

modern AQUARIUM



July 2020
volume XXVII
number 5

Greater City Aquarium Society - New York

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Series III Vol. XXVII, No. 5 July, 2020

ON THE COVER

Our cover photo this month features a gray angelfish, *Pomacanthus arcuatus*, with its straight-edged tail, swimming with a smooth trunkfish, *Lactophrys triqueter*, in the background. For more reef fish photos (and others) see Steve Sica's article, "Key Largo: Just Another Dive!" on page 21.

Photo by Stephen Sica

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From the Editor

by Dan Radebaugh

Well, for those of us who thought that the Covid-19 plague would be quickly resolved, we probably shouldn't think about investing in any bridges in the near future. Thankfully, I haven't yet heard about anyone in our club being infected, though "it ain't over till it's over," so we should maintain our patience, and hope for an effective vaccine to be developed sooner rather than later.

On the positive side, with a little help from our friends we have been able to have live presentations online for the past couple of months. A major thank-you goes to Callie Parker of the Bucks County club for handling the technical aspects of these presentations. Thanks, Callie, and thanks also to Mark Denaro, for helping facilitate all this.

On the other hand, we are still a bit adrift regarding the next few months. As I write this, I can't yet imagine that we'll be able to hold our Night At The Auction in August. Right now it looks like we'll feature another online presentation. Please keep an eye on your email. I'll let you know what's up as soon as I have firm information.

Fortunately we still have **Modern Aquarium**. We haven't printed any paper copies over the past few months, but that can be corrected once we start being able to meet again. Meanwhile, it is available online. Check our web site, GreaterCity.net, and look under the **Modern Aquarium** tab. I've also been emailing



links for each issue to everyone whose email address I have on file. If you haven't been receiving these, please let me know. If you're *really* bored from not being able to get out and about, why not use up some of that excess energy by writing an article or two?

Speaking of articles, the NEC has announced in *their* online Awards meeting the winners of the 2019 Article Awards Competition. While **Modern Aquarium** didn't win *quite* as many awards as in 2018 (one fewer), we still did very well! Check out the results on page 8 of this issue to see what your friends and fellow members have been up to! Maybe it will inspire you to write an article of your own. Have you done something in your fishroom that you think is really neat? Tell us about it. Maybe your story will inspire someone else to tell us all about something *they've* figured out how to do! Pass it along!





GCAS Programs

2020

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 4	Joseph Ferdenzi <i>Aquascaping</i>
April 1	Meeting Cancelled <i>Covid-19</i>
May 6	Lawrence Kent <i>Holy Grail Cichlids, Friends, and Other Fish: Two West African Stories</i>
June 3	Pam Chin <i>Swimming With Cichlids - Zambia</i>
July 2	Lawrence Flint <i>Reef Aquarium Systems in Schools</i>
August 5	A Night at the Auction
September 2	<i>TBA</i>
October 7	Larry Johnson <i>TBA</i>
November 4	<i>TBA</i>
December 2	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 (347) 379-4984. Copyright 2020 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 at (718) 458-8437, email gcas@earthlink.net, or fax to (347) 379-4984. For more information about our club or to see previous issues of *Modern Aquarium*, you can also go to our Internet Home Page at <http://www.greatercity.net>, <http://www.greatercity.org>, or <http://www.greatercity.com>.

President's Message

by Horst Gerber

After our March meeting, when the Coronavirus decided to take over the world and Trump announced that it would all be over by Easter, we realized that we would have to cancel our April meeting. Then everyone started talking May or June, then maybe August. Now we're wondering if we'll even be able to meet again this year! Wow!

We wondered a bit what to do about our monthly magazine, **Modern Aquarium**, and finally decided to go ahead and publish it each month anyway; we just wouldn't print it yet. Instead, each issue has been put online, and may be accessed by going to our website, GreaterCity.net, and looking at the **Modern Aquarium** tab. When all this is over Dan (our Editor) will print a certain number of issues so that they will be available as needed, for those who don't have internet access, or who need printed copies for other reasons.



We've also had our scheduled speakers give their presentations online. Dan is emailing all our members links to these presentations, and the time when they will be aired. So be sure and check your emails to find these links, and the times they will be available.

The year 2020 will be remembered as the year that the baby boomers also became the hunker downers. We are rapidly adjusting to the concept of "Social Distancing," with closures of schools, workplaces and places of worship, and cancellation of all events that involve more than five people. The list of closed stores and restaurants has reached its peak. Panic buying has also reached its peak. The only good result of this so far is that my fridge and freezer are getting better organized, since shopping has become a serious pain in the rear, and we're using up all the food that we had been storing for later use. When the going gets tough, the tough buy ice cream! The medications I have been taking for my sciatic nerve problem have caused me to develop a craving for ice cream like I have never experienced before! So at nearly 80 years of age, I have to struggle mightily not to eat an entire quart at one sitting!

The fish are doing fine, and most of my tanks are looking cleaner than they have in a long time. So far I don't think anyone in our club has contracted the Coronavirus, but unfortunately I can't say that about other fish clubs in our area. I join with all of you in the hope that this will soon be over, and that all this hunkering down doesn't become a new way of living.

I grew up as a widow's son in the suburbs of Hamburg. My father had been killed in Russia during the war. If you're thinking that that must have been tough, well back then it seemed rather normal. Probably half of my classmates were in the same position, as this was right after the war, from which 50% of the German male population did not return. At least in this current crisis we've "only" lost one to two per cent.

Trump predicted that by Easter, Covid-19 would be over. Well, Easter has come and gone, and we all know how that prediction turned out. Maybe he meant Easter of 2021. He didn't exactly say what year he meant, so I suppose he didn't technically lie. Biden said it would likely be over by Memorial Day, but he also gave no specific year, so I guess we just have to wait and see.

My doctor hates the 6-foot rule. His solution is giving acupuncture, using darts (perhaps from a blowgun) from a safer distance. We'll see. I'm not sure we can learn acupuncture over the internet, and I think that doing it to yourself would mean getting into extremely difficult positions!

See you soon!?

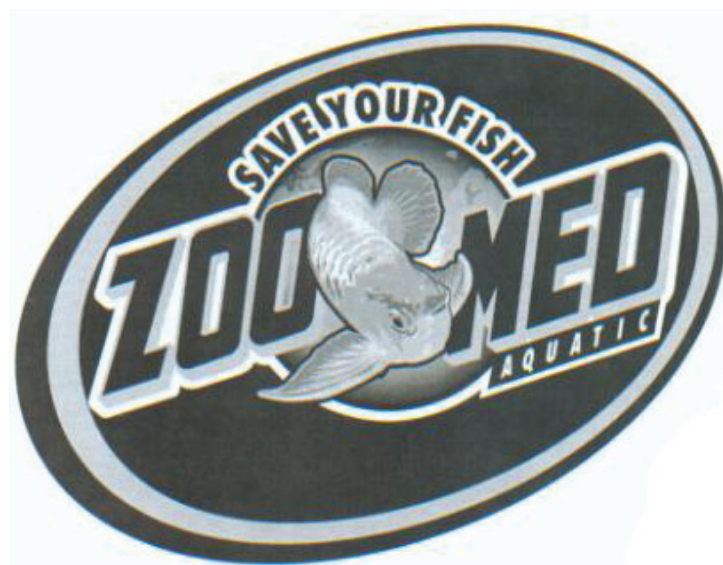
Horst



June's Caption Winner: Ron Webb



Some are wanted Dead or Alive, others are wanted Breaded and Fried!





