

modern AQUARIUM



March 2018
volume XXV
number 1

Greater City Aquarium Society - New York

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Series III Vol. XXV, No. 1 March, 2018

ON THE COVER

Our cover photo this month celebrates our 2017 Aquarist Of The Year, Joe Gurrado! The species shown is the longnose hawkfish (*Oxycirrhites typus*), and the photo was uploaded to our Fishy Friends Facebook Page.

Photo by Joe Gurrado

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From the Editor

by Dan Radebaugh

Hello to all, and welcome back to a new season with the Greater City Aquarium Society and **Modern Aquarium**! We hope that everyone had a fulfilling holiday season, and that all our members are excited about what they've been up to with their fish, and wondering what other members have been up to as well.

First of all, congratulations are due to Bill Amely for winning the December Cartoon Caption Contest! It looks like one of the characters from that cartoon might also be making an appearance in this month's cartoon. Or maybe it's just a close relative.

Jules Birnbaum kicks off this issue with a summary of new fishroom ideas he worked with during 2017. Jules is always searching for new and better ways to maintain his fishroom, and I for one am always interested in whatever new solutions he's come up with. There is a lot of new technology available in the hobby, and Jules has been very diligent about keeping us up to date on what's newly available that might help us out.

Steve Sica, last year's Author of the Year, shares another of his Caribbean fish adventures with us in "My Very Own Mini Bait Ball," on page 10. Joe Graffagnino follows with his account of breeding the wood catfish *Tatia intermedia*. This is a very nice looking fish, and doesn't grow prohibitively large, so this article may be of particular interest to those members who are looking for a "little different" catfish.

Our exchange article this month, chosen with our plant lovers in mind, is a survey of *Lobelia*, by Derek Tustin, several of whose articles have previously appeared in these pages, either as exchanges or specifically written for **Modern Aquarium**. We then move on to photos, first our Fishy Friends Photos Page,



then *lots* of photos from our 2017 Holiday & Awards Banquet. You're sure to see someone you know!

On page 27 you'll find our 2017 Index of Articles. These indices, which appear in the first issue of each year, are a great way to find articles on a given subject that you just don't recall where they appeared. They have certainly helped me out on many such searches. The years do fly by.

The issue closes, as usual, with my favorite feature, The Undergravel Reporter, this month entitled "RENT-A-FISH," and our monthly Fin Fun puzzle.

Remember, all these wonderful articles don't just show up by themselves. Our authors are our members. Without you there are no articles and no **Modern Aquarium**. Do you have a story you'd like to tell about a fish? A plant? Or maybe an adventure figuring out a solution to a vexing problem? Share it with the rest of us! None of us knows everything. Maybe your story will help someone else solve a problem, or even inspire them to try something new. Pass it along! That's why we're all here.



We Have New GCAS Golf Shirts!

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GCAS Programs

2018

It is our great fortune to have another admirable cast of speakers who have so graciously accepted our invitation to join us throughout the coming season, bringing us their extensive knowledge and experiences. You certainly won't wish to miss a moment of our prominent guests, not to mention the friends, fish, warmth, and camaraderie that accompany each meeting.

March 7	Tom Keegan <i>Fish Bio 101</i>
April 4	Judith Weinberg <i>Starry, Starry Night Cichlids: An inter-species love affair</i>
May 2	TBA
June 6	Ask The Experts Joseph Ferdenzi - Moderator
July 11	Salvatore Silvestri <i>Apistogramma and other dwarf cichlids</i>
August 1	A Night at the Auction
September 5	Kevin Kelly <i>Lighting</i>
October 3	Gary Hater <i>Goldfish</i>
November 7	Rusty Wessel TBA
December 5	Holiday Party!

Articles submitted for consideration in **Modern Aquarium** (ISSN 2150-0940) must be received no later than the 10th day of the month prior to the month of publication. Please email submissions to gcas@earthlink.net, or fax to (877) 299-0522. Copyright 2018 by the Greater City Aquarium Society Inc., a not-for-profit New York State corporation. All rights reserved. Not-for-profit aquarium societies are hereby granted permission to reproduce articles and illustrations from this publication, **unless the article indicates that the copyrights have been retained by the author**, and provided reprints indicate source, and that two copies of the publication are sent to the Exchange Editor of this magazine. For online-only publications, copies may be sent via email to gcas@earthlink.net. Any other reproduction or commercial use of the material in this publication is prohibited without prior express written permission.

The Greater City Aquarium Society meets every month, except January and February. Members receive notice of meetings in the mail or by email. For more information, contact: Dan Radebaugh (718) 458-8437 or email gcas@earthlink.net. Find out more, see previous issues, or leave us a message at our Internet Home Page: <http://www.greatercity.org> or <http://www.greatercity.com>.

President's Message

by Horst Gerber

My premier year as President of Greater City Aquarium Society is behind us, and there is clearly a lot to look forward to in 2018. Positive response to our award-winning **Modern Aquarium** has not changed; Dan and his staff still have it! The articles, suggestions, ideas, comments and photographs continue to fill the pages with the very best the hobby has to offer. Please continue to submit your thoughts, photos, and articles to help us plan future editions.

The goal of **Modern Aquarium** is to provide members and visitors alike with appealing and informative content, complemented by powerful visual elements and opinions. We have certainly kept the ball rolling in the right direction, and hope that in 2018 each issue will continue to entertain you!

Somewhat unexpected to me has been the number of wonderful photos submitted to our Fishy Friends Facebook page presented in each issue. Great job by all! It is wonderful to see how many of our members are eager to receive their copy of **Modern Aquarium** each month! Must be Elliot's cartoon caption contest—members are always eager to see if they won! As always, your \$20 annual membership includes your subscription to **Modern Aquarium**. What a deal!

For you newcomers, each issue is packed with interesting articles and photos from members. Get involved! Send in your favorite photos, along with a few words of explanation. Get out your cameras, take lots of pictures, and share them with us! And keep sending in your article ideas for future issues!

