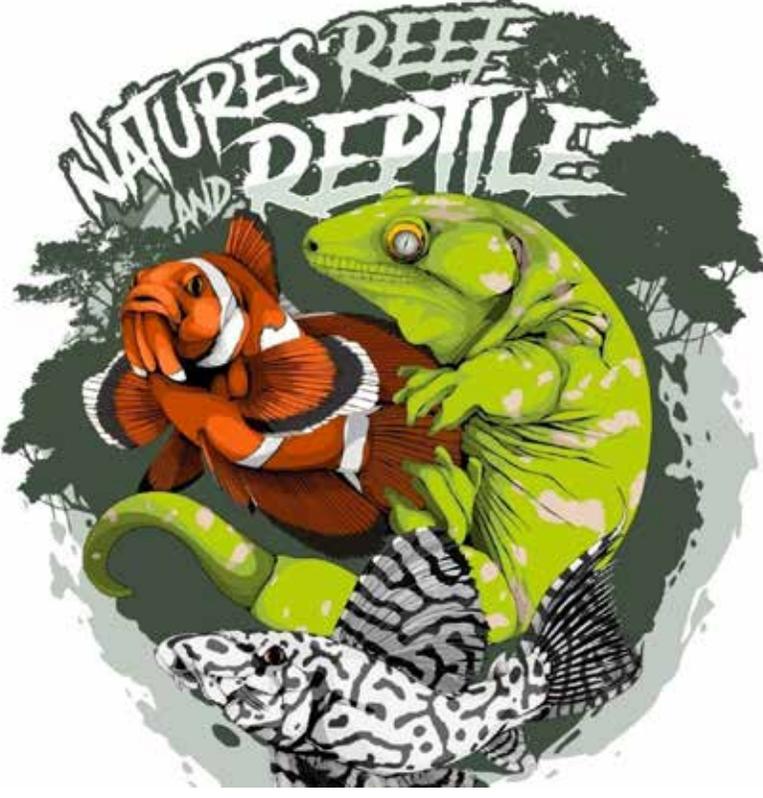
Midstream of the tank remained clear throughout the entire experiment and verified by visual inspections of dipping white wicking ropes and gauze pads to absorb for concentration of dissolved waste. There was no apparent discoloration observed in either sample when compared with backboard, and with each other. This is important because many aquarists focus on maintaining water clarity specifically in the streaming zone.



Future

Recommendation for future tests with natural fiber filters:

- Considering the structural integrity of the membranes, the inner coffee filter paper will be placed with reusable paper towel that is actual made of cotton material. The assumption
- To capture potential spikes, consider reincorporating the drip strip panel to record daily values. However, use test kits from the same manufacturer to ensure matching units of measure and scales.
- Intentionally reset the filter cartridges following the weekly sample tube testing and record the condition of filter membranes.



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AN IMPRESSIVE LAYOUT COMBINING UNZAN STONE AND DRIFTWOOD

by Aqua Design Amano, Japan

Translated by Tomoko Schum Photos by Aqua Design Amano

Unzan stone has an uneven shape that is characteristic of lava. This makes it easy for aquatic plants to take root. In its bare state with no aquatic plants attached, it gives the impression of a towering rocky mountain. However, by attaching aquatic plants to it, the impression changes. For example, attaching *Hygrophila pinnatifida* will give it a unique impression, while

attaching willow moss will give it a “Wabi-Sabi” feel that suggests the passage of time. Attaching aquatic plants will broaden the range of uses for Unzan Stone.

“Wabi” is the sense of beauty based on frugality and simplicity, which are the opposite of luxury and opulence. “Sabi” is the serene and subdued elegance that comes with the passing of time.

Reprinted with permission from *The Aquatic Gardener, the Journal of the Aquatic Gardeners Association.*



TANK DATA *Layout produced by Takashi Amano (2013)*

Aquarium: Cube Garden 900 W90 x D45 x H45 (cm)	Aeration: 14 hours after the light is turned off using Lily Pipe P-4
Lighting: Solar RGB x 2 unit, on for 10 hours per day	Additives: Brighty K, Green Brighty Iron
Filter: Super Jet Filter ES- 600 (Bio Rio G, NA Carbon)	Water Quality: Change 1/3 once a week Temp.: 25°C (77°F) pH: 6.8; TH: 20 mg/l
Substrate: Aqua Soil Amazonia Ver. 2, Power Sand Advance, M, Bacter 100, Clear Super, Tourmaline BC	Aquatic Plants: <i>Eleocharis acicularis</i> , <i>Eleocharis vivipara</i> , <i>Taxiphyllum barbieri</i>
CO₂: Pollen Glass Large 30, 3 bubbles per second via CO ₂ Twist Counter (using Tower)	Fish: <i>Puntius narayani</i> , <i>Crossocheilus oblongus</i> , <i>Otocinclus sp.</i> , <i>Caridina multidentata</i>