GCAS Thanks You!

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Tonight's Speaker:

Larry Flynt on

“Reef Aquarium Systems in Schools”



Larry is the President of the Reef Conservation Society and teaches Physics and Oceanography at Williamsport Area High School in Williamsport, Pennsylvania. He runs the society's Tanks in Schools program, supporting aquariums in schools throughout Pennsylvania and neighboring states.

Larry is a lifelong freshwater and 15-year reef hobbyist. At Williamsport Area High School Larry manages five separate reef systems, with a total of 45 interconnected tanks ranging in size from 10 to 550 gallons. Larry works with his students to breed clownfish and propagate coral & anemone. 



The NEC 2019

Articles Competition

OPEN CATEGORY

1. A Slice of Reef	Joseph Frank Gurrado	Modern Aquarium	GCAS*
2. Pioneering Aquarist: The Legacy of William Holbein	Joseph Ferdenzi	Modern Aquarium	GCAS*
3. How the Zebrafish Earns its Stripes	Jules Birnbaum	Modern Aquarium	GCAS*

BREEDING CATEGORY

1. Lake Mweru Species Update	Michael McKinney	The New England Cichlid	NECA ⁺⁺⁺
2. The Fabled Blue Gularis	Joseph Ferdenzi	Modern Aquarium	GCAS*
3. Angelfish	Al Dispigna	Aquatica	BASNY ^{***}

HUMOR

1. A Mouse in the House	Brian Candib	In Depth	TFCB [‡]
2. Travelling Frogs	Margaret Peterson	Paradise Press	LIAS ⁺⁺
3. Reptilian Surprises	Margaret Peterson	Paradise Press	LIAS ⁺⁺

CONTINUING COLUMNS

1. The View from the Other Side of the Tank	Margaret Peterson	Paradise Press	LIAS ⁺⁺
2. The Undergravel Reporter	The Undergravel Reporter	Modern Aquarium	GCAS*
3. Fin Fun	Alexander A. Priest	Modern Aquarium	GCAS*

JUNIOR AUTHOR

1. The Nile Perch in Lake Victoria	Ethan Dague	In Depth	TFCB [‡]
2. Tai Chi Fish	Lauren Ramroop	Modern Aquarium	GCAS*
3. None			

*Greater City Aquarium Society

***Brooklyn Aquarium Society

[‡]Tropical Fish Club of Burlington

⁺⁺Long Island Aquarium Society

⁺⁺⁺New England Cichlid Association



Michael Liu
Betty Mueller
Memorial Honor
2020 Recipient

Congratulations!!

Andinoacara latifrons

The Platinum Acara

by Joseph Graffagnino

The *Andinoacara latifrons* is a small, beautiful species native to the Magdalena, Atrato, Sinú, and San Juan River basins in Colombia. At a North Jersey Aquarium Society event, I discovered a bag of a half dozen on the auction table. This species was clearly labeled with the genus and local name, and even identified the location this particular species originated from—Rio Magdalena. This article is about raising and breeding this species of fish, but also about the difficulties a layperson encounters when he believes he knows what species of fish he has, and experts in the hobby throw that belief into question.

First, let us discuss the fish, their environment and their spawning in my fishroom:

I won the bag at auction and brought the fish home, acclimated them and placed them in a 10-gallon aquarium that had a few small flower pots, plastic plants for cover and a corner filter. The pH was 7.0 and the temperature was 79 degrees Fahrenheit. I fed them discus pellets and flake food, along with frozen bloodworms and live blackworms. They grew quickly, and after a few months created a pecking order, with a couple of fish becoming darker and more colorful, with the blue lines in their faces now bright, and the white and blue dots along their bodies becoming brighter. Realizing that the existing aquarium was too small for them, I moved the group to a large and wider 12-gallon Metaframe tank. These fish can grow to 5 – 7 inches, but at this point they were 3 ½ inches.

The next day a pair laid brown eggs inside a ceramic urn. I couldn't tell which one was the male, so I removed all the fish except for the mother guarding the eggs into a 15-gallon aquarium. I siphoned most of the now hatched wigglers into a small breeder container, and using water from the tank they were spawned in I waited until they were free-swimming. This was to ascertain whether the mother was going to care for her fry or eat them. Turned out she was a good mother, and she led her fry around the tank searching for food.

At this point, I released the fry in the container back into mom's tank to circulate with their brothers

and sisters. They all had a joyous reunion and remained together under mom's protection. I fed the fry frozen rotifers, Golden Pearls (50-100 microns) and crushed flakes. The temperature in the fry tank was 80 degrees Fahrenheit, with a pH of 7.0. I estimate that there were approximately 75 babies in the tank.

Now let's turn our attention to the confusion in species identification within the *Andinoacara* and the *Aequidens* genus. From the scientists we have (from Aquaticnation.org): The *Andinoacara* is a South American genus of fish in the family Cichlidae.

The genus *Andinoacara* was

described by the Czech scientists Musilova, Rican & Novak in 2009. Before this, the members of *Andinoacara* were placed in the "catch-all" genus *Aequidens*, though they are not closely related to the other members of this genus. The genus name *Andinoacara* is formed by two words "Andino" and "Acara." Andino refers to the Andes Mountain Chain in South America. These cichlids are found on the slopes of the Andes mountains, in the valley formed by three arms of the Northern Andes. The term "Acara" has historically been used for Cichlids. So the term *Andinoacara* means "Cichlids from Mountain Andes."

Description

Species of *Andinoacara* are characterized by blue or green iridescent stripes on the sides of the head and vertical black bands along the body. There is a small dark blotch at the base of the caudal fin. This sets them apart from the genus *Aequidens* in which blue lines on the sides of the head are rare and the lateral band is usually horizontal. The caudal fin blotch is distinctly ocellated and situated on the dorsal part.

Distribution & Habitat

The genus *Andinoacara* is restricted to freshwater habitats in northwestern South America, Trinidad and the Orinoco Basin west to the Pacific coast of South America. In the south, it extends to as far as Peru, southern Central America, Costa Rica, and Panama. There are no members of this genus in the Amazon Basin.



***Andinoacara pulcher* group**

This group consists of two species, *Andinoacara coeruleopunctatus* and *Andinoacara latifrons*.

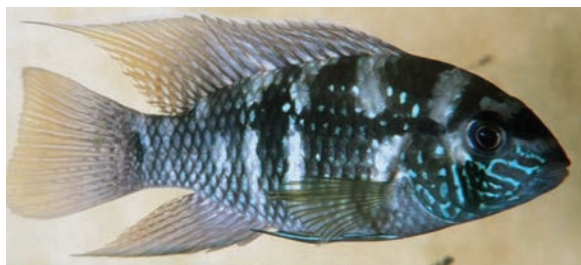
Below are some photos identified as *Andinoacara coeruleopunctatus* from Cichlid Room, from Cichlids.ru, from Fishbase, from Zuzana Musilova (who first identified the species), as well as from Aquaticnation.org, from Estalens.fr, and from Wikipedia.org.

