

modern AQUARIUM



December 2020
volume XXVII
number 10

Greater City Aquarium Society - New York

長江水族館

專營各國熱帶觀賞魚和全套優質水族器材



131-08 40th Road, Flushing

Skyview Mall 天景豪苑旁

347.732.0373

monsteraquarium@hotmail.com



歡迎參觀 七天營業

Open 7 Days • 10am-8pm



LIKE AND FOLLOW US ON FACEBOOK

WWW.FACEBOOK.COM/MONSTERAQUARIUMINC

modern AQUARIUM

Series III Vol. XXVII, No. 10 December, 2020

ON THE COVER

This month's cover photo of a very pretty group of angelfish comes to us via our Greater City Aquarium Society Fishy Friends Facebook page. If you can't go outside looking at fish you can certainly find some nice photos there!

Photo by Lonnie Goldman

GREATER CITY AQUARIUM SOCIETY

BOARD MEMBERS

President.....Horst Gerber
Vice-President.....Edward Vukich
Treasurer.....Jules Birnbaum
Assistant Treasurer.....Ron Wiesenfeld
Corresponding Secretary.....

MEMBERS AT LARGE

Pete D'Orio.....Walter Gallo
Al Grusell.....Victor Hritz
Jason Kerner.....Leonard Ramroop

COMMITTEE CHAIRS

Bowl Show.....Joseph F. Gurrado
Breeder Award.....Joseph Graffagnino
Early Arrivals.....Al Grusell
Membership.....Marsha Radebaugh
N.E.C. Delegate.....Joseph F. Gurrado
Programs.....
Social Media.....Gilberto Soriano
Technical Coordinator.....Jason Kerner

MODERN AQUARIUM

Editor in Chief.....Dan Radebaugh
Copy Editors:
Alexander A. Priest.....Susan Priest
Donna Sosna Sica.....Thomas Warns

Advertising Manager.....Robert Kolsky

In This Issue

From the Editor.....	2
G.C.A.S. 2020 Program Schedule.....	3
President's Message.....	4
Seth Kolker.....	8
Farewell by Joseph Graffagnino	
A Do-It-Yourself Fish Trap.....	9
by Joseph Ferdenzi	
Fishy Friends' Photos.....	11
Swap Meet.....	12
by Harry Faustmann	
<i>Danakilia sp. shukoray</i>	13
by Joseph Graffagnino	
I Love My Loach!	15
by Stephen Sica	
Tiny Bubbles.....	17
Exchange Article by Gary Lange	
G.C.A.S. 2020 Awards.....	19
G.C.A.S. Past Award Winners.....	20
G.C.A.S. Author Award Program.....	21
G.C.A.S. 2020 Author Award Totals.....	23
G.C.A.S. 2020 Breeder Awards.....	25
Tonight's Speaker: Charlie Grimes	25
Native Fishes	
G.C.A.S. 2020 Breeder Award Totals.....	26
16 Tentacles & 16 Seconds of Passion.....	28
MA Classics by Joseph Ferdenzi	
Our Generous Sponsors and Advertisers.....	29
G.C.A.S. Member Discounts.....	30
G.C.A.S. Classifieds.....	31
G.C.A.S. Happenings.....	32
The Undergravel Reporter.....	33
Grumpy Grouper	
Fin Fun (Puzzle Page).....	34
In This Issue...	

From the Editor

by Dan Radebaugh

While I produce this report each year, this year in particular I'm devoting this final Editor's message to letting all our members know that we aren't the only ones who read articles that appear in **Modern Aquarium**. The table below shows the author and title, along with the publication and club that reprinted the story.

These are not necessarily all that have been reprinted, just all that I know about, and as you will see, they are all from fairly recent years. Congratulations to all our authors!