Horst



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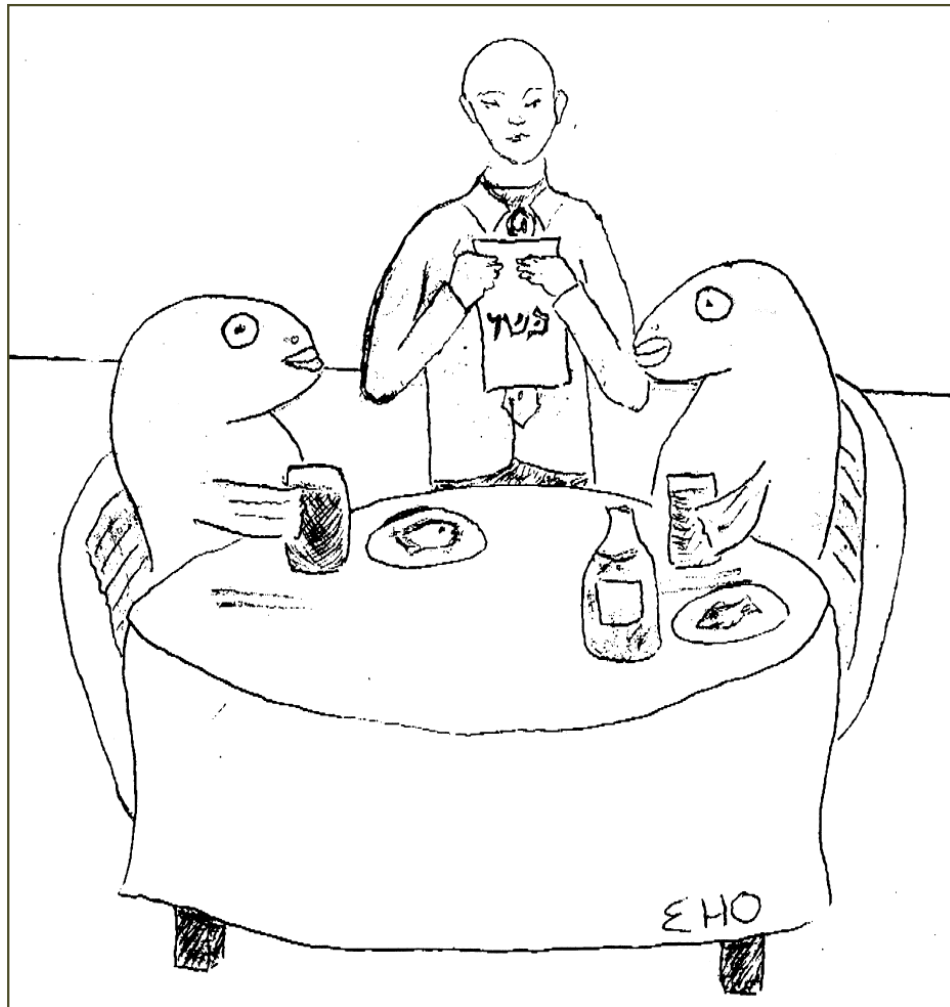
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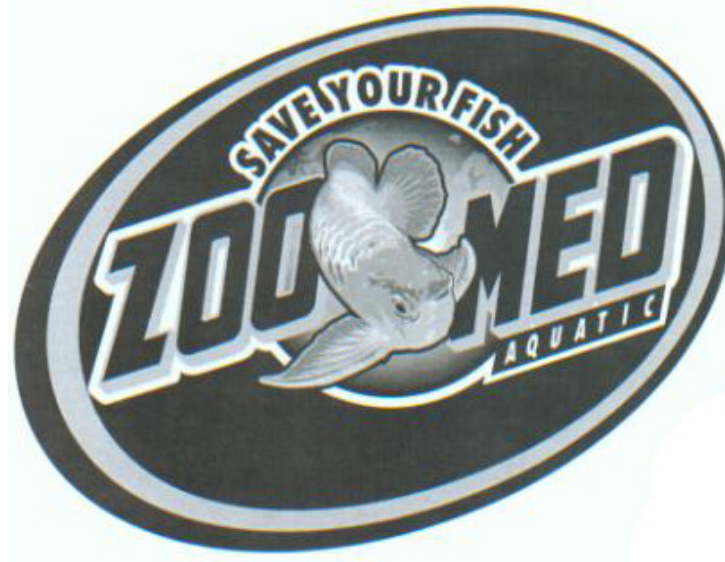
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December's Caption Winner:

Bill Amely



Is there anything on the menu that doesn't include seafood?





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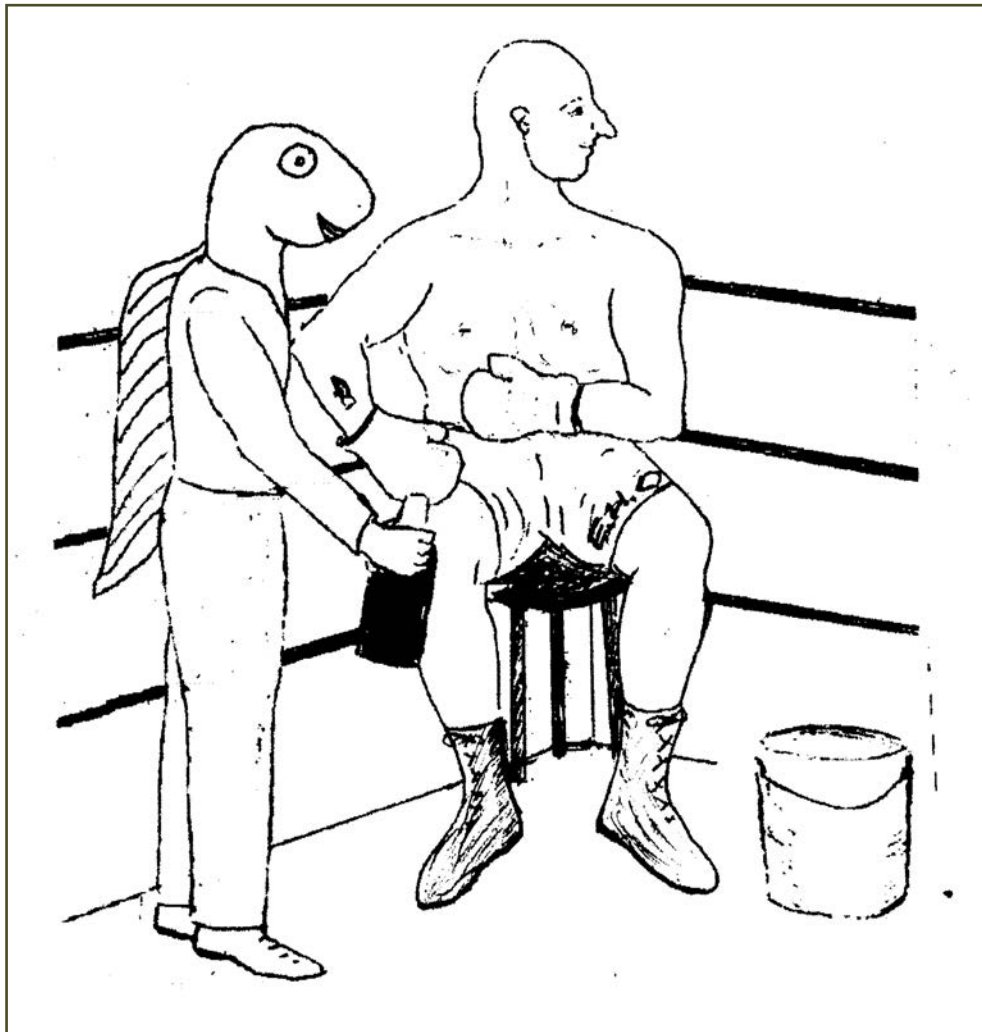
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The Modern Aquarium Cartoon Caption Contest

Modern Aquarium has featured cartoons before. This time though, you, the members of Greater City get to choose the caption! Just think of a good caption, then mail, email, or phone the Editor with your caption (phone: 347-866-1107, fax: 877-299-0522, email: gcas@earthlink.net). Your caption needs to reach the Editor by the third Wednesday of this month. We'll also hand out copies of this page at the meeting, which you can turn in to Marsha before leaving. Winning captions will earn ten points in our Author Awards program, qualifying you for participation in our special "Authors Only" raffle at our Holiday Party and Banquet. Put on your thinking caps!



Your Caption:

Your Name:

Fishroom Ideas 2017

by Jules Birnbaum

In this article are a few of the ideas out there that I adopted during 2017. I'm always on the lookout, whether in a hardware, appliance store, or online, for something I can use in my fishroom. It's like a golfer who is always on the lookout for a new putter or driver that will make the hobby more enjoyable. The big difference is that our hobby is much less costly. I think I am a good judge, since I once played golf several times a week. Unlike most, I gave up the game after retirement. Now I'm in and out of my fishroom seven days a week and love every minute. My fishroom is my escape from a very crazy world.