All of these photos are claimed to be of *Andinoacara coeruleopunctatus*! Some of them were taken by the same photographer, Zuzana Musilova, who first identified the species!

On the facing page are four photos of *A. latifrons*. I find the differences in these photos to be

mind-boggling! I, as a layperson, must wonder if these photos of the same species are wrong! Are they not really the same fish, or are they geographic color differences in the locations found, or are they perhaps breeding colors?

These photographs and the species identified have not been done by amateurs, but rather by experts in their field. So how do we truly know what species we have in our tanks? It appears that the internet cannot solve this problem! At the lower left of page 11 is another photo of *Andinoacara latifrons*, given the local name of Blue Acara, from Aquaticnation.org. However, when you research the name Blue Acara it appears as *Andinoacara pulcher* – Blue Acara. This



from Cichlid Room, Cichlids.ru



from Fishbase.sinice.edu.tw



Photo by Zuzana Musilovan



Photo by Zuzana Musilovan



from Costa Rica



from Panama

species is from South & Central America, in Columbia, Venezuela and Trinidad, and was discovered in 1858 (photo below from Fishbase.sinice.edu.tw). I leave it to you, dear reader, to figure it out, because I can't. But no matter what this beautiful cichlid is called, it will make a handsome addition to your aquarium.

References:

Aquaticnation.org
Fishbase.sinice.edu.tw
Wikipedia.org
Estalens.fr
Cichlid Room, Cichlids.ru



Adinoacara pulcher, from Fishbase.sinice.edu.tw
the blue acara



A. latifrons, from Aquaticnation.org



A. latifrons, from Wikipedia.org



A. latifrons, from Estalens.fr



Andinoacara latifrons, from Aquaticnation.org
the blue acara?!



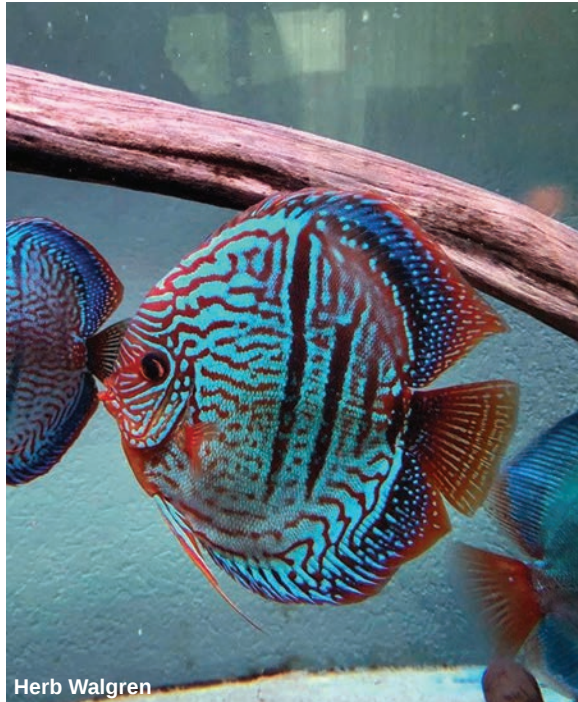
A. latifrons, from Fishbase.sinice.edu.tw



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!*



ANUBIAS

The Plant That Anyone Can Grow

Story and Photos by Joseph Ferdenzi

Anubias is a genus of plants native to Africa. It often grows along humid tropical riverbanks, partly in the water and partly out. There are many species of *Anubias*, but by far my favorite species are those in the *barteri* complex. Some thirty years of experience with this plant have convinced me that it is an almost ideal aquarium plant. Only extreme conditions will lead to its demise, and therefore I can recommend it without reservation.

Amazingly, in the early days of the hobby *Anubias* as an aquarium plant was virtually unknown. You can scour books and magazines from the 1930s, 40s, and 50s and find nothing about it. When I started in the hobby in the mid 60s there were many aquarium plants available, but no *Anubias*. It may have been that given its semi-terrestrial nature no one considered it to be a worthy aquarium plant. Just when that changed I'm not sure, but I think I got my first *Anubias* plants in the late 80s or early 90s. Nowadays *Anubias* plants are very commonly available, with the vast majority being grown in specialty greenhouses.

There are several characteristics of *Anubias* plants that make them appealing. In no particular order, I will describe some of these attributes. To start, it is a very beautiful plant. The *barteri* has deep green leaves, as seen in the accompanying photos. The leaves are spade-shaped, and have a touch of ribbed veins that makes them very attractive (in the *coffeaefolia* variety the ribs are even more pronounced). The leaves grow from stems attached to a rhizome. This means that the plant does not need to be rooted in gravel, although it will develop roots that can be buried in gravel. Many times I simply attach it with thread to a piece of wood or rock. Sometimes I just place a rock on top of the roots to hold it in place, but the plant will also thrive in a bare tank (see photo at right).

Anubias does not require special lighting—any standard aquarium light will do; nor does it require bright lighting. In fact, if the light is too bright, film algae will develop on the leaves. This won't kill the

plant unless you leave it that way for a very long period of time. *Anubias* leaves are tough, so you can manually remove the algae, or you can introduce a small *Ancistrus* catfish (see photo on following page) to keep the algae from becoming a nuisance. The plant depicted in the photo on the left was at one time covered in film algae. After introducing the *Ancistrus* catfish, the algae disappeared and has not returned. As you can see in the photo, it has even flowered! The flower is yellow, surrounded by a

white bract that is very similar to the flower often seen in that common houseplant known as a peace lily (or *Spathiphyllum*).

The plant makes no special demands in terms of water parameters. I would say that the water should be alkaline, but that is a preference of most aquarium plants. My *Anubias* do not receive fertilizer or supplemental CO₂, and they do just fine.

Another thing I like about *Anubias* is that they are relatively slow-growing. However, if conditions are to its liking an *Anubias* plant can easily fill up an



aquarium. Moreover, like many plants both terrestrial and aquatic, you can make new plants from cuttings of the rhizome.

As the plant grows it will also send leaves above the waterline. As long as your tank is covered, the leaves will thrive in the humidity of the aquarium. This is part of the reason I never fill my *Anubias*-containing tanks all the way to the top. I always leave a space of an inch or two at the top so that I can see the non-submerged leaves in all their glory. In this regard, *Anubias*' ability to grow so well above the waterline makes it a truly special aquarium plant.

Because its leaves are very tough, *Anubias* is impervious to the assault of most fish and snails. Only the most dedicated herbivorous fish can make a dent in it, and the ability to wedge its roots between rocks also makes it nearly impervious to being dislodged by fish that like to dig in gravel and uproot plants.

There are currently so many varieties of *Anubias* that I am certain there is one to fit every taste and budget. Professional growers are always striving to develop new varieties, and their efforts at greenhouse propagation have resulted in very reasonable prices for *Anubias* plants. We are very fortunate that is so—it was not always that way, and this reinforces my opinion that our hobby has gotten better in many ways.



Add the final notch to your belt!