<u>Author</u>	<u>Title</u>	<u>Society</u>	<u>Publication</u>	<u>Issue</u>
Berman, Steve	<i>Gymnogeophagus balzanii</i>	Victoria Cichlid Society	iCichlid	May-15
Birnbaum, Jules	Aquarium Plants 101	Bucks County Aquarium Society	The Buckette	Mar-20
Birnbaum, Jules	Divide and Conquer!	Jersey Shore Aquarium Society	The Shoreline	Sep-15
Birnbaum, Jules	Breeding Rainbows	Bucks County Aquarium Society	The Buckette	Sep-18
Bollbach, Jeff	Rules Are Made To Be Broken	NEC	NEC Newsletter	Apr-17
Chang, Tommy	MTS: Is There a Cure?	Bucks County Aquarium Society	The Buckette	Sep-15
Ferdenzi, Joseph	Endler's Livebearer	Bucks County Aquarium Society	The Buckette	Dec-13
Ferdenzi, Joseph	The Easy Way to Breed Killifish	Eastern Iowa Aquarium Association	Fin Flap	Apr-15
Ferdenzi, Joseph	The Easy Way to Breed Killifish	NEC	NEC Newsletter	Aug-17
Ferdenzi, Joseph	The Legacy of Dominic Isla	Bucks County Aquarium Society	The Buckette	Dec-13
Ferdenzi, Joseph	My Perpetual Daphnia Tank	Bucks County Aquarium Society	The Buckette	Jul-19
Ferdenzi, Joseph	Aquascaping Without Plants	Circle City Aquarium Club	Fancy Fins	Jul-20
Ferdenzi, Joseph	The Fabled Blue Gularis	NEC	NEC Newsletter	Nov-20
Fletcher, Alan Mark	When the Last Aquarium Goes	NEC	NEC Newsletter	Jul-20
Graffagnino, Joseph	<i>Tatia intermedia</i>	NEC	NEC Newsletter	Aug-20
Gurrado, Joseph	The Vampire in my Fishroom	Bucks County Aquarium Society	The Buckette	Jan-20
Gurrado, Joseph	A Slice Of Reef	NEC	NEC Newsletter	Oct-20
Hinshaw, Steven	The Jar That Stands the Test of Time	NEC	NEC Newsletter	Dec-16
Oshins, Elliot	To Be, Or Not to be...	Motor City Aquarium Society	Tropiquarium	May-18
Priest, Alexander A.	The Ultimate Nano Fish	Bucks County Aquarium Society	The Buckette	Feb-14
Priest, Alexander A.	The Most Ornate African	Bucks County Aquarium Society	The Buckette	Aug-16
Priest, Alexander A.	Breeding <i>Betta Splendens</i>	Bucks County Aquarium Society	The Buckette	Mar-16
Priest, Alexander A.	The Fish of Many Morphs	NEC	NEC Newsletter	Jun-16
Priest, Susan	Angelfishes Don't Eat Broccoli	Bucks County Aquarium Society	The Buckette	Jul-15
Radebaugh, Dan	Going the Distance with <i>Paratheraps synspilus</i>	Bermuda Fry-Angle Society	Fish Tales	Apr-11
Radebaugh, Dan	<i>Paratilapia</i> sp 'fony'	American Cichlid Association	B.B. 269 [#]	Apr-12
Ramroop, Lauren	Angel and Betta	NEC	NEC Newsletter	Aug-16
Sica, Stephen	In the Realm of the Moray Eel	Bucks County Aquarium Society	The Buckette	Oct-14
Sica, Stephen	I Still Like Duckweed!	Southwestern Michigan Aquarium Society	SWAM	Mar/Apr-17
Sica, Stephen	Easy Rider and the Foureye Butterfly Fish	NEC	NEC Newsletter	Oct-17
Sica, Stephen	Duckweed: Still A Delight	NEC	NEC Newsletter	Jun-19
Steeves, Greg	Do Some Writing!	Kitchener Waterloo Aquarium Society	Fins & Tales	Dec-18
Tustin, Derek P. S.	<i>Melanotaenia</i> of New Guinea	Bucks County Aquarium Society	The Buckette	Mar-19
Unknown ^o	Breeding The Red-Tailed Black Shark	Bucks County Aquarium Society	The Buckette	Feb-20
Vukich, Ed	<i>Neolamprologus multifasciatus</i>	Bucks County Aquarium Society	The Buckette	Oct-20

[#] Appeared first in *Buntbarsche Bulletin* Number 269, April 2012 -- Reprinted in *Modern Aquarium* in November, 2013

^o Originally reprinted from the Horsforth Aquarium Society of Yorkshire, England -- reprinted from *Modern Aquarium*, December 1970





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	Stephen Chester <i>The Aquarium Hobby in the UK</i>
September 2	Joshua Wiegert <i>Loricariids for the Planted Aquarium</i>
October 1	Larry Johnson <i>Swimming With Cichlids - Lake Malawi</i>
November 5	Neil Frank <i>Angelfish Breeding and Development</i>
December 3	Charlie Grimes <i>Native Fishes</i>

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

For practically this whole year I have not really been writing a "President's Message" for the club. Rather it seems I'm writing a monthly update on the Coronavirus, and if I say or hear the phrase "this is the new normal" one more time I'll begin projectile vomiting! There seems to be no escape. This is all you hear or read about on radio, TV, newspapers, magazines, etc. Even sports have been pre-empted!

I grew up as a widow's son in the suburbs of Hamburg during the war. My father was killed in Russia. If you think that must have been tough, back then it rather seemed normal to us kids. Half my classmates were in the same position as I. This present Covid situation has come to seem like an extension of those war years. Mercifully, the death rate now is only 1 to 2 per cent. In the war years half of the German male population did not return home.

As aquarists we can count our blessings—we have been lucky. Our hobby can occupy quite a chunk of time as we putter around in our tanks. What used to be a two-day weekend seems to have been replaced overnight by an endless Sunday, with nowhere to go and nothing to do. Many friends have caught up on their work and their projects, but with my sciatic nerve problem I have been able to do little in the way of catching up. For most of us in this "time of plague," our time has been spent at home doing not much. This has of course by itself created challenges. So I think we should count our blessings that we have this hobby to give us at least some challenges to both mind and body.