I purchased 30+ Poret sponge filters from Swiss Tropicals about a year ago. These filters are all run by one central air pump purchased from JEHMCO, the online fishroom supply house. There is an argument as to whether these sponge filters should, or should not, ever be cleaned. Some of the lift tubes have clogged over time and had to be cleaned to get the air going again at full force. The Poret sponges are in my opinion the highest quality material available.

If a sponge does get very dirty, water takes the easiest route around the clogged sponge and efficiency is, in my observation, reduced. When necessary, I clean my sponges by hitting them against the bottom of my slop sink, while running some water through them. Never squeeze a sponge or it will eventually lose its efficiency. I use tank water and occasionally water from the faucet. There are so much bacteria in a well-established sponge that experts in the field tell us that enough nitrifying bacteria will survive. In some of my high bio-load tanks the sponges become filthy sooner. As the years go by, we all develop a feel. For example I can tell the temperature of each tank by simply putting my palm on the glass. I can tell when a tank needs an immediate water change. I've been keeping fish for 70+ years. As someone once said; "whatever works."

You might have heard that I'm interested in aquarium filtration and like to try new ideas and equipment. Doing this helps keep my interest up in the hobby, as does acquiring a new fish or plants. The following idea is

nothing new. Joe Ferdenzi tried this concept years ago and showed me how to make a box/sponge combination filter. Swiss Tropicals is owned by Stephen Tanner, Ph.D. He likes to come up with new ideas in equipment. His latest piece of equipment for sale is a combination of a sponge and box filter. The "Betterboxfilter" was designed by Swiss Tropicals to use bio media or buffering stone to buffer the water.



Betterboxfilter

The filter is a 4X4X4" Poret sponge on top of a 4X4X8" black, food grade, polypropylene box. This box can be loaded with media to buffer the tank water. I would have preferred a clear box to observe how dirty the filter is getting. Their famous Jetlifter moves the water. There are no moving parts and the filter should last for many years. All that is needed is an air pump. I fully realize I could have made my own such filter from a large box filter, but the box filters on the market are generally too small, and for \$32 it was worth letting the experts do it. I would estimate one such filter should be able to filter up to a 30 gallon tank.

I'm always on the lookout for an incubator that can be floated in the tank where the eggs or live fry came from. Again, Swiss Tropicals came up with an interesting answer—a breeding ring made in Germany. It is a well-made egg and fry rearing ring which floats in your tank. The bottom of the incubator is made up of a 53/30 micron nylon gauze. Thus you can feed baby brine shrimp and powdered



Incubators: Large (R) and Small (L)

dry food which will not fall through the bottom of the incubator. An air hose is attached to a lift tube to bring in fresh tank water to the incubator. A pre-filter sponge is attached at the bottom of the lift tube so adult fish can't enter the tube. The incubator receives fresh water constantly, and the round design means no wastes or food can be trapped in a corner.

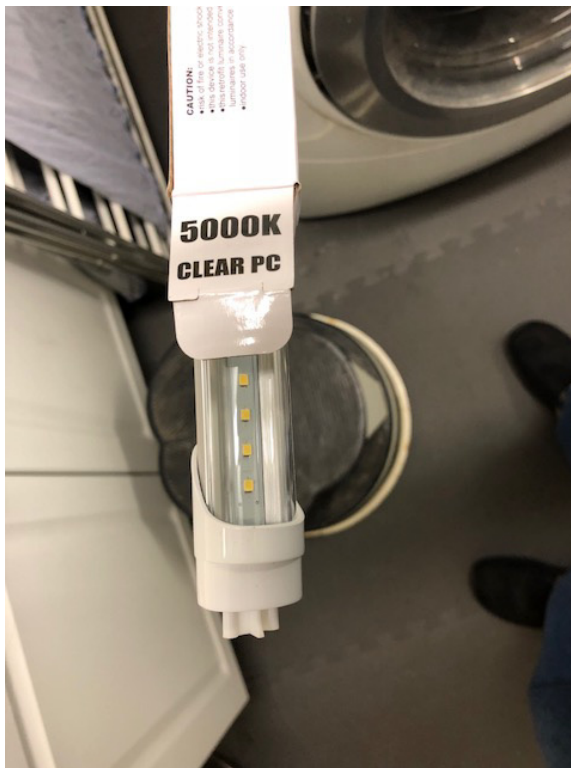
Rearing fry in a confined space makes maintenance and feeding fry easier. Although a little pricy, I purchased a small and a large model. So far they are both working well.

Blackworms are like steak to aquarium fish, and I now purchase a pound every month, which I feed to all my fish several times a week, in conjunction with a diet of high quality flake, pellet, and Repashy gel food. Rinsing blackworms should be performed daily. Doing so, they can last a month or more. Rinsing should reduce fish fatalities from anything harmful the worms might be carrying. To date I've had no fatalities. Again, Joe Ferdenzi came up with an idea that makes rinsing my worms more effective. It is a round strainer with a 100 micron porous bottom that sits in a larger square container containing water. The unit is stored in my fishroom refrigerator. There has been a big improvement in the health and longevity of my worms since using Joe's idea. *(Editors note: Joe has since discovered that 200 microns makes the ideal sieve.)* Joe has many DIY ideas. Just ask a "how to"

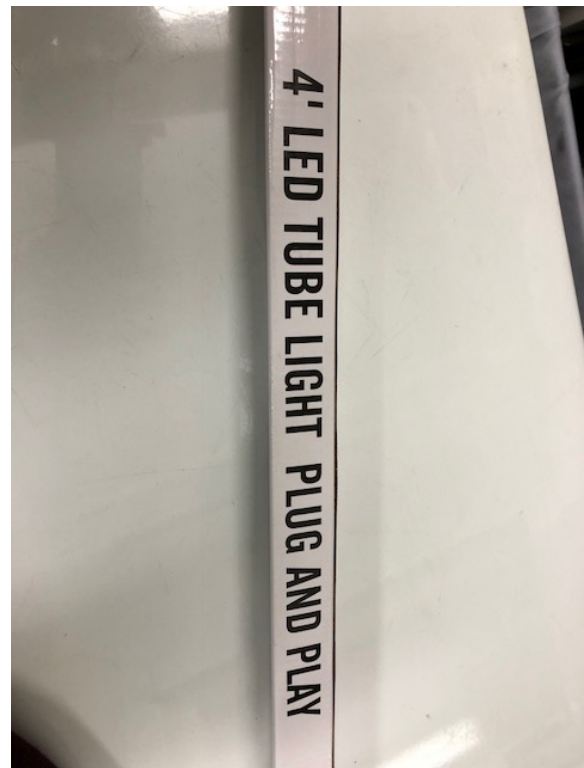
question and he will have an answer for you. Since the worms must be refrigerated, I make sure the worm container is separated from any food that my wife stores, in our spare refrigerator.

My basic lighting for 30 tanks was originally provided by 48" fluorescent shop lights. I added LED lights about two years ago, which are expensive, and the LED bulbs can't be changed should any fail. While looking around online I found 48" LED replacement bulbs for the shop lights sold by Amazon/Smile. They are \$11 each, two 18W bulbs to each shop light, and provide the equivalent of 80W. These bulbs provide plenty of light for my plants. By using a fluorescent shop light and two LED bulbs, a 48" LED tank light could be put together for under \$50.

During 2017 I used an idea going around for getting rid of algae in planted tanks. As many of you know, Seachem's Flourish Excel is an expensive liquid aquarium plant fertilizer. Some say it obviates the need for a CO₂ unit. Some of you have experimented with it and told me about double dosing. All hair algae have disappeared, and other types of algae are kept to a minimum. Although about \$37 for 2 liters, Flourish Excel works, and my plants show it. I will continue using it, but with lower doses. Stay tuned for 2018 fishroom ideas!