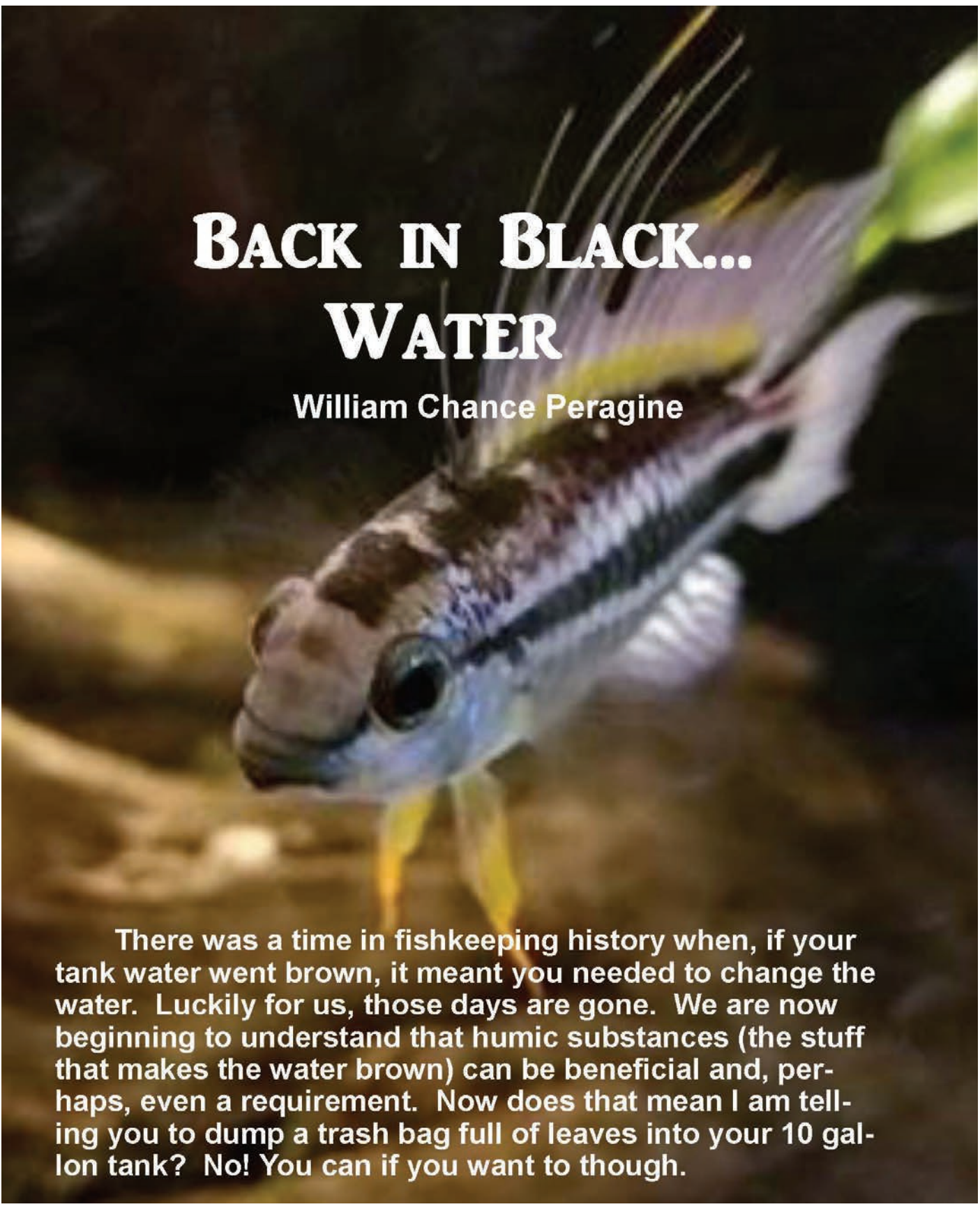
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BACK IN BLACK... WATER

William Chance Peragine

There was a time in fishkeeping history when, if your tank water went brown, it meant you needed to change the water. Luckily for us, those days are gone. We are now beginning to understand that humic substances (the stuff that makes the water brown) can be beneficial and, perhaps, even a requirement. Now does that mean I am telling you to dump a trash bag full of leaves into your 10 gallon tank? No! You can if you want to though.

Reprinted from the NEC Newsletter of April, 2020, This article, originally published in Cichlid Chronicles by the Cichlid Club of York, PA, was the 3rd Place winner in the 2016 NEC Articles Competition.



Humic substances (HS) are major components of the natural organic matter (NOM) in soil and water as well as in geological organic deposits such as lake sediments, peats, brown coals and shales. They make up much of the characteristic brown color of decaying plant debris and contribute to the brown or black color in surface soils

Fun Fact: did you know that every natural body of water in the world contains humic substances to some degree? Yes, and that also includes you reef keepers. Maybe you guys should consider dropping some Indian almond leaves on those polyps. So now that we know humic substances are everywhere, we can consider the qualifying part of that statement: "natural body of water." You see, when the water company treats your water with chlorine, fluoride and anything else it deems fit, it first removes ALL traces of humic substances. They do this because the humic substances react with the treatment process, resulting in water that can be harmful to us humans. This leads to fish tanks completely devoid of all humic substances and tannins (totally unnatural), unless we add them back in. Now, because the intent of this article is to not be overly fancy or scientific, from here on out I will refer to humic substances as tannins. While this is not an exact translation, it is a word many of us are familiar with. In this article it will be used as a "catch-all" for anything pertaining to the tint.

With a heavy heart I must tell you many of my closest friends like to keep stupid fish. My friend Scott J. McLaughlin likes to keep large moronic Central American cichlids, while my friend Dwayne Walker enjoys keeping small idiotic Rift Lake cichlids. Oftentimes, keepers of these types of fishes do not stop to consider the benefits tannins can bring to their tank. It's not really their fault though. If they add leaves to their tanks, their fish will likely take a break from slamming their faces against the glass or incessantly chasing each other in circles to inspect any new tank addition. Most of the time, these fish will assume that anything that isn't themselves MUST be eaten or destroyed. So as I said, you really can't blame my friends because they are dealing with such irrational fish; they just aren't as good a fish as South American or West African fishes are. These cichlids can, however, still benefit from the addition of tannins, even if they are too stupid to realize it. These substances have natural antifungal, antiparasitic and antibacterial capabilities. This means that if your fish have tannins in their water, they are naturally healthier. Tannins have even been shown to inhibit the growth of *E. coli*, along

with numerous other pathogens. So how can these poor souls get some tannins into their tank? Driftwood is an easy choice, and you don't have to always boil it. Boiling anything will remove a portion of tannins from it. In my opinion, it should only be boiled if you have good reason to believe it could be harboring something that could contaminate your tank, like if you pulled it from a river. I generally just add it directly to my tank. This goes for anything that may introduce tannins to our tanks. Another good option is some leaves or pods added into the filter as media. Take out that crappy carbon or purigen and add in some "aquatic botanicals" such as those sold by my good buddy Scott at Tannin Aquatics. You can also take the "tea" approach. Simply boil some leaves or other "aquatic botanicals" to release the tannins, and then add the liquid directly to your tank, or do so during a water change. This approach gives you the ability to adjust the tint in your tank on a case by case basis.