We hope we will be going into 2021 full force. Most likely it will be a year that comes with some significant changes, one of which could be a continuation of the way we've had to live this year. I hope not! However, we still live in the best country in the world, or at least that's what they keep telling us. Our great city has pivoted quickly to social distancing and has adopted creative measures to keep it that way. It's different. It feels weird and bizarre, and the strangeness of life under these new measures has been really challenging in many ways. The postponement of meetings left us hunkered down at home, and separated from contact with our fish buddies.

This period of isolation has given us the opportunity to observe our fish more and keep their tanks squeaky clean. Optimistically, we thought that this inconvenience would be over soon, like the flood on the floor when we overfill our tanks. We were wrong! A few of our members, Jules Birnbaum in particular, have found creative ways to auction fish and set the money aside for the club. We continued producing our club magazine, **Modern Aquarium**, though we've had to distribute it electronically. We've also, in cooperation with Bucks County AS, presented notable speakers online.

We will no doubt find new ways to replenish our fish. Perhaps new wild fish will be introduced into the hobby. At any rate, Greater City members are a tough bunch, and we will shake it off. Sure, things are wacky right now, but we fish nuts are resilient, and will find a way, whether collecting fish in foreign countries like the wilds of Africa, the jungles of South America, or in neighboring Mexico. Not me, of course. I'm too old and too worried about what sort of "Montezuma's Revenge" I might come back with. In my younger days I dreamed of collecting in Madagascar, but that dream went the way of many others. So those of you who dream of fishkeeping adventures, don't wait too long until a "better time." Remember the old saying, "This too shall pass!"

Hopefully next year I won't have to watch my words so closely. This year I think we've done a good job of holding the club together. I hope and trust that we can return to a more normal reality, greet one another at our meetings, and really appreciate all of the good things that belonging to this club provides!

I mentioned earlier that we have been able to continue publishing **Modern Aquarium**, albeit electronically. This doesn't just happen by itself, so in closing I'd like to salute the members who have kept our publication going in spite of everything. On the facing page are photos of your fellow members who have contributed to **Modern Aquarium** this year, whether by writing, proof-reading, photography, drawings, winning captions, or what have you. Thank you all for your contribution to our club!

This being the Christmas season, it seems to me that we should look more thoroughly into a certain Mr. S. Claus, so I did a little research. My findings are that a few things have changed since a skinny, grumpy old geezer dressed in green put on all that weight and had to buy a new outfit—a red and white one. He also had an attitude adjustment, and became that "jolly old elf" we call Santa Claus. I'm wondering if the new jollity came from all the money he made by endorsing Coca-Cola.



text continues on page 6



Dan & Marsha Radebaugh



Donna & Steve Sica



Joseph Gurrado



Horst Gerber



Joseph Ferdenzi



Jules Birnbaum



Sue & Al Priest



Elliot Oshins



Denver Lettman



Warren Feuer



Tom Warns



Joseph Graffagnino



Peter Goldfien



Ron Webb

Santa has been around almost as long as we have been celebrating Christmas. The biggest change in that time is that he has become friendlier and better looking, and of course heavier. He now often misplaces that naughty and nice list. Perhaps all the mommies he kisses under the Christmas tree have left him in a good mood. No coal? Presents for everybody? Is he trustworthy? I have seen some Santa cartoons that make me wonder.

Our new, jolly Santa arrived on the scene changed from the old gnome at about the time that Coca-Cola was born (well, created). Ever wonder where the name Coke came from? You guessed it! But then Uncle Sam had to take the fun out of it by ruling that they couldn't include an addictive substance (not counting caffeine, that is).

Speaking for myself, I am not happy with trusting an old, senile fat man who hides his face behind a big white mustache and an even bigger beard. Does he really believe that the beard and mustache work better than a mask at protecting him from Coronavirus? These days he wears a plush red suit and a big (and I mean BIG black belt with an even bigger brass belt buckle to hold up those pants on that oversize belly. And did I mention those big black boots? You can store a few flasks in those if you get pulled over for drunk driving! And that big belly came from somewhere. A little too much eggnog? What else was in it – Old Grand-Dad?

This new Santa strikes me as a schmoozer and a flirt. How many presents and kisses has he given to all those mommies under the mistletoe? I wonder if he *invented* that tradition? Ever hear the song, “Santa Baby, Bring Me a Present Tonight?” Or “I Saw Mommy Kissing Santa Claus?” There must have been many invitations to “stay for a snack.” Maybe some special brownies? And what about “Grandma Got Run Over By a Reindeer”? More of that special eggnog?

We all know about the North Pole, even though it has moved miles since it was discovered to be home to all those Coca-Cola Polar Bears. And we all know about Santa (“He *does* exist!”) from the fainting M&Ms. And Santa in turn acknowledges that “they *do* exist,” and faints! Case closed!

So let's start from the beginning of December—the happiest time of the year! Bonuses in the air, festivals, parties, getting together with friends and families, and of course Christmas, the great holiday kids just hardly wait for, with all the presents. But it's also sad when you think about our canceled Greater City party (to say nothing of our monthly meetings), and stressful when you know how many people are worried about their health and well-being, both physically and financially.