A NATURAL LOOK CREATED USING WILLOW MOSS AND HAIRGRASS

Unzan stone, with surface irregularities characteristic of lava rock, is good for willow moss and other plants to take root. In this layout, willow moss is wrapped around the entire Unzan stones, creating a different impression from the traditional Unzan stones. One of the characteristics of Unzan stone is the depressions where you can place Wabi-Kusa. In this layout, I have chosen not



▲ Planting light green *Eleocharis vivipara* in the background makes the dark green willow moss on the Unzan stone stand out.

▼ The depressions unique to Unzan stone, where Wabi-Kusa are often placed, are instead used as part of the layout to create a natural look.



to place anything in them and instead have incorporated them into the layout as holes in the stone. Two types of hairgrass, *Eleocharis acicularis* in the foreground and *Eleocharis vivipara* in the background, are used to create a natural look.

COMPOSITION—RIGHT AFTER PLANTING

The use of two types of hairgrass create a unique natural look, but the *Eleocharis vivipara* in the back, while visible on the left and right sides of the layout, is not yet visible behind the Unzan stone.

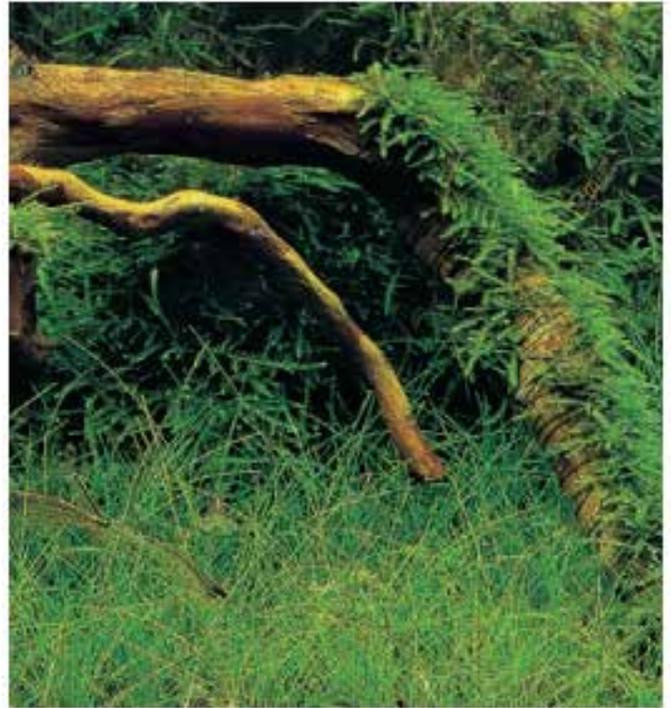
▼ Willow moss covers the Unzan stones entirely, while their depressions remain unfilled. Willow moss has also been wrapped on the driftwood ends.



THE FINISHED AQUASCAPE

Lush aquatic plants give a cohesive appearance to the layout and make it look more natural. The Willow moss has coated the Unzan stones and softens the driftwood.

- > The combination of the moss covered branch wood and the short hair grass in the foreground creates a natural feel that is reminiscent of Wabi-Sabi.



- ^ The composition right after planting.
The finished aquascape several months after planting.



TheShrimpFarm.com is the place to go for freshwater shrimp. The owner is **Ryan Curtis**, with a new mailing address: 2401 East Washington St, STE 200 A2, Bloomington, IL 61704. Visit the Aquarium Shrimp Forum <http://theshrimpfarm.com/forum/index.php> to ask questions, talk to other shrimp nuts and discuss everything related to Freshwater Aquarium Shrimp.

The Best Types of FISH For Your Shrimp Aquarium



Java moss and neon tetras

Keeping different types of tropical fish is a great hobby, and it's an ideal one for anyone who keeps shrimp, because there are so many types that go well with them. But what with the sheer magnitude of available types of freshwater fish, it can be quite difficult to know which ones are suitable for keeping with shrimp.