Oh, so you don't like your water to be brown? Good news! You can have clear water and tannins at the same time! Many of my tanks appear crystal clear unless I drain them into a white bucket. Only then do I notice even the slightest amber color of the water. If the water becomes too dark, simply do a water change. This approach, instead of carbon or purigen, will leave your tanks with tannins as well as nice clear water. Both carbon and purigen remove ALL traces of tannins. To me, and likely to your fish, this simply is not helpful. It's as though someone removed all the nutritional value from your meals before giving them to you. Both products have their upsides, but they are outweighed by the negative effects of 100% tannin removal. For me, they should only be used to remove medication from hospital tanks.

Some of us fishkeepers actually enjoy that nice amber color though. I encourage everybody to at least try a blackwater tank at some point. Don't get hung up on the idea of having to get "blackwater fish." All fish can benefit from black water, so just convert one of your tanks and see how you like it. It can provide a very visually striking contrast to your other tanks. I personally love the look of a dark amber blackwater tank with floating plants dropping long roots down. I recommend the use of a spotlight type illumination. Just shine a single strong beam of light to highlight one portion of the tank. The dark water will accentuate the beam of light and keep it from spreading through the tank. You can really make it appear as if a sunbeam is just barely parting the jungle canopy.

Blackwater tanks can be quite serene when properly set up. With fall fast approaching at the time of writing this, now is the time to act. Other than a handful of exceptions, leaves do not die and drop off trees at any other time of year. One exception to this rule is Magnolia leaves, which drop in the spring. The question I'm asked most frequently has to be, "Do I have to wait for the leaves to turn brown and fall off the tree?" The answer is yes; you do need to wait until this happens. They must die completely before you use them. Any green left to them means that the remaining living tissue will continue to decay. Once in your tank, this decomposition process will release ammonia into your water. Obviously this is a terrible idea. The second most frequent question I get is, "Can I only collect the leaves in fall?" My answer is that there is no 'set in stone' rule I that know of. I WILL tell you that I speak from experience



when I say that wandering around in the summer picking up one dead leaf at a time is painful. Do yourself a favor and only collect leaves in the fall. We dark water aficionados must build up enough leaf litter to last us the entire year, so seize the day and prepare your large garbage bags. Depending on where you live, there are sometimes companies, such as Tannin Aquatics, that sell blackwater products, but if you plan on collecting them on your own, great! Just fill seven or eight enormous garbage bags full of leaves, and you should be ok for the year. I'M JOKING!! One large "contractor" type garbage bag will last the average hobbyist a very long time. If you only have one tank, a simple grocery bag may last you a year. I go through about four or five bags a year, but I use far more leaves than most, and have way more than two or three blackwater tanks. When I have particularly difficult fish, or an overly aggressive pair, I will sometimes use as much as 7 or 8 inches of leaf cover in the bottom of the tank. With so much leaf litter you can be sure that, even in a small tank, the subordinate fish will be able to escape.



With so many leaves on the ground which should you pick up? Well, I guess it's hard to say what is safe and what isn't until I have personally tested every single leaf out there. I generally research each individual leaf, find out what tree it came from, and look up the tree. I make sure it doesn't contain anything that may be harmful before using it. There are books for tree identification by leaf, but the easiest method I have found is using an android app called Virginia Tech Tree I.D. It asks you questions about the leaf until it narrows it down to a few possibilities. From there, I just do my own research on the tree and see if I can find any dangers. So far, I have not had any problems using this approach. Based on my research I wouldn't use eucalyptus, tea tree, or pine needles. I also would avoid any tree with a medicinal use for humans. I have three 'go-to' types of leaves I use, each for its own reasons. Almost all kinds of oak are useful, because they are very durable and long lasting. Magnolia leaves are great because they hold their shape better than most other leaves, which quickly become floppy and limp. They also make excellent spawning caves for small fish. Lastly, I use sugar maple due to its aesthetically pleasing shape and large size.



"Wouldn't it be easier to just pick one type of leaf, known to be safe, and only use it," you ask? While this is completely acceptable, it really is just doing the bare minimum. All tints are not created equal, I'm sorry to say. Natural bodies of water have complex sources of dissolved organics (dead stuff). It doesn't just come from one type of leaf, or one type of seed pod. It is an intricate balance of all decaying matter. This means that to truly replicate it, you will also need a diverse source of aquatic botanicals. Seed pods, coconut shells, various types of driftwood, and leaves; these all will come into play. Creating a diverse biological system is, in my humble opinion, nearly as important as getting some tannins in there at all. Each different leaf, seed pod, and type of wood you add brings its own element into the equation. So during this fall season, don't be afraid to get out there and collect some leaves, stock up Blackwater supplies, and get those tanks tinted!

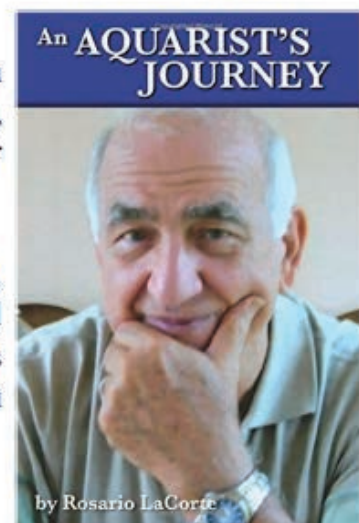


An Aquarist's Journey

Rosario La Corte is one of the world's leading authorities on breeding fish and he has written numerous articles and books, contributing greatly to our understanding of fish and their habits.

Now, for the first time, here is a compilation of his travels, adventures, successes (and, very occasional failures) all relating to collecting, keeping, and breeding fish, and in his own words (and edited by **Modern Aquarium's** Editor, Dan Radebaugh).

Available in softcover at [Amazon.com](https://www.amazon.com)



The Lazy Person's Guide to Award Winning Articles

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.

I was probably more surprised than anyone to learn first that this (not so) humble column was given a publication award by the North East Council of Aquarium Societies and then discovered that one of the articles in this column received a Publications Award by the Federation Of American Aquarium Societies! I certainly didn't expect this. This got me thinking about what it takes to win publication awards without (as in my case, at least) even trying. In other words — the "Lazy" way, in keeping with the theme of this issue!

Let's be honest. Writing is work. It's easier for some than others — but it's still work. What does a lazy person do? — Let someone else do the hard parts! So, the first secret is:

WRITE FOR A PUBLICATION THAT WILL CORRECT YOUR ARTICLE FOR TYPOS, SPELLING, AND GRAMMAR

You're reading just such a publication. Some societies will take typewritten or printer generated text from an author and cut and paste it into their newsletter, without editing. The errors that the author missed (and it is very hard to proofread your own work) find their way into the final printed copy. No matter how interesting or informative the article is, errors in spelling and/or grammar detract from it, making it much less likely to win an award. Next,

WRITE FOR A PUBLICATION THAT MAKES YOUR ARTICLE ATTRACTIVE AND VISUALLY INTERESTING

Again, you're reading such a publication. Just thumb through any issue of Modern Aquarium. Notice how carefully each article is laid out and the professional way each article is showcased.

This makes the articles stand out, especially when they are placed next to those from other publications. So, for the same effort on the part of the author, articles in a publication such as Modern Aquarium stand a better chance of being noticed by judges and looking better than their counterparts. And, let's not forget:

WRITE ABOUT WHAT YOU KNOW AND LIKE MOST, AND AS IF YOU WERE SPEAKING ONE-ON-ONE TO A FRIEND

The Editorial Staff of any publication, even Modern Aquarium, can only do so much. The rest IS up to you. But, the easiest (laziest?) articles to write come from your own experience and are about topics that you are interested and excited about. Your enthusiasm, combined with your personal anecdotes, make an article "come alive," so to speak. Readers will then get caught up with your story which, for them, will cease to be words printed on impersonal pages. It will become a dialogue between author and reader.