The shopping malls are pretty empty this year; online shopping has become the new normal, and no matter what you say “social distancing” is a PITA. Stay well in the New Year! And if you are trying to get rid of me in 2021 because I'm getting too old, I won't go peacefully! I demand a recount!

Also, I came across something that seems to me would be an idyllic way to spend the Christmas holiday, especially if you have children. Maybe next year, when (we hope) this Coronavirus plague has gone. Check it out on the facing page.

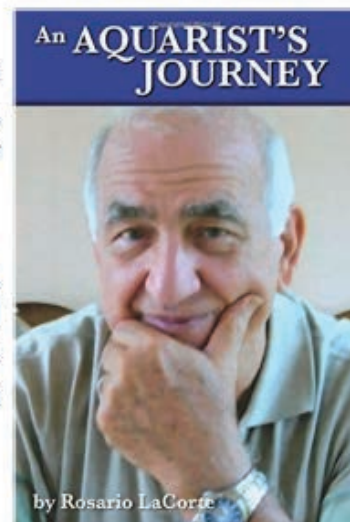
continues on next page....

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)



Santa's Lapland



Your flight begins with shouting, I believe. The view on landing is white cotton—fir forest and frozen lakes. Green clad elves greet you at the arriving terminal and full sets of winter wear snowsuits, fur-lined hats and gloves await you at the hotel. For a mere \$6,000 you can take a family of four to the North Pole to meet Santa in person!

A well timed trip to Finland will fulfill any child's dream to sit down with Santa Claus at the North Pole. To hook up with Santa you fly from London to the northernmost airport in Europe, to a mountaintop 170 miles north of the Arctic Circle, to Santa's Lapland, where you are escorted along a narrow, torch-lit path to a cabin, where you feast on salmon and berries (most likely lingonberries).

The next few days are packed with activities, the favorite being the dogsled ride! Then the staff decided

we were ready to meet you-know-who (he does exist!). You ride aboard a sleigh pulled by reindeer to a clearing in the woods, where two elves direct you in hushed voices to a cabin where Santa awaited us.

Santa did not disappoint! He had a full beard, a large mustache, and a warm voice. "Ho! Ho! Ho!" For the kids he pulled their wish list (they had written earlier) from a pocket.

That's a 3-day all-inclusive to Santa's Lapland for the aquarist who has everything. You can find it online!



See you next year!

Horst



Seth Kolker

08/08/1954 – 11/05/2020

by Joseph Graffagnino

Seth Kolker was a dedicated aquarium hobbyist his entire life. In the Brooklyn Aquarium Society's history he was the youngest member ever elected to the Society's Board of Directors while still in his early teens.

Seth was a visionary in the aquatic industry. His keen eye for the hobby and insight into the future helped propel the Brooklyn Aquarium Society into new and unknown areas. In the 1970s and 80s, it was Seth's influence that moved the club into African cichlids, and then into marine environments with saltwater fish and corals.

Seth inspired many aquarists to try new areas of the hobby; to dabble in the arena of African cichlids and marine species. He was patient and resourceful to novices and experts alike, and would even go to hobbyists' homes to help resolve their aquatic problems.

Seth loved to be auctioneer at aquarium society events. He would travel to neighboring states to assist

clubs large and small, donating his time to help the clubs remain financially solvent. Not only would he know the species about to be auctioned, but he understood the species' origins, and the best foods to bring out the fishes' colors and healthy condition.

Seth helped increase the Brooklyn Society's membership from as few as six members to nearly 500 members when African cichlid and marine species hobbyists were included.

The photo at left is of Seth helping out at GCAS' 1992 show. He also helped out at our 1994 show. Greater City could always count on Seth to help out when needed. He was a frequent visitor at GCAS

meetings until he became ill.

Thank you, Seth, for all you have given to this wonderful hobby. May God bless and comfort you.



A Do-It-Yourself Fish Trap

by Joseph Ferdenzi



When catching fish, sometimes a fish net just won't do. An example of this recently occurred when I had to remove a group of killifish from a 55-gallon tank. There were eight of these fish, in a size range of 2.5 to 3 inches. Not only were the fish small and fast, but the tank was heavily decorated with plants and driftwood (see photo above). The last thing I wanted to do was take this tank apart, so I set about catching the fish with a 6-inch net.

I have decades of experience catching fish, so over the course of a week I was able to catch seven of the eight fish. The one that eluded me was of course the wariest. He was the dominant male fish in the tank, and I just knew he had the “smarts” to make catching him with a net very difficult. After several attempts failed, I finally decided to try using one of my home-made traps.

I have several such traps, and for this particular fish I decided that one made from a 16 ounce plastic bottle would work best. I filled the trap with some water and placed some live blackworms in the bottom. I then submerged the trap, laid it atop some of the vegetation and left it there for the evening and overnight.

When I went to examine the trap the next morning, the tank lights had not yet come on, so I peered at the trap, not knowing if I had caught the fish. As I continued to stare, however, I became convinced that something was in there. I quickly lifted the trap

out of the tank, and lo and behold, the killifish was in the trap! I was elated, because now the fish could be moved to his new home without causing me further aggravation (see the accompanying photo of the trap with the fish inside).