It's very important that you get the right types of freshwater fish for your shrimp tank – choose the wrong types of tropical fish and you could end up unleashing an Armageddon for your poor little shrimp! There have been dozens of stories reported to us of people releasing their new shrimp into their aquarium, only to see them instantly be gulped down by predatory fish who think it's Christmas time!

The problem with shrimp and different types of fish is that for many of them, shrimp are the natural food for many types of freshwater fish. Many types of tropical fish see shrimp as delicious snacks, or even a part of their staple diet, and so if you go putting predatory fish into your shrimp tank, or vice versa, then you are almost certainly going to see a feast of shrimp, in which your beloved shrimp are on the menu.

Environment

One more thing to consider, while we are on this subject, is whether or not your shrimp are able to hide. In nature, shrimp spend most of their lives hiding out from types of freshwater fish. Indeed, some have a natural coloration that helps them to mimic their surroundings and help them to evade predators. Shrimp breeders have completely removed this line of defense for your shrimp, with selective breeding to make them look more beautiful. Many shrimp have colors that are rarely, if ever, seen in the wild – for example; solid reds, whites, blues etc. are never normally seen. Therefore, your brightly colored shrimp often look like a beacon for predatory types of freshwater fish.

The point of all this is not to deter you from keeping types of tropical fish with your shrimp. Rather, we just want to enlighten you so that you don't make any mistakes. Some shrimp can be very expensive and if they get eaten, you will not be very happy about it.

So which types of fish are suitable for our shrimp? Luckily, there are a few fish you can keep with them safely. But, it would always be a

good idea to have plenty of plants and bits and pieces in your tank for the shrimp to hide from the different types of freshwater fish. As well, you should remember the golden rule:

“If a shrimp looks like it can fit in a fish’s mouth, then the fish will probably eat it”.

So, with this in mind, let’s take a look at some of the best types of tropical fish for our shrimp aquariums:

Neon Tetras

These little fish are actually some of the best types of freshwater fish for keeping in large communities, as they don’t seem to harm anything. On top of that, the spectacle of these little guys swimming around together in a school of 7,8 or more can be an awesome sight. Peaceful

'If a shrimp looks like it can fit in a fish’s mouth, then the fish will probably eat it'.

and small fish, they are highly unlikely to bother your shrimp, and they are very adaptable as well, being able to live in a pH range from 5.0 to 7.0 quite comfortably. These types of fish are a beautiful addition to any shrimp tank and come well recommended.

Glow-light Tetras

Much like their neon cousins, the glow-light tetras are ideal types of tropical fish to keep with your shrimp because they are small and peaceable. They act in much the same way to their cousins as well, though they are perhaps a little bit more shy, and will take time to adjust to a new tank. During this time you can expect them to be hiding out with your shrimp.

Harelequin Rasboras

These small, intensely colorful fish are great types of tropical fish for your shrimp tank. They can be kept alone, or in shoals, or even with groups of other peaceful fish. Harlequin Rasboras generally prefer water that is slightly acidic and



soft, but they can be kept in neutral or ever so slightly alkaline water without too many health problems.

Note that they do like to eat live food, as well as flakes, and so if you are trying to breed shrimp then keeping them together is not such a good idea when the babies start popping out.

White Clouds

Extremely beautiful types of freshwater fish, don’t go making the mistake of assuming it looks like the white clouds that you see up in the sky. They take their name not from the clouds in the sky, but rather the mountain in China in which they were first discovered – the White Cloud Mountain.

They used to be known as a “poor man’s tetra” due to the coppery stripe that runs lengthwise along its body and the fact they have a similar body shape. These types of fish are not actually tropical fish, although they are often labeled as such, due to the way they do so well in tropical aquariums.

These types of freshwater fish are ideal for keeping with shrimp – they are peaceful, happy enough to eat flake food and leave your shrimp well alone.

Glassfish

A delightful and incredibly unique type of tropical fish, the glassfish gets its name from its distinctive translucent flesh. You can see right through them, making out their bone structure, internal organs and more.

There are several different types of glassfish, but most of them act and look similar enough. They are usually quite shy fish, and will spend a lot of time hiding out. Non-aggressive, they are unlikely to bother your shrimp too much, and usually they never grow to a large enough size to be much threat to them.