ANTICIPATE QUESTIONS YOUR ARTICLE WILL RAISE, AND ANSWER THEM AS YOU GO ALONG

Of course, a true "dialogue" requires two parties actively participating. But, if you write as if you were speaking, taking time to explain and elaborate (just as you would if you used an unfamiliar term while speaking), your article will SEEM like a dialogue to the reader. Read your article out loud. Does it sound like you speaking? Let people who don't know the topic read it and ask them questions about it afterward. Whatever they didn't understand, address in the article, as if you are answering a question.

SO, how DOES one get publication awards the "lazy" way? First, to borrow a phrase used to entice people to play the New York State Lottery, "You have to be in it to win it." This means you must first write something for publication. To make this inevitable work as quick and easy as possible, write about what you know (your favorite fish, your most recent spawning, interesting aquaria sites visited on your last vacation or business trip, etc.). Then (and here is the real "lazy" secret), submit it to the fanatical staff of Modern Aquarium (who even make ME look good), with a proven award winning track record.



KEY LARGO: JUST ANOTHER DIVE!

Story and Photos by Stephen Sica



Today is Saturday, April 18, 2020. I mention this to give you a timeframe as I contemplate the future. I am wondering if I will ever do some of the things that I have enjoyed in the past. I'm sure that some of you have had similar thoughts. Occasionally I look at photos that I have downloaded to my computer over the years. A few days ago I came across my photos from our annual Halloween dive trip to Key Largo, Florida last October. I couldn't believe that I had forgotten about this vacation. I guess my mind had other thoughts. How times have changed.

Donna's sister had mentioned that the Holiday Inn in Key Largo had become pet friendly. We used to stay there before we adopted Cordelia because of its nice grounds with two pools. The hotel borders the canal where the dive boat is tied up; thus it is convenient and you have easy access.

The two owners of Sea Dwellers dive shop and boat were seeking a lifestyle change, and sold the business last year. The new owners, a young man from Buffalo, New York and his visibly pregnant wife, a nurse from San Antonio, Texas, moved the operation to a smaller location across a side street opposite the Holiday Inn.

Everything had become even more convenient for us. One of the former owners of the dive shop and his wife, an Emergency Medical Services technician in Miami, made plans to live in Italy for two years and travel the continent. I hope they decided to remain

in Florida. At least they could go to a nice beach and mingle with everyone else in the state!

Thinking about these four acquaintances, I decided that sometimes life offers few good choices. Also, it's provoking to discover that reality can be stranger than fantasy, and I offer the opinion that some people might feel that we are currently living in fantasy time.

Donna truly likes to stay at the Hampton Inn about a mile up Highway 1, so she booked four nights at the Holiday Inn and two nights at the Hampton Inn to relax there after the dive reunion, and hopefully see a manatee in the canal that borders the property. I did not want to pack up and move, but I let her do as she wanted, not that she listens to me. She explained that if we traveled on Wednesday, the Holiday Inn's



A common sight along the reef is a school of Smallmouth grunts, *Haemulon chrysargyreum*. These colorful blue and yellow fish often "flow away" when a diver approaches only to reassemble on a nearby section of reef.



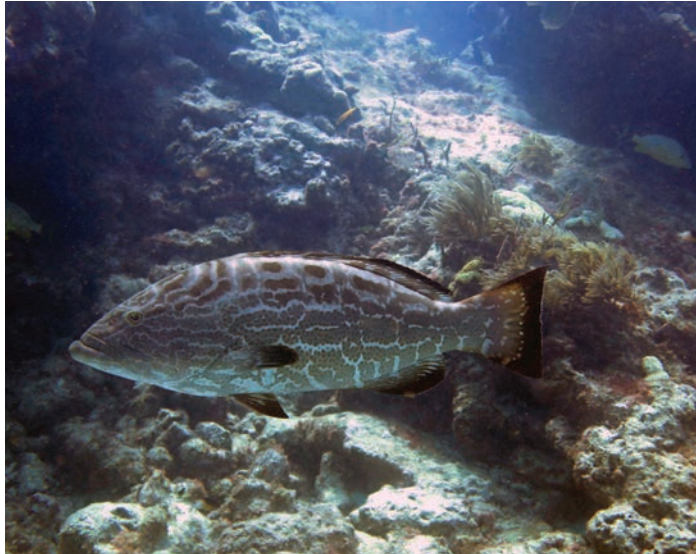
One of my photo techniques is to frame a fish with a sea fan in the background. The Trumpetfish, *Aolostomus maculatus*, often stands on its head or tail to mimic a seascape. Its long snout acts like a suction tube when feeding on small fish.



A school of Sergeant Majors, *Abudefduf saxatilis*, swim in single file along a reef line. A small but pugnacious fish, it is a member of the Damselfish family.

room rate for this day was so low that we could stay the extra night almost for free! We usually stay for five nights during the reunion. Sometimes we drive to Fort Lauderdale and stay at a motel near the airport the night before.

At Donna's suggestion, we flew to Fort Lauderdale on a Wednesday morning, picked up our Corolla, and drove the 100 miles to the Holiday Inn. The weather was excellent—not too hot for me but never hot enough for Donna. Later in the day we walked across the street to the dive shop and met the new owners. We learned that there were high winds offshore, with the forecast for even higher winds as the week progressed, though it wasn't very breezy on land. Two days later on Friday, our first scheduled diving day, we all took an afternoon cruise to the reefs in lieu of diving. We had refreshments and Cordelia



This beautiful Black grouper, *Mycteroperca bonaci*, averages eighteen inches to 3 feet. This specimen displays a pale color pattern. All have distinctive black margins on the tail and fins. This species can vary its color pattern from black to reddish brown. It is a shy fish and occasional in Florida waters.



A stoplight parrotfish, *Sparisoma viride*, shows a hint of the yellow spot on its gill cover (also at the base of the tail). Parrotfishes turn coral and rock into fine sand in the process of grazing the algae that grows on them.

enjoyed the ride. She had taken a similar sunset cruise in prior years.

With a Saturday forecast for improved weather, we arose early and prepped our dive gear. I readied my camera. We had been enjoying ourselves for the past few days by hanging out at the pool, walking Cordelia all over the place, and dining at our favorite restaurants—most of which have outdoor, dog friendly eating areas. Our room bordered the pool, so we could take turns sitting outside the door with Cordelia while either Donna or I took a swim. We were separated by a four-foot open wrought iron fence. Donna's sister and her husband, who live in Clearwater, drove down to meet us. Her son, a Customs and Border Protection officer at the Miami airport, drove down after work on Friday to spend the weekend and dive with us, weather permitting, on Saturday and Sunday.



Idaz Greenberg, a writer and artist said, "Most wrasses are shaped like a flattened cigar and sport 'buckteeth.'" This male yellowhead wrasse, *Halichoeres garnoti*, is distinguished from a female by the dark bar and stripe on its sides. Notice the unimpressive tail.