Constructing the trap is relatively simple. Start with a round plastic bottle. I have used 16 ounce bottles and two-liter bottles. Obviously you can use any size in-between, but I would avoid anything smaller than 16 ounces.

Then, using a sharp razor or scissors, cut off the top of the bottle at a point where the circumference of the two resulting pieces will be the same. The top piece should not be long—make the cut so that the bottom of the top piece has the same circumference for about half an inch. Please see the photo on the following page for an example of how these two pieces should look in a 16 ounce bottle.

Next, take the top piece and insert it upside-down in the taller bottom piece. When the edges of the two pieces are aligned to match, hold them with your thumb and forefinger while you punch two sets of holes about a quarter-inch down from the edges. These two sets of holes should be 180° from each other. You can punch the holes with an awl, a nail, a sharp Phillips screwdriver, or a hole punch.

Once you have made the holes, you can then secure the two pieces together with string, cable ties, wire ties, or a small clip. In the accompanying photos



I have used the metal X clips that are often found in packaging of men's dress shirts.

When you place the trap in the tank, always use some sort of food bait. If you want the trap to sink rapidly and stay in place, you can place a stone in the bottom along with the bait.

As you can see, the top piece acts as a funnel that brings the fish into the bottom compartment. What is very interesting is that, more often than not, the fish cannot figure out that they can exit the trap the same way they came in. At least that is so as long as you check your traps with some regularity. My strategy has always been to set the trap in the evening before the lights go off, and then check the trap the next morning. One time, using this strategy, a two liter trap caught eleven *Corydoras panda* in one night!

I prefer to use only clear plastic bottles. That seems to fool most fish into not realizing that they are entering a trap. I also think it makes it more difficult

for the fish to see the spout through which they could escape. If you check the trap in a timely way, I also believe that this method is less stressful for the fish than being caught with a hand-net.



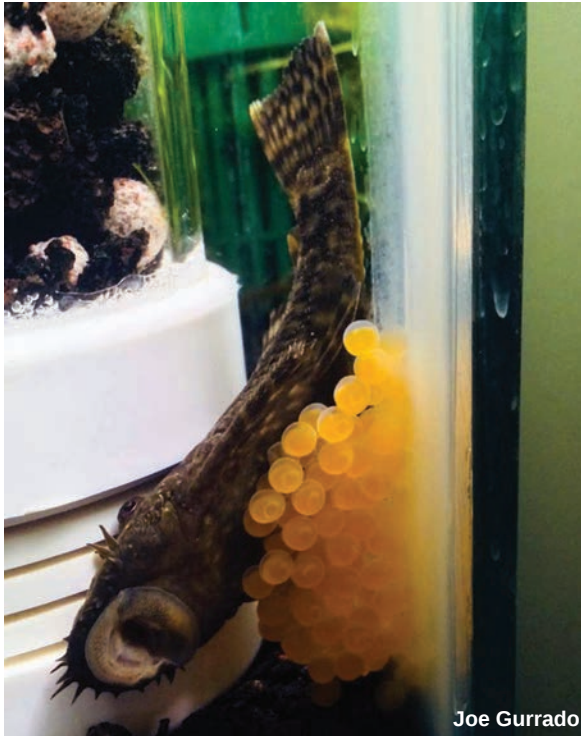
While a do-it-yourself fish trap won't solve all of your fish-catching problems, it is certainly useful for catching smaller fish in heavily aquascaped tanks. But as fishkeepers know, it is always helpful to have more than one trick up your sleeve when trying to catch that elusive fish!



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!*



Swap Meet!

Story and Photos by Harry Faustmann

Below are some photos of a recent fish swap at a parking lot in Ridgefield, Connecticut that was attended by many GCAS members. There were trades, swaps, and sales of our fish raised during the pandemic. It was good to see some familiar faces, even with masks on!

Stay safe!



Danakilia sp. *Shukoray*

Story and Photos by Joseph Graffagnino

Danakilia shukoray is a mouth brooding African cichlid from the desert areas of the northeastern African countries of Eritrea and Ethiopia, not far from the Red Sea. This species was discovered in the oasis lakes, streams, and the Shukoray River desert areas by Anton Lamboj and brought back to Austria. Since that time they have been bred and distributed to various parts of the world.

This species is quite rare, and I have seen prices vary from \$20 to \$40 for 2-3 inch juvenile fish. These fish are colorful, having dark black from the gills through the stomach area and a brown body with bluish-white vertical markings on their scales. This dash pattern travels through the anal, tail, and dorsal fins. The dominant male develops a yellow-brown nuchal hump on his head; the hump grows as the fish matures.



The photo above left is of a reverse trio with the female on the top and a lesser male beneath her and dominant male. The lesser male (above right) has a red trim on dorsal fin and female has none.

Males of the species have a thin red stripe along the top of the dorsal fin, with the dominant male having a bolder red stripe and under it a white stripe. The female has no red stripe on her dorsal fin. This was the only way to sex these young fish.