T8 LED tube light: 48", 18W, 5000K Kelvin day light; 2000 lumens. Works with or without a ballast. Fluorescent replacement lamp: UL, DLC plug & play, 2-sided connection.



My Very Own Mini Bait Ball

Story and Photos by Stephen Sica



Many years ago on this faraway planet Earth in the Milky Way galaxy, Sue Priest gave me a magazine. On the last page, Sue showed me a photograph of a huge bait ball (which was the reason that Sue gave me the magazine). I think that the bait ball was a tightly wound ball, or school, of sardines in the Mediterranean Sea. I believe that Sue thought that I would find the photograph interesting or inspiring, knowing my penchant for most things oceanic. Indeed, I must have found it interesting, because I wrote an article based upon that one specific photo. Unfortunately, I absolutely have no recollection of the subject matter, the title, or when I wrote it. But I always thought that it would be exciting to see a great bait ball firsthand and up close; it must be such a tremendous natural spectacle. To this day, I never did meet up with that bait ball. In fact, I couldn't even find that article in my saved **Modern Aquarium** issues or the GCAS on-line archives. I do recall that I had recycled many earlier issues curbside. Don't tell (former editor) Al Priest or Dan. What do you do with your old issues?

In late fall of 2016, Donna and I took a brief four night cruise to Grand Turk—see my article, “Grand Turk’s Groupers” in the December 2017 issue of **Modern Aquarium**. We did two dives during our Grand Turk visit, and I did make a few observations,

but I did not think I had sufficient material to write anything of interest beyond the one article. A year later though, as I grow to detest this snowy and frigid January of 2018, I decided to rekindle a few warm-weather memories, thanks to the photos waiting to be rediscovered in my computer. It might even be too cold inside my house, as Donna rubs her hands together, dons a down vest, and I raise the heat another degree to thaw out my brain and formulate something to write about in this new year. Three days into January, we are preparing for our fourth snowfall and accompanying winter storm, one that is being described by the media as a “bomb cyclone.” Now don't ask me what, if anything, that expression means, but I guess in the “Age of Trump” anything goes.

What better assignment is there on the first Saturday in January, while awaiting the football playoffs to begin, than to peruse old photos and fond memories of one's favorite warm weather underwater adventures, and dream of ones to come?

As it turns out, I think that I may *have* seen a personal little bait ball. I only took two photos of my mini bait ball, so I guess that I wasn't impressed by the mini “phenomenon.” As I always like to say, take as many as possible because you might have a good one in there somewhere.

Sometimes you don't have time to linger over things that you see underwater. Anyway, both photos are self-explanatory. I was just swimming along the reef near a patch of sand when I saw it. A stream of small fish were swimming in a line from the reef toward the upper right, and forming a minor congregation in the water above the reef. I have no idea why these fish decided to swim to and linger at this specific place. Perhaps they wanted to be in a considerably larger group to project strength and protect themselves from a larger predator. Small fish like to band together to present a robust threat. I have found that this rarely discourages large hungry fish, either solo or themselves part of a hunting group.

Could a swimmer or diver be considered the predator? Unlikely, since the fish had been gathering into their formation before I came along. I was merely a passerby who briefly stopped and took two photos, waved hello, and continued on my way. I doubt that these fish even noticed me. They sure didn't pay any attention when I stopped to take their photo.

Initially, I thought that these fish were Creole wrasses (*Clepticus parrae*), because I often see large schools of this species swimming about. I particularly recall observing hefty schools of wrasses in Grenada.



The profile of a blue chromis (*Chromis cyanea*), with its fins and tail extended to help make a definitive identification. The fish in my bait ball photos are too small for my eyes to identify. While I occasionally misidentify fish (even in my articles in *Modern Aquarium*), I enthusiastically proclaim this bait ball fish to be *Chromis*!



While the Nassau grouper, *Epinephelus striatus*, is probably the most common grouper in the Caribbean, here is an adult tiger grouper, *Mycteroperca tigris*. Named for its markings, this fish is sleeker than the Nassau grouper. Groupers are hermaphroditic; they begin life as females and change to males at maturity.

Upon closer examination of my Grand Turk photos, I think that the fish in question may be blue chromis (*Chromis cyanea*). The slender, forked tail is a distinctive feature, as is the dark border just below the dorsal fin and on the tips of the tail fin. Chromis are common throughout Florida and the Caribbean. Of course the fish in my photos are too small for me to definitively determine features, but I am fairly certain that they are either wrasses or chromis. I'm leaning toward chromis.

Whenever I visit a pet shop that carries saltwater fish, I like to check out their chromis. I usually imagine that I own a twenty or thirty gallon aquarium with a school of six chromis swimming around one or two clownfish. While I do like the blue ones, I find green chromis *quite* appealing. The only chromis that I have seen in the Caribbean are blue and brown, so where do green ones come from? Well, I had to do further research. There are dozens of species in warm waters throughout the oceans. The green chromis, also called the blue-green chromis (*Chromis virides*) are common in the Indo-Pacific and Red Sea. Perhaps I'll write about the chromis in more detail someday, but I think that I have said enough for the moment.



Grand Turk's sea life includes more than little blue fish swimming about the reef. An adult stoplight parrotfish (*Sparisoma viride*) swims along the reef. A distinctive feature is the yellow spot behind the head near the gills. Yellow bands are on the base of the tail and the tail itself. Parrotfish eat algae growing on rocks and coral.



A group or school of blue chromis (*Chromis cyaneus*) flitting around a typical Florida or Caribbean reef usually appears as a loose grouping in the water column.

Tatia intermedia

by Joseph Graffagnino



On July 6, 2016, I attended a Greater City Aquarium Society meeting that featured Ruben Lugo as the guest speaker. Being a catfish lover, I was intrigued not just by the subject matter, but also because Ruben has been able to breed several catfish species, mostly in the plecostomus family, which had never been done before. I have been an active member of Greater City for almost as long as I have been a member of the Brooklyn Aquarium Society, which is over 40 years as to the latter. That night I found a couple of bags in the auction of young groups of *Tatia intermedia*. I was able to win two bags of these fish, and brought them home to a 10-gallon tank.

I have kept *Tatia perugiae* (honeycomb catfish) previously, and enjoyed these beautiful, yet secretive South American wood cats. *Tatia* are from the family *Auchenipteridae* (meaning driftwood), Subfamily *Centromochlinae*, and in the genus *Tatia*. They were the second *Tatia* species to be discovered—in 1877 by Franz Steindachner. The first *Tatia* species discovered was *Tatia aulopygia*, by Kner in 1858.

Tatia come from South America, and this particular beauty hails from the Amazon and its tributaries in Brazil. The males have modified anal fins to impregnate the females, similar to *goodeidae*. Females are usually slightly larger and rounder in their mid-section. They will grow to about three inches. When they smell food, they zoom around just under the surface of the water, seeking insects or other edible

delights. If nothing is found on the surface, then they go to the mid-water area, and finally the bottom of the tank in search of worms or bugs. In an aquarium they eat anything—flake food, pellets, frozen, freeze-dried or live worms.

They enjoy a water temperature of 75-80 degrees Fahrenheit and a pH of 6.5-7.2. I had five fish that have survived and thrived. Several times a week I feed the group live blackworms, and on the other days flake food, pellet and frozen food, such as mosquito larvae, blood or tubifex worms. I had three air stones and another operating a corner filter on the smaller end panel of the tank. I also had small plastic caves, wood pieces, wassertang plants over the wood pieces and two clay tube caves (1 1/8" H x 1 3/8" W x 6 3/8" D).