A four-eye butterflyfish, *Chaetodon capistratus*, swims by a common sea fan, *Gorgonia ventalina*, showing its false "eye" at the rear flank ringed with white. It is a common fish that flits around the reef, often in pairs.

At the crack of dawn on Saturday morning we were phoned in our room that the dive boat was leaving at 8:30 AM. A few hours later we were heading out to sea, and soon were rocking in the waves on our way to the reef about six miles offshore. Upon arrival, everyone scrambled into their gear and jumped overboard before most of us had a chance to get seasick. I usually get a dose of nausea, but not that morning. Donna, our nephew Chris and I teamed up with Melinda, a friend from the Florida panhandle, and swam down to the reef. I looked up to see the boat roughly riding the waves up and down. "Thank goodness I'm too smart to be up there," I foolishly thought as we swam away. We surfaced after an hour and switched our gear onto fresh air cylinders while the boat captain searched for clearer, if not calmer, water.

Soon we were all back underwater and I was clicking off photos left and right, as well as straight ahead! There were all the usual fish, as well as a few of the less common ones. While I was writing this story, and reviewing my photos six months later in order to submit a few with this story, I decided that I had a few more that might enable me to write about other experiences, or adventures, as I like to say. For now, let me say that the weather above water was



The queen angelfish, *Holacanthus ciliaris*, is another fish that I always try to photograph if one swims my way. Its colors stand out even underwater. Unfortunately, this species is camera shy. Adults feature a "crown" on their forehead and a bright yellow tail. Average size is 10 to 14 inches.



This blue parrotfish, *Scarus coeruleus*, is an adult, as indicated by a hump or squared-off head. Some experts attribute the hump head only to males. This two-foot fish is uncommon in Florida.

warm and clear, except for an occasional rain shower. The weather *on* the water was somewhat turbulent, and the weather below the water's surface was also restless and murky. Nevertheless, once we were back on the surface and the boat was finally pulling into its dock space, I can honestly say that we all had a good time!

On Sunday morning the boat left the dock again. The water conditions had improved from the day before. We had another good diving day and I took more photos. I look forward to showing some of them in future stories during the coming year!



The sun sets on tranquil Florida Bay, viewed from behind the Hampton Inn in Key Largo, Florida.



What's on Your Mind?

by Susan Priest

“It was the best of times, it was the worst of times.” Ok, ok, it **was** the worst of times! These last few weeks and months might very well be the worst times any of us have seen in our lifetimes. We have so very many new things to think about in today’s environment. Every day there are things on my mind that I have never considered before in my (almost) 70 years. Things like “will I ever feel safe again?,” or “when will I be able to go to the grocery store without waiting on line?,” or “am I standing too close to my next-door neighbor?” In order to distract myself from some of the more troublesome questions that are occupying my mind these days, I got to wondering what my fish might be thinking about, so I decided to find out.

I asked my clown loach:

Q What do you like to eat?

A I like to scrounge through the gravel to pick up “leftovers,” but my favorite food is sinking shrimp pellets.

Then the clown loach asked me:

Q What do you like to eat?

A Spinach and grilled salmon. (Oops. Sorry!)

One of the angelfish wants to know:

Q I have heard the name “koi angelfish.” This sounds like a hybrid of two different fish. Is that what we are?

A No. You, along with koi angels, are among the species *Pterophyllum scalare*. One among you is a golden morph veiltail, and the rest of you have the classic vertical stripe pattern typical of your species. Other varieties of *scalare* include marbled and half-black.

The giant danios asked me:

Q Could you please extend this tank to twice its length so we won’t keep bumping our noses as we hit the wall? The clown loach might also like this.
A Sorry, no can do. You will just have to practice making quick u-turns before you get there.

I asked my corydoras catfish:

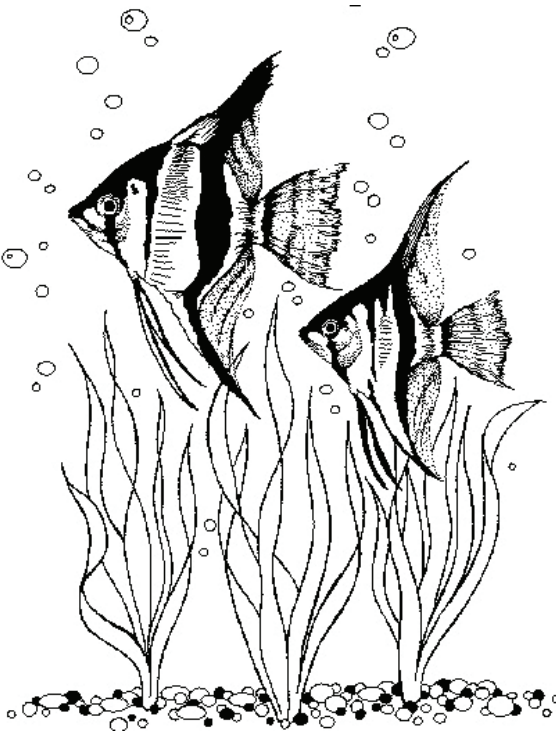
Q How old are you?

A I don’t know for sure, but I must be rather old because I’m the only one of my friends still here.

A bristlenose pleco asks me:

Q Where did my partner go?

A The two of you have done such a good job of cleaning up the algae in the community aquarium that I moved your partner upstairs to the “night light” tank so that it could do likewise in there.



One of the cherry barbs asks me:

Q Taking into consideration our endangered status, could you give us an aquarium of our own so we could try to spawn?

A I didn't know that I would be bringing you home from a GCAS auction, so I didn't have something prepared in advance for you. You seem to be quite content in the community. You spend most of your time inside hidey-holes, so trying to move all five of you would seem to me to be an impossibility. I'm very sorry about that.

A red eyed tetra asked me:

Q We like to shelter together among the leaves. Could you add some more plants for us?

A I have tried growing a variety of different plants in your community, but not all of them have thrived. I will try to find some more *Anubias* species, which is what you have the most of right now.

An Endler's livebearer fry asked me:

Q Are you looking at me?

A Of course, and I am very glad to see you!

I asked the Endler's fry:

Q You are very tiny. Are you less than 24 hours old?

A I don't understand. What is an hour?

Not everything on my mind is a question. There are things that make me sad, like the death of someone I felt close to, things that make me thankful, like the safe havens of my home and back yard, and things that make me hopeful, like looking forward to the day we can all gather together again. I can picture all of us smiling. Do you think there might be a few hugs happening as well?

Reference:

Dickens, Charles. "A Tale of Two Cities"



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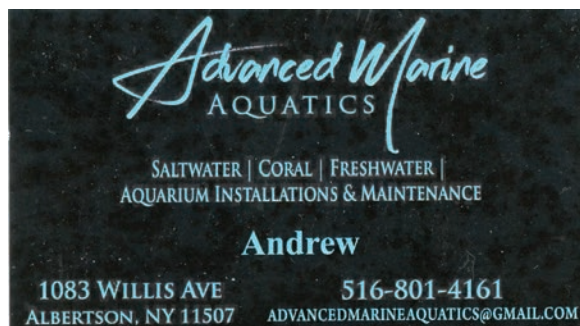
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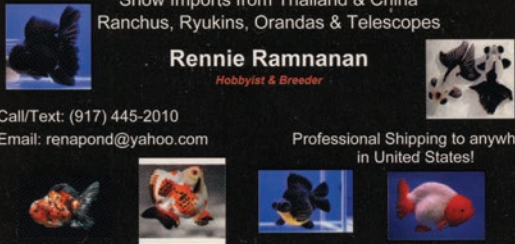
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GCAS Happenings

July

June's Bowl Show Winners:

No meeting or bowl show in June

OFFICIAL 2020 BOWL SHOW TOTALS:

HARRY FAUSTMANN 5 WILLIAM AMELY 1 JOHN BUZZETTI 3

Meeting times and locations of many of the aquarium societies in the Metropolitan New York City area. COVID-19 could cause cancellations! Check before you go!