Fellow hobbyist and friend Mark Soberman gave me five of these relatively unknown fish on November 7, 2019. They were small, being only two months old. I placed them in a 15-gallon tank with African Cichlid sand and a few ornaments. From the moment they entered the tank they did not stop swimming. They were fast swimmers. They would eat anything—flakes, pellets, freeze-dried food, frozen, live, vegetable flakes, and bug pellets. I must assume that living in a desert, they could not be too picky. Also, the water conditions varied for them as I needed tank space for other fish, so they were moved around to different size tanks with various water conditions. They went from

alkaline water that was hard (8-9 GH) with a pH of 7.3 to soft water with a hardness of 3-4 GH and a pH of 6.7. These latter parameters are what they spawned in.

The first time I saw a female holding eggs she was approximately 10 months old and 3 inches in length. The dominant male was 3 ½ inches. I have read that this species can reach 6 inches in length. In breeding dress, the female gets bold white dots on her gill plates. Coloration in both male and female became more intense. I was not able to observe the spawning process, but I noticed that her buccal cavity was filled with eggs. I moved her to a 5-gallon tank with caves to keep her isolated from the other fish so she would not be stressed. I always try to have the mother release her fry on her own, because the fry are healthier, grow faster, and they in turn become good parents. However, she must have eaten the eggs, because in a few days she started eating and the eggs were gone.



The second spawn was one month after the first. I noticed from the beginning, and I took pictures and videos. These fish are not shy. They used a medium-size clay flower pot to spawn. The entire process took almost an hour. The female lured the male into the cave, and in between chasing the other males away from the cave he went in front of the female and on the flower pot floor started his spawn procedure by releasing milt. The female followed behind him and took the milt in her mouth. They did this multiple times, and the female performed actions as though she was releasing eggs, but no eggs were laid. The male continued to release his milt and the female continued to drink it. After several minutes of this procedure she started to lay eggs; initially one egg, and with each pass she would drop another egg or two or three and immediately scoop them into her mouth. The male continued to release milt into the flower pot with no

eggs present. The female would drink in the milt, which was then used to fertilize the eggs. She had a mouth full of eggs when they were finished.

The following day I decided not to take another chance with her holding the eggs full term. I stripped her of the eggs and used an incubator bottle (one-liter soda bottle with an air stone and tubing drilled into the bottom of the bottle, and silicone glue sealed any leak areas. I silicone glued a flat rock to the bottom of the bottle). Using two nets I maneuvered the female into the larger of the nets and removed her from the tank, placing her into a 5-gallon tank with a sponge filter and her aquarium water. Keeping the female in the net, I used my hand to hold her head under the water, and with my other hand used a plastic tube with a lip on it to force her mouth open. As I gently moved her head above and then below the waterline, she released the eggs a few at a time. I continued this process until all the eggs were released. I did not use the tank she spawned in, because other tank members would try to eat the eggs while they are in the net.

She had 43 eggs in her mouth. After stripping her I placed her back into her original tank. I then filled up the incubator bottle with water from their

breeding tank, and used a large siphon tube to remove the eggs from the net and into the incubator bottle. I increased aeration in the bottle until the eggs were gently moving in the the water column or the eggs at the bottom had water flow slightly moving the mass of eggs. I added a fungus inhibitor to the incubator bottle, and after several days I replaced the fungus inhibitor with fresh water from the original tank. Alas, no eggs were fertile.

Two months and four days later they spawned again. I waited eight days before stripping her of her eggs. After eight days the eggs would have hatched, or if they were unfertile would have been eaten or spit out. When I stripped her there were 19 wiggling fry. What happened to the other eggs? I moved the wrigglers into a plastic fry holder inside another aquarium. I am happy to report that one month later the fry are doing well and growing fast.

This species is on the C.A.R.E.S list as endangered in the wild. It is a rare jewel from East Africa. Be patient and you will be rewarded by an interesting and different type of African cichlid.



NEED COMPUTER HELP?

Virus/Spyware Removal \$79.00*

Wireless Setup \$49.00**

Optimization Special \$39.00*

Test Hard Drive and Memory
Eliminate Windows build-up
Remove Internet activity and accumulation
Accelerate Windows start-up



All Work Guaranteed
Professional, Friendly Service
On-Site Service in Your Home,
Office or Business

CompTIA® A+ Certified

Repairs & Upgrades • DSL & Cable Modems Installed • Home & Office Networking
Wireless Networks Installed • Computer & Peripherals Set Up • Troubleshooting & Optimization
Virus & Spyware Removal Specialist • Data Recovery • One-on-One Training

* \$15.00 Mobile charge

** Labor only. Equipment additional

Call: 718-469-5444 • jasontech1@verizon.net

I Love My Loach!

Story and Photos by Stephen Sica

A few weeks ago my good friend Jean-Michel told me that his clown loach was bothering a few of his other fish. I didn't pay him too much attention because earlier this year he had upgraded his thirty-six gallon bow front tank to a forty-eight inch long acrylic Sea Clear that holds seventy gallons.