On May 13, 2017, I had started to perform a water change and noticed little balls floating around at the bottom of the tank. Looking closer I discovered they were eggs, clear and slightly adhesive. I could see the fry's eyes within the gelatinous loose egg. The aquarium's temperature was 80 degrees Fahrenheit with a pH of 6.5. I moved 47 eggs into a plastic shoe box, and added an air stone and Java moss. The *Tatia* laid their eggs in the clay log cave and then tossed the eggs out. Once outside the cave's entrance, the eggs swelled by absorbing water to create a cushion surrounding the embryo.

The next day, a different pair of *Tatia* spawned in the same clay log cave. I had to leave, but returned a few hours later and found that opaque/white eggs



Egg cluster of 125 – 150 *Tatia intermedia* eggs

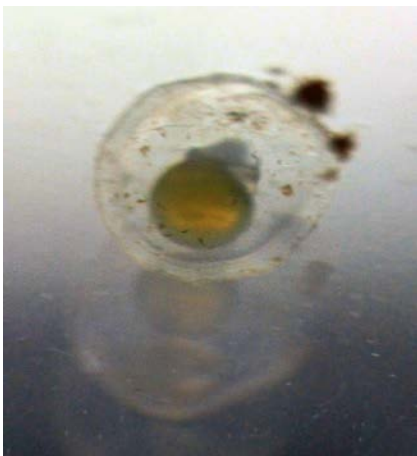
were in a clear honeycomb nest between a wood piece and wassertang plants. Interestingly, of the five *Tatia*, I had two pairs. The mass of eggs did not fungus, and even the snails left them alone.

The honeycomb nest required a high degree of maintenance. I had left a small batch of eggs in the parent tank. There was little water movement at the bottom of the tank where the eggs had settled. The eggs, when out of the nest, were quickly engulfed by plant debris, wood shavings, and other loose matter that were on the bottom. The embryo sack was slightly adhesive, and whatever started to attach to the egg seemed to suffocate the fry within. I tried to place the nest of eggs in a pint plastic container. However, without water movement, the nest collapsed and everything fungused before the fry were able to leave the nest. I then placed an air stone in the next batch of eggs in the pint plastic container. Too much aeration destroyed the eggs; too little caused the nest to collapse. I found that aeration that produced slight nest movement to gently rotate was perfect to keep the nest alive until the fry embryos hatched. The egg absorbed water for a membrane cushion, and the

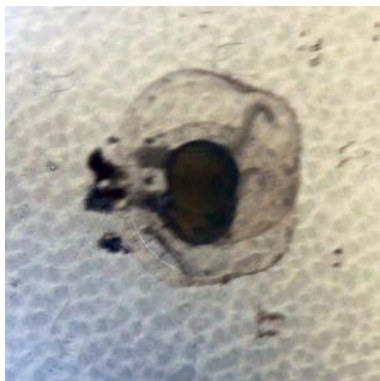
embryo stayed within the cushion until able to break free in a couple of days.

I eventually moved future nests into a plastic fry holder that hooked onto the outside of the aquarium. It had a water input that could be regulated for faster or slower water flow. The water exit location had a plastic door with bars on it, but it was too large an opening and fry could flow into the main tank and were probably eaten by cichlids or characins, depending on the tank I had placed them on. I added a small piece of nylon stocking or filter fiber to prevent the fry from escaping and yet allow water to flow through. This was perfect for the nest and egg hatching.

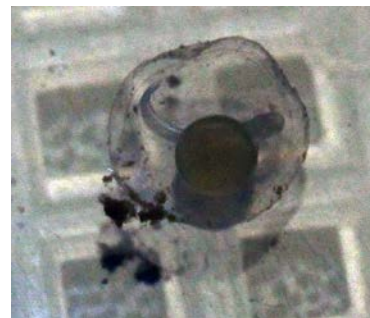
When the eggs started to hatch, the fry wiggled and tossed around, trying to get out of the cushion they were in. When they finally broke free, they were tiny opaque/white babies with a large egg sac attached. The egg sac was absorbed in a few days, and as the nutritious sack was being absorbed, the fry started to change color. They went from a clear semi-white to a yellow, and after the egg sac was totally absorbed, they turned a black/brown color. A few days later they were miniature replicas of their parents.



Egg in membrane cushion with head forming



Embryo still transforming. Squiggle line in NE corner is the umbilical cord that maintains the embryo to the protective membrane cushion that encases the developing fry.



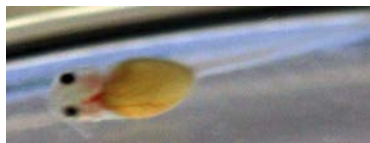
Egg with head and tail (spine) forming



Developed fry recently separated from membrane.



Within 2-3 days still has a small egg sac.



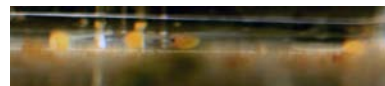
Shows blood flow to head, heart and egg sac.



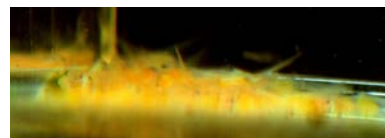
Two fry with developed eyes & spine.



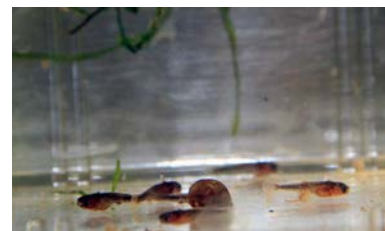
Umbilical cord released from cushion and fry



A few fry in Petri dish recently freed from protective membrane.



Cluster of fry with no membrane cushion.



Free-swimming



Smaller version of parents.

I feed them micro worms and perform daily water changes. No matter what I did, the fry started to die off. Reading about them, I discovered that most breeders found high losses for the first couple of spawns. I moved the fry from small tanks to large tanks, changed filters, and started feeding a multitude of different foods. In an act of desperation, I split the next spawn, with half going into a 10 gallon tank with a sponge filter and the remainder of the fry going into a 15 gallon tank that was part of my wet/dry system. In the 10 gallon tank, as the days went by, the losses continued to climb. In the wet/dry system I wasn't losing as many. I also noticed that the majority of the fry enjoyed the top layer of water next to the intake water tube (I had a sponge filter over the intake tube). Even though there was a constant flow of filtered water into and out of the aquarium, the *Tatia* toward the bottom of the tank were dying, but not the fry that stayed at the top of the water column. I started to incorporate a poly filter pad in the aquarium, and I could see that it helped somewhat.

I finally found a more successful system with minimum losses of one or two a week. I placed the fry into a small and shallow aquarium (6"H x 8"W x 15 1/2" L= 3 gallons). I covered the sides (except for a front glass viewing area) with newspaper; even the glass canopy was covered so not much light could get through. The fry and adults came out to eat when the tank was dimly lit. If the lights were on, they would stay hidden; of course live brine shrimp would draw

them out. They would race around the tank gobbling up any food they found and immediately return to a cave or under plants. I used a small sponge filter, added a poly filter strip, heavy aeration using 6" air stones, and performed 50% water changes daily, using day-old dechlorinated water. I think the 50% water changes are most important. If I let a day go without a water change; I would find a couple of dead fry the next day.

I found that freeze dried foods, as well as Golden Pearls, micro-worms and powder or pellet foods caused more fry to die. Only live or frozen baby brine, frozen rotifers, and crushed flake food worked without losses. *Tatia* are not fast growers, and they are tricksters—they lie on their backs and sides and won't move, so you think they're dead. I siphoned them up into a waste bucket, and that was when they came alive and started swimming. More than once I had to scramble to try and catch them before they went down the drain.