GREATER CITY AQUARIUM SOCIETY

Next Meeting: Wednesday, August 5, 2020

Speaker: None

Event: *A Night at the Auction*

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: pilotcove43@gmail.com

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

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: September 11, 2020

Speaker: Harry Faustmann

Topic: *Live Food*

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: September, 2020

Speaker: TBA

Topic: TBA

Meets: 3rd Friday of each month (except July and August) at 8:00 PM.

LIAS Meetings are held at SUNY Stony Brook's Maritime Science area. Room 120 in

Endeavor Hall on the State University at Stony Brook Campus, Stony Brook, NY 11790

Email: president@lasonline.org

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



EAST COAST GUPPY ASSOCIATION

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

Environmental Ctr.: 228-06 Northern Blvd.

Contact: Gene Baudier (631) 345-6399



NASSAU COUNTY AQUARIUM SOCIETY

Next Meeting: TBA

Event: TBA

Topic: TBA

Meets: 2nd Tuesday of the month (except

July and August) at 7:30 PM. Molloy College, at 1000 Hempstead Avenue, Rockville Centre, NY, in the Hagan Center for Nursing building, in the lower level, classroom #H006. See website for directions.

Contact: Harry W. Faustmann, (516) 804-4752.

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



NORTH JERSEY AQUARIUM SOCIETY

Next Meeting: TBA

Speaker: TBA

Topic: TBA

Meets: 12:30 PM - 3rd Saturday of the month,

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: August 20, 2019

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/>

Shrimp to Share

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.

Piscine Energetics, a Canadian technology company that transforms an invasive shrimp species (Mysis Shrimp) in British Columbia into sustainable fish food, has announced its ‘Save Your Aquarium’ Campaign. The campaign is a ‘buy one, give one’ initiative that aims to rally the public, including the 14.5 million households in North America that have an aquarium, to support the zoos and aquariums that have been seriously affected by the COVID-19 pandemic.

“Zoos and Aquariums welcome over 185 million visitors annually. We realized quickly that with an extreme loss of revenue and almost unchanging operating costs, our long-time partners are facing challenging budget cuts, and reduced resources while trying to maintain a healthy environment for their animals” said Nuri Fisher, President of Piscine Energetics Inc. “That’s when the idea for the campaign came to me. Why not make it easy for not only our community’s most avid hobbyists but anyone that has ever experienced the wonder of learning in these institutions, to support in the care of these animals.”

Through the Save Your Aquarium Campaign, people and organizations can buy a bucket of Piscine Energetics sustainably sourced fish food for their home or office aquarium, and Piscine Energetics will give a bucket to their institution of choice. People without access to fish tanks can still participate by purchasing a bucket of fish food which will result in both buckets being directed to the selected institution

How it works:

- Visit www.saveyouraquarium.com
- Select your state or favorite institution
- Select the pellet size you need for your home or office fish tank or choose to give both buckets, or a partial bucket, to the aquarium of your choice

“Over 50 million children, along with their families, visit zoos and aquariums each year in North America in addition to over 12 million students on field trips who get to laugh, learn, see and gain an appreciation for over 1,000 threatened or endangered species. The Save Your Aquarium campaign will ensure these awe-inspiring institutions are around for the next generations” states Fisher.

The Save Your Aquarium campaign is open to the public and is scheduled to run indefinitely. The public can select from a list of 295 zoo and aquarium institutions (including the Bronx Zoo and the New York Aquarium).

You can also support specific conservation initiatives such as The Association of Zoos and Aquariums, Florida Reef Tract Rescue Project, or Project Piaba (but **not** the CARES Preservation Program).



Reference:

<https://www.businesswire.com/news/home/20200610005238/en/Piscine-Energetics-Launches-Save-Aquarium-99-North-America>



Fin Fun



Find the Earth Eaters

According to Wikipedia* there are currently 18 recognized species in the genus **Gymnogeophagus**. Can you find them all in the puzzle below?

AUSTRALIS BALZANII CAAGUAZUENSIS CHE CONSTELLATUS GYMNOGENYS LABIATUS LACUSTRIS LIPOKARENOS MEKINOS MERIDIONALIS MISSIONEIRO PSEUDOLABIATUS RHABDOTUS SETEQUEDAS TERRAPURPURA TIRAPARAE	E T E R R A P U R P U R A B R O S R H A B D O T U S E B P A C A A S T S P H S I L X S A M A D M T Y U S O F A A E E C I A E I E L N N U C W U Z L O S G U A N R I E U T D K I R N S U Q R R K I S G O A P J S S I A E E E A T D L O O I I A T O Z T M H R P A I K N L B L E N U E I I C B A A O A M Q A L E E S S U I D R R R N A Y T L I N A O A O E U T I B A O G A R S T T N N N S G R T V L R T O I U L O C U N B Y I O K I U I S R S Y A I I N A Z L A B S O
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*Wikipedia, The Free Encyclopedia,
<https://en.wikipedia.org/w/index.php?title=Gymnogeophagus&oldid=951720974>
 (accessed June 10, 2020).

Solution to our last puzzle: *Quarantine, Innoculate, Wait & Hope*

ANCHORWORM
 BLOAT
 COLUMNARIS
 DROPSY
 FINROT
 HEXAMITA
 ICK
 LYMPHOCYSTIS
 SEPTICEMIA
 TUBERCULOSIS
 VELVET
 VIBROSIS

M	D	D	X	U	V	E	L	V	E	T	S	S	A	G
G	B	L	O	A	T	O	T	U	T	U	W	R	O	J
T	M	H	E	N	U	I	C	K	O	L	P	U	F	L
P	U	E	I	K	U	V	Z	N	Y	Y	C	H	F	S
Y	E	B	D	X	R	Q	Q	K	A	M	O	E	I	E
D	V	G	E	N	B	C	H	G	F	P	L	X	N	P
H	R	I	R	E	P	M	W	N	H	U	A	R	T	
U	A	O	B	T	C	D	P	F	S	O	M	M	O	I
F	N	U	P	R	Y	U	V	B	W	C	N	I	T	C
X	C	Y	R	S	O	U	L	E	R	Y	A	T	H	E
F	W	T	F	A	Y	S	U	O	F	S	R	A	N	M
P	I	T	D	N	I	H	I	B	S	T	I	P	Y	I
R	B	Q	S	O	Y	Z	M	S	G	I	S	O	O	A
M	D	W	S	F	P	W	D	A	U	S	S	R	M	R
A	N	C	H	O	R	W	O	R	M	R	B	L	S	S



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