Jean-Michel has never overloaded his tank with fish, so I was sure that he had plenty of space for all to coexist. Recently however, he began complaining again and finally asked me outright if I would like to have his clown loach. Like most loach fans, he purchased the fish (about two years ago) when it was a cute little juvenile. Now it has become a fin nipper of his favorite (and expensive) fish—his prized discus!

I immediately blurted out that I had no place to put the fish. I was in the process of dismantling my twenty gallon high tank in the den because it is an absolute magnet for algae. The tank attracts both sunlight from its three neighboring west-facing windows, and florescent light from the lamp on the end table at the opposite side of the tank. A twin T5 florescent fixture adds still more light. This fish tank is absolutely inundated with light!

Another friend suggested that I cover some of the glass to block the light, but I tried that years ago without success. I really do try to control the tank's light input, but it seems that I am a failure—or rather I have not been successful so far.

The next day, Jean-Michel's wife sent Donna an e-mail about the loach. I was still hesitant to adopt this fish because twenty plus years ago I had been

enamored by the clown loach. I had two or three in succession, but was unable to keep them alive for more than a few weeks. I decided that this was one fish for

which I lacked sufficient competence, so I moved on and never again reconsidered it.

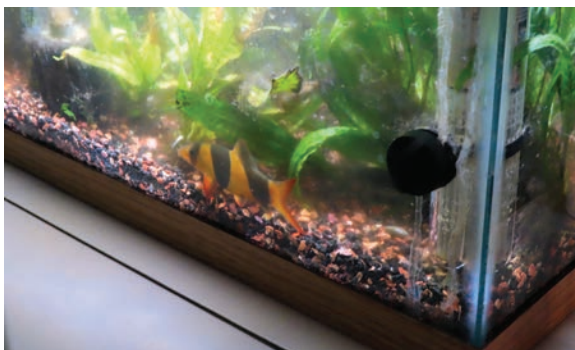
Later that day, I was sitting on a chair in front of my twenty gallon long tank in the basement which contains three young swordtails. I guessed the loach, which is about four inches long, would have sufficient space, but I didn't want to harm this robust fish. We kept getting e-mails that Jean-Michel

wanted to bring me the fish. Finally, I told Donna that they should contact her the next day (Monday) about bringing me the fish.

On Monday morning, I'm sitting in my basement again, staring at the sparsely occupied twenty gallon tank, when the phone rings. Donna comes down to inform me that Jean-Michel is in the process of catching the clown loach. He'll be over in about an hour or less. It dawns on me that I should siphon the bottom and change some water to make the loach welcome, so I jump up and begin doing so. Exactly three minutes later I hear the doorbell. It's Jean-Michel and his loach. He informs me that he was able to catch it on his first attempt. I tell him to unwrap the fish, while I hurriedly continue changing the water. I refill the tank with a combination of aged and tap water, then give Jean-Michel a selection of nets, and tell him to transfer the loach while I dump my last bucket of water into the sink. When I finish my task, I return to find the loach energetically swimming to and fro in the tank. Well,



For the first two weeks the clown loach (*Botia macracantha*) swam in circles around the right side of the twenty gallon long tank. My research recommends thirty gallons per fish, to be kept in schools of five or more.



Once the loach settled in, its preferred hangout place was the rear of the tank by the heater. Loaches prefer a dim environment. This one is being illuminated by an LED fixture.



Every evening the clown loach is in its same place on the bottom in the rear. When I feed my *corydoras* catfish, the loach usually awakens and begins scavenging the bottom.



Six *Corydoras* catfish are the loach's roommates.



When resting during the day, they often lie together.



When I turn on the basement lights, move too quickly or open the top cover, the loach and catfish always scatter. So far, both species are very wary. This is causing me to tread softly when possible.



that was easy, but I'm worried. I hope that I can keep it alive—It's a nice animal!

About a week later I dismantled my den tank, rounded up six corydoras catfish, and added all of them along with the loach. This caused me to have overload concern. I wanted to keep my new loach in good health, so two days later I siphoned more sludge and water from the bottom. Since the siphoned water was somewhat murky, I felt good about my work.

The next day I decided to siphon still more water, and took a break from writing this article to do so. When I returned to my work (siphoning—not writing) the loach was either sleeping or resting with the catfish. I tried to photograph them together, but it was too dark without the tank's light. When the corydoras spotted me, they all scattered.

It's now almost a month later, and the loach and catfish are all alive and well. At our holiday party last December, I won (with everyone else) a prize, and selected a guidebook to tropical aquarium fishes. One of the cover fishes was the clown loach, so I paged through the book to find several lovely black and white drawings, as well as one in color. There was also a narrative, so the following are thoughts from **Tropical Aquarium Fishes** by Ivan Petrovicky and illustrated by Ladislav Pros. This book was initially published in 1982, so its contents are dated.

The clown loach, *Botia macracantha*, is native to Sumatra and Kalimantan (Indonesian territory in Borneo). It is thought that this fish can grow to a

length of almost twelve inches in the wild. I believe that my loach is perhaps four to maybe five inches.