Tatia are very interesting fish that are easy to spawn (they lay eggs every 15–16 days), but it is difficult to keep the fry alive. If you enjoy a challenge, then raising *tatia* fry is the way to go.



My Green Wet Thumb:

Lobelia

by Derek P.S. Tustin

When I was just starting to attempt to grow aquatic plants, I used the scattergun approach, buying whatever appealed to me in the moment, and didn't always do my research. Actually to be honest, I rarely researched, and as a result often brought home plants that were completely unsuitable for my set-up, and was confused as over a period of weeks most of the plants quickly died. Despite all the advice I was given, true information was lacking. Looking back, I was the victim of many uninformed store staff out to make a quick buck. Despite informing them of my set-up, the advice was usually something along the line of "Oh yeah, this will grow for you," regardless of the plant's actual suitability. One of my first major disappointments was an attempt at growing *Lobelia cardinalis* submersed. I soon gave up on the species, believing it to be beyond my capabilities.

A number of years later, in 2008 to be precise, I attended the CAOAC Convention in Edmonton, Alberta. There I met Rudy Kern, an accomplished aquatic horticulturist who was presenting at the convention. I had the opportunity to speak with him on the second day of the convention after he gave a presentation on aquatic horticulture. Part of his presentation was the display of a selection of various species that he had propagated, and one of these specimens was a 120 cm (48" or 4 feet) immersed grown *L. cardinalis* that was in full bloom. I was stunned with the size and condition of the plant, and later related my story to Rudy about my complete failure with this species. He sympathized with the bad advice I had previously been given, quickly identifying the changes in conditions that I would have needed to properly grow this plant and, displaying the generosity that this hobby is known for, provided me with a small potted *L. cardinalis* to take home.

The plant was added to my tank, and I managed to successfully maintain it submersed for an extended period of time. But as often happens, I changed my set-up slightly and sold the plant at one of the Durham Region Aquarium Society's monthly auctions.

When my wife and I moved into our home, one of my goals was to set up a pond in the backyard. I did so that first year, and for the last four years, I've maintained an approximately 375 litre (100 gallon) in-ground pond with numerous planting ledges scattered throughout. I've chronicled some of my successes and failures previously, but as a summary, I've tried a lot of different aquarium plants in emergent growth conditions, and have kept a smattering of annual and perennial marginal plants. But in all that time, I never tried *L. cardinalis* again, at least not until last year.

L. cardinalis, also known as the "Cardinal Flower", is a member of the *Lobelia* genus, a group of flowering plants comprising in excess of 360 species. The genus is named in honor of Mathias de Lobel (sometimes Matthias de l'Obel), a 16th century physician who is credited with the first attempt to classify plants according to their characteristics, rather than to their medicinal uses which had been the previous practice. The genus is distributed around the globe, occurring in tropical to warm climates. The plants in the family vary widely in appearance, hardiness, colouration, size and habitat, but many species are cultivated as ornamental plants in ponds and gardens.



Lobelia cardinalis

Reprinted from *Tank Talk* – June 2013 / Volume 40, Number 10; Durham Region Aquarium Society.



Approximately 90 of the 360 species in the genus are native to North America. One of these North American species, *Lobelia inflata*, commonly called Indian Tobacco, was used by Native Americans to treat respiratory disorders (such as asthma), as a laxative, and later used by non-native doctors as an herbal medicine to induce vomiting (hence the common names of pukeweed, barfweed, heaveleaf, retchwort and vomitwort). As aquarists, there are several species that are very suitable for our use. Two are commonly available, and a third would necessitate some effort to acquire. They are *Lobelia cardinalis*, *Lobelia siphilitica* and *Lobelia dortmanna*.

Lobelia cardinalis is by far the most available of all *Lobelia* species, especially for aquatic horticulturists. In the emersed form, vibrant tubular or bell shaped scarlet red flowers will grow from a stalk that usually reaches up to 120 cm (48" or 4 feet) in height, although it is not uncommon in the wild for plants to have stalks standing in excess of 180 cm (72" or 6 feet). The flowers, which begin blooming in May and continue through October, can last up to six weeks, are usually 5 cm (2") in length, and will attract both butterflies and hummingbirds.

It was first discovered by European explorers in Canada, who sent the plant back to France in the mid-1620's. The species name, "cardinalis", likely was chosen as the colour of the flowers closely resembled the colour of robes worn by Roman Catholic cardinals.

In addition to the area where the plant was initially found (which is believed to be somewhere in what is now the province of Quebec), it can be found alongside ponds, streams and other waterways in parts of central to eastern Canada (Ontario, and New Brunswick in addition to Quebec), and most of the eastern half and southern half of the United States. It does not naturally occur in western provinces of Canada or in the northwestern United States.

Tropica, the renowned aquatic plant nursery, sells *L. cardinalis* that has been submersed grown, and they are occasionally available in local pet stores that carry aquatic plants. Both Vandermeer Nursery Ltd. in Ajax, Ontario and Moore Water Gardens in Port Stanley, Ontario, carry emersed grown *L. cardinalis* as part of their standard stock, and the plant is also occasionally sold at local aquarium society auctions.

In the submersed form, the plant can last for a number of years. It will stay relatively compact, will not flower, but will produce bright green leaves that have a scarlet red / deep purple under-leaf. In the "Dutch Aquarium" (a form of aqua-scaping using plants to create a garden-like appearance), *L. cardinalis* is one of the more popular plants used to create a "street" (a row of plants running left to right). However, it appears that a specialized form of *L. cardinalis*, *L. cardinalis* 'Mini' or *L. cardinalis* 'Dwarf', is the preferred form for creating "streets," and I have been unable to find any information on the emersed growth of this form.

If growing submersed in an aquarium, moderate lighting is the minimum tolerable, with higher lighting levels resulting in a more compact growth. CO2 injection is not absolutely necessary, but doing so will also result in better growth. And finally, it is strongly recommended that a proper and generous regimen of water fertilization be utilized, as this will aid in obtaining the fastest, lushest and most vigorous growth.

But in my experience, the more fulfilling use and best display of this plant is to grow it emersed. Last year I picked up two pots from Vandermeer Nursery Ltd., and subdivided them into several emersed pots on the planting ledges of my pond. By mid-June I had several stalks in excess of 120 cm (48") in height, bearing a multitude of vibrant red flowers that quickly become one of my wife's favourite plants in the pond. They remained in bloom throughout the rest of the summer. My only problem was that as they grew taller, they became more unstable, falling over when brushed up against by one of my dogs, or in strong winds. Wider and longer pots providing a better base proved to be the solution for this, and once rectified, they remained upright for the remainder of the season.

While listed as being a perennial plant, and while wild plants will usually survive the winter, it has been found that plants placed in the pond in our climate zone (Zone 5 or Zone 6 depending on your source), more often than not will die over the winter. However, this plant is self-seeding, and you can easily gather seeds from the plant and use them the following year. As the lower leaves die off, they will leave behind seed pods, from which the seeds can be harvested and saved for seeding the following year. The seeds are very fine, and even a single pod can contain thousands of seeds.

Vandermeer Nursery Ltd. also sells a plant labeled as *Lobelia fulgens* 'Elm Fire'. Be aware that *L. fulgens* is actually a synonym for *L. cardinalis*, and is the same species although a different variety. *L. cardinalis* 'Elm Fire' should remain slightly smaller than *L. cardinalis*, reaching an approximate maximum of 120 cm (48" or 4 feet) in height, and the flowers tend to be darker, ranging from "deep beet red" to burgundy to purple in colour.