Don’t be put off by their false reputation for being difficult to keep alive. It’s said that these types of tropical fish need brackish water to survive, but in the wild they are actually found in streams rather than estuaries. So long as you keep them in true freshwater, you should have no trouble with them.

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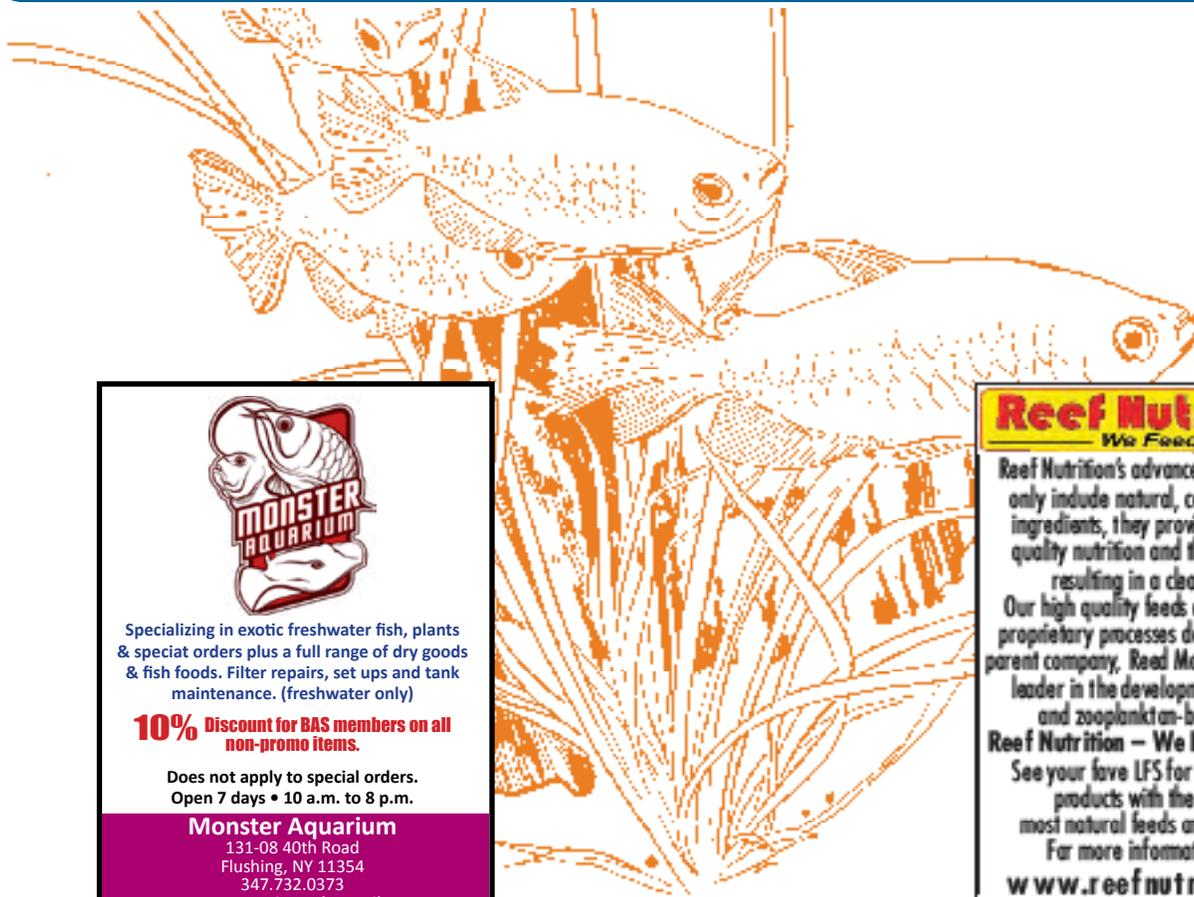
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BAS is on-line at BASNY.ORG. You’ll find up-to-date information about our monthly events, links to other aquarium societies in the US and stores, manufacturers and related aquarium sites. We have an on-line library with downloadable articles. We have our own BAS forum, where you can interact with other freshwater, marine or reef members and post free hobby-related classifieds where members sell and trade fish, corals, plants and equipment.

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The writing program is on a fiscal year basis (July 1 – June 30).

There is no limit on the number of articles submitted by an author. However, only three (3) articles will be evaluated by the committee for the writing awards. Judged by the committee and if a tie the Chairperson's decision is final.

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- Spelling
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