***Lobelia siphilitica*:** The second species of *Lobelia* that has started to become commonly available in our area is *Lobelia siphilitica*. Known as the "Great Blue Lobelia", it is similar in appearance to *L. cardinalis*, except it remains smaller, usually reaching a maximum of 90 cm (36" or 3 feet) in height, and has a flower that can range from light blue to purple to lavender in colour. It blooms later in the year, starting in August and continuing through October. Also native to North America, its range is less than that of *L. cardinalis*. If you were to divide North America vertically in half, *L. siphilitica* can be found in most of the eastern half, with the exception of the Arctic provinces, the Maritime provinces and Florida. The species name, "*siphilitica*," refers to the erroneous

historic belief that the root of the plant was a treatment for syphilis. This plant is also currently available at Vandermeer Nursery Ltd., and might be found in other plant nurseries in Ontario.

***Lobelia dortmanna*:** The third plant that would be suitable for aquatic usage is *Lobelia dortmanna*, the only true aquatic (as opposed to marginal) plant in the genus, and appropriately named “Water Lobelia.” This plant is not something that is available in commercial nurseries, having a somewhat plain and unattractive appearance. In fact, my interest in this plant was roused by researching this article, and it appears that the only way in which I could obtain this plant would be to gather one from the wild. This plant is native to North American, with its distribution being limited to all of Canada (excepting Nunavut and the Yukon Territory) and the northeastern and northwestern United States), but can also be found in the British Isles, and from northeast France through to northwest Russia.



The species name of “*dortmanna*” was given by Carl Linnaeus in honour of Jan Dortmann, an early Dutch apothecary. While known to exist in the wild in Ontario, documentation on exact locations is sparse. I think that one of my future projects may be an attempt to locate and keep this plant in my own pond.

The commonly available *Lobelia* species are beautiful examples of native pond plants, and *Lobelia cardinalis* is a plant that is also suitable for aquarium usage. Should you want a plant with beautiful flowers in your pond this year, I would heartily encourage you to pick up *Lobelia siphilitica*, *Lobelia cardinalis*, or one of the *Lobelia cardinalis* varieties.

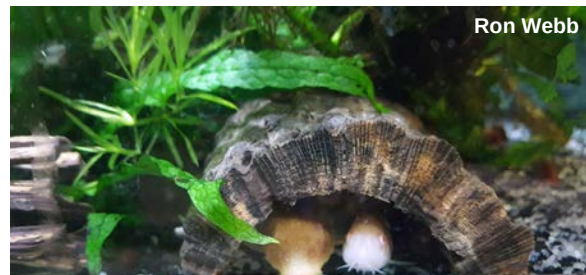
Latin Name	<i>Lobelia cardinalis</i>	<i>Lobelia siphilitica</i>	<i>Lobelia dortmanna</i>
Common Name	Cardinal Flower	Great Blue Lobelia	Water Lobelia
Height	120 cm (48")	90 cm (36")	210 cm (84")
Width	30 cm (12")	30 cm (12")	30 cm (12")
Light	High	High	High
pH	6.0 - 8.0	6.0 - 8.0	6.0 - 8.0
Growth	Slow	Slow	Slow
Difficulty	Easy	Easy	Easy



Fishy Friends' Photos

by Greater City Aquarium Society Fishy Friends

***B**elow are photo submissions to our “Fishy Friends” Facebook group. I’ve left the subjects unnamed, but not the photographer. If you see a shot you like, and want more info, ask the photographer about it! I’m sure he or she will be delighted to tell you!*



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Photos by Joe Gurrado



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Bill Amely



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Year: Joe Gurrado



Breeder of the Year:
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Breeder: Ed Vukich



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Jules Birnbaum



Author of the Year:
Steve Sica



Senior Laureate:
Dan Radebaugh



Columnist:
Joe Gurrado



Senior Grandmaster
Laureate: Steve Sica



Essayist:
Denver Lettman



Writer:
Jeff Bollbach



Michael Macht



Elliot Oshins



Ron Wiesenfeld



Tom Warns



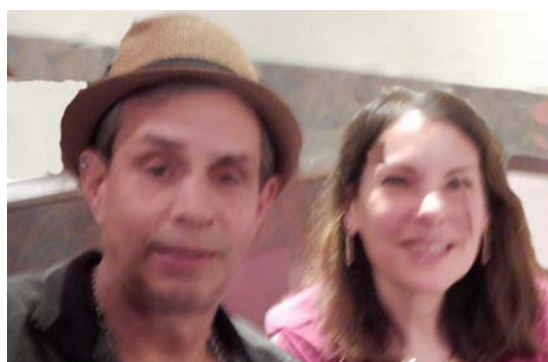
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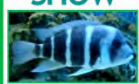
SHANE LINDER
VA
Catfish & Plants
Collecting in
South America

18
PROGRAMS!

10
SPEAKERS!



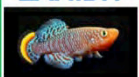
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SHOW**



**GUPPY
SHOW**



**KILLIE
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**NANO
CONTEST**



**PHOTO
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"Winter Words"	12/38

SPAWNING

"Oscar Wild: The Sequel," by Dan Radebaugh.....	10/09
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SPEAKER PROFILES

Tonight's Speaker: Mark Duffill	10/05
Tonight's Speaker: Michael Barber	11/05

TRAVELING AQUARIST

"Antigua Revisited" by Stephen Sica.....	03/15
"Was That Really A Mermaid?" by Stephen Sica	03/24
"Key Largo's Sea Life" by Stephen Sica	07/09
"Collecting in Florida" by Chuck Davis	07/16
"Multi-Society Field Trip" by Joseph Graffagnino	07/22
"Hogfish Heaven" by Stephen Sica.....	10/11
"Angels and Turtles" by Stephen Sica.....	11/10
"Grand Turk's Groupers" by Stephen Sica	11/10





GUANGZHOU INTERNATIONAL 2018 AQUARIUM SHOW

March 23rd–25th, 2018

Venue: Guangzhou International Sourcing Center

Address: No.8 Pazhou Avenue East, Haizhu District, Guangzhou, China

Contact

GIAS Organizing Committee

Contact person: Mandy Tsang

Tel: +86 20 29037372 / +86 15918775956

Mobile/Whatsapp/Wechat: (+86) 159 1877 5956

Email: gas2018@hotmail.com; mandytsang1993@hotmail.com

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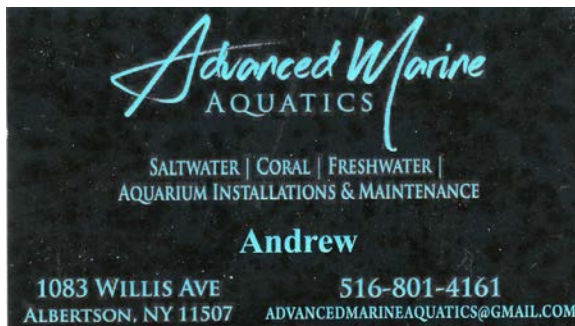
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We are excited to tell you about a new AmazonSmile promotion that will launch soon. Amazon is **tripling the donation amount** to 1.5% when customers make their first eligible smile.amazon.com purchase from March 12 - 31. This is a great opportunity to increase Greater City Aquarium Society Inc's AmazonSmile donations by reminding your supporters to shop at smile.amazon.com.

From March 12 - 31, use the message and banner below in email, social media, and on your website to spread the word to your donors, staff, and volunteers. Please do not announce this promotion until it begins on March 12.

For additional details about the promotion, visit the promotion [detail page](#).

3x your impact! From March 12-31, Amazon is **tripling the donation rate** on your first smile.amazon.com purchase! Go to smile.amazon.com/ch/02-0574476 and Amazon donates to Greater City Aquarium Society Inc.





GCAS Happenings

March

A WARM WELCOME BACK TO RENEWING GCAS MEMBER JULES BIRNBAUM!

Meeting times and locations of some of the aquarium societies in the Metropolitan New York City area:

GREATER CITY AQUARIUM SOCIETY

Next Meeting: April 4, 2018

Speaker: Judith Weinberg

Topic: *Starry, Starry Night Cichlids: An intra-species love affair*

Meets: The first Wednesday of each month (except January & February) at 7:30pm:

Queens Botanical Garden

43-50 Main Street - Flushing, NY

Contact: Horst Gerber (718) 885-3071

Email: gcas@earthlink.net

Website: <http://www.greatercity.org>

BIG APPLE GUPPY CLUB

Meets: Last Tuesday each month (except Jan, Feb, July, and August) at 7:30-10:00pm.

Alley Pond Environmental Ctr.: 228-06 Northern Blvd.

Contact: Donald Curtin (718) 631-0538

BROOKLYN AQUARIUM SOCIETY

Next Meeting: March 9, 2018

Speaker: Nathaniel Curtis

Topic: *The Science Behind The Spectrum*

Meets: 2nd Friday of the month (except July and August) at 7:30pm:

NY Aquarium - Education Hall, Brooklyn, NY

Call: BAS Events Hotline: (718) 837-4455

Website: <http://www.brooklynaquariumsociety.org>

LONG ISLAND AQUARIUM SOCIETY

Next Meeting: March 16, 2018

Speaker: TBA

Topic: TBA

Meets: Olive Garden Restaurant

257 Centereach Mall,

Centereach, NY 11720 Phone: (631) 585-4027

For map directions, go to olivegarden.com/locations/ny/centereach/centereach-mall/1507.

Email: Margaret Peterson - president@liasonline.org

Website: <http://liasonline.org/>

EAST COAST GUPPY ASSOCIATION

Meets: 2nd Tuesday of each month at 8:00 pm.

Alley Pond Environmental Ctr.: 228-06 Northern Blvd.

Contact: Gene Baudier (631) 345-6399

NASSAU COUNTY AQUARIUM SOCIETY

Next Meeting: March 13, 2018

Speaker: TBA

Topic: TBA

Meets: 2nd Tuesday of the month (except July and August) at 7:30 PM

Molloy College - Kellenberg Hall ~1000 Hempstead Ave - Rockville Centre, NY

Contact: Mike Foran (516) 798-6766

Website: <http://www.ncasweb.org>

NORTH JERSEY AQUARIUM SOCIETY

Next Meeting: March 17, 2018

Speaker: Scott Dowd "Project Piaba - Conservation Success Story"

Meets: 12:30 PM - 3rd Saturday of the month, at Clark Public Library in Union County, just off the Parkway at exit 135

Contact: NJAS Hotline at (732) 332-1392

Email: tcoletti@obius.jnj.com

Website: <http://www.njas.net/>

NORWALK AQUARIUM SOCIETY

Next Meeting: March 15, 2018

Speaker: TBA

Topic: TBA

Meets: 8:00 P.M. - 3rd Thursday of each month except for July & December at: Earthplace - the Nature Discovery Center - Westport, CT

Contact: Sal Silvestri

Call our toll free number (866) 219-4NAS

Email: salsilv44@yahoo.com

Website: <http://norwalkas.org/>

RENT-A-FISH

A series by "The Undergravel Reporter"

In spite of popular demand to the contrary, this humor and information column continues. As usual, it does NOT necessarily represent the opinions of the Editor, or of the Greater City Aquarium Society.

You go on vacation and have someone (possibly even someone from your fish club) taking care of your fish while you are away. Even though you're enjoying your vacation, you can't help thinking about your finny friends, and miss your daily (or more often) visits to your fishroom. Sound familiar?

Well, if your vacation includes a trip to Belgium, and if you stay at the Hotel Charleroi Airport in Gosselies, you can rent a fish for just 3.5 euros per night, or about \$4.

Hotel manager David Dillen says that this program was started a few years ago. "The idea was to surprise our guests, as we always try to do. It's brilliant to see how people react to it. They smile, they take pictures to put on social media. We rent a few fish per week."¹



While I know of no "rent-a-pooch" program at any hotel, The Westin Mission Hills Golf Resort & Spa in Rancho Mirage, California has partnered with Animal Samaritans, a no-kill shelter in the Palm Springs Valley to create the Dog Samaritans Adoption Project. The resort has made the hotel lobby a temporary home for a dog in need of a family. While the hotel waits for the perfect applicant to come along, a dedicated team of caregivers takes them for walks, introduces them to guests, and sees to their general wellbeing. Like any pampered Westin guest, the dogs bed down in a Heavenly Bed. Dog bed, that is. "People come to visit our beautiful desert and resort,"

said General Manager Randy Zupanski, "and [they] go home with a new family member."

Families who have adopted through the program are invited to return for a "Yappy Hour" celebration, which is also open to the public. Canines and travelers alike will mingle over cocktails and appetizers.²

While you **can** adopt a dog at a hotel, you **can't** take your rental fish home after you check out from the hotel; and even though the fish comes with a bowl, you can't enter it in one of our monthly bowl shows.



References

¹ <https://www.mnn.com/earth-matters/animals/stories/lonely-guests-hotel-can-enjoy-company-fish>

² <http://www.travelandleisure.com/hotels-resorts/pet-friendly-hotels/westin-mission-hills-adopt-a-dog-program>



Fin Fun



Know thy mbuna

The name **mbuna** means "rockfish" in the language of the Tonga people of Malawi. Aquarists have other names for these cichlids. See if you can correctly match the most common names of some mbunas with their respective scientific names.

Common name (ends with mbuna)	Scientific name
Bluegray	<i>Labeotropheus trewavasae</i>
Elongate	<i>Labeotropheus fuelleborni</i>
Golden	<i>Maylandia zebra</i>
Lavender	<i>Pseudotropheus elongatus</i>
Scrapermouth	<i>Pseudotropheus johannii</i>
Zebra	<i>Melanochromis auratus</i>
Blue	<i>Iodotropheus sprengerae</i>

Solution to our last puzzle:

Winter Words

Common Name	Scientific Name
Snow pleco	<i>Pterygoplichthys anisitsi</i>
Peppermint goby	<i>Coryphopterus lipernes</i>
Chestnut goby	<i>Gymnogobius castaneus</i>
Treefish	<i>Sebastes serriceps</i>
Candle hap	<i>Stigmatochromis pholidophorus</i>
Cookie cutter shark	<i>Isistius brasiliensis</i>
Frostfish	<i>Benthodesmus elongatus</i>
Ribbon halfbeak	<i>Euleptorhamphus viridis</i>
Winter flounder	<i>Pseudopleuronectes americanus</i>
Nutcracker prickleback	<i>Bryozoichthys lysimus</i>

Support the James J. White Memorial Conservation Fund

"We, the humanity on Earth, have only two choices: We either stand back and watch when our beautiful planet turns into dust or we act and do something about the problem before it's too late."

Online donations can be made at
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Donations of fish, pond plants, books, working hard goods
will be gladly accepted on Friday and Saturday during the
convention for our silent auction.

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<http://coralrestoration.org/>



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