The clown loach has been imported and offered for sale since 1936. It has four pairs of barbels with an erectile spine below each eye. It is suggested that these fish should be kept in small groups of five or six and separated from most other fish. A dimly lighted tank should have plenty of hiding spaces. As my loach has settled in, I have noticed that it likes to lie on the bottom against the rear wall. When it first moved in, it would swim in circles around the right-hand tank wall from top to bottom.

My internet research suggests that these fish should be kept in schools, with each fish having about thirty gallons of space. Captive fish may grow to eight inches or more, with a ten-year lifespan. Being an omnivore, this fish is easy to please, and it scours the bottom. Algae wafers make a good food staple, but they also enjoy worms, as well as a wide variety of other foods. There is much current information on the internet, so I won't bore you any longer. Meanwhile, having just read about their favored water parameters, excuse me while I return to the basement to siphon another gallon or two!



Tiny Bubbles

Gas Bubble Disease: A Hazard of Winter Water Changes

By Gary Lange

Who can forget the song from immortal Don Ho? (<https://www.youtube.com/watch?v=t45DKmtzTHo>)

*Tiny bubbles, in the wine,
Make me happy, make me feel fine.
Tiny bubbles, make me warm all over.
With the feeling that I'm gonna
Love you till the end of time.*

And, in the fish tank as Paraphrased by Gary Lange:

*Tiny bubbles, makes me ill,
Total destruction, in my gills,
Tiny bubbles, makes me sick all over,
With a feeling that I'm leaving
Your little chilly fish tank behind.*

OK, Don's probably turning over in his grave with my lyrics. It was a popular song to begin with, but the tiny bubbles we can add to our fish tanks in the winter can be deadly. A recent discussion on the [MASI Facebook discussions page](#) was about some of the problems an aquarist can have when the weather gets cold and our water supply gets downright chilly. You see, cold water can hold more gas than warm water, and when the cold water in your pipes hits the warm house it is going to lose some of those gases. The water when heated up in your hot water tank will release that gas even quicker, and is then going to be under a bit of pressure.

Turn on your hot water, let it get good and hot, and then fill a tall clear glass. You'll notice that the water is almost grey from all of the cloudy tiny micro-bubbles that are bursting out of the water. If you let this sit for a few more minutes you'll see bigger bubbles all over the sides of the glass.

It is a problem if you pour that water directly into your warm tank and the dissolved gases do not come out of solution until AFTER they pass through the gills of your fish and into their bloodstream. Yes, it's a bit like like the divers' bends, so it can be, I would imagine, very painful for the fish, and the gas once inside the fish can show up between the fin rays, in the eyes or elsewhere.

For years I really didn't worry about "Gas Bubble Disease (GBD)," as I would age my water in barrels, usually for several hours with a hang on back type filter churning and splashing the water into the barrel. This turns out to be a great way to remove that excess gas, and I really didn't give it any thought. But several years ago when I was in Detroit giving a talk in the winter time I was reminded by the Great Jim Langhammer* that you do have to be careful, that "gas bubble disease," or whatever you want to call it,

is real. Jim would routinely age his water for a day before using it—remember in Michigan the water comes out of the cold tap almost in icicle form during wintertime.

A recent check of our local cold water supply yielded a temperature of 46 degrees F (8C). This is way colder than the average 80 degree aquarium. I switched to using a vigorous pond pump to circulate the water in my barrels, and it now takes an hour or two to help remove those bubbles.

If you put water into your aquarium and still see a lot of bubbles forming on the glass you should probably wait a while longer to ensure that it degasses further. An airstone can be added to the barrel to help turn over the water and allow the excess gasses to escape.

The photo shows a good example of this where one container has hot water that was degassed with an airstone for 10 minutes, and the other fresh out of the tap. The hot water out of the tap produced lots of bubbles on the sides of the container, whereas there were almost none on the aerated, bubbled hot water.



You really can't solve this problem by just using cold water and pouring that into your aquarium. That cold water has just as much air in it as the hot water, but it's not visible because the out-gassing bubbles haven't yet formed and coalesced. Hot water can't hold onto it once it's not under pressure, and the gas bubbles form more readily. Adding really cold water to your tropical fish tank isn't the smartest thing to do anyway. If you mix in hot water with your cold tapwater, both sources of water will be spitting out their gasses quite quickly.

Reprinted from the Missouri Aquarium Society's The Darter January/February Special Edition 2019.



*Jim Langhammer is well known throughout the aquarium hobby and respected for his activities with the American Livebearer Association (ALA) and efforts to save and educate about, many of the Mexican endangered *Goodeid* species. The ALA maintains the James K. Langhammer Fund for Conservation in his honor.

There are more than a few people that will claim that they've done this for years when the water was really cold, and nothing happened to their fish. Sometimes it's not so extreme as to cause immediate deaths, but it may still cause a lot of stress in the fish. Several of the linked articles below point out that fish often come down with other diseases because of this stress. Bottom line, in cold weather put it in a container, aerate it and degas before using. Do this and you can keep your fish from singing my version of the "tiny bubbles" song!



Additional reading:

- Identification and diagnosis from the Toledo Zoo: <https://www.advancedaquarist.com/2014/8/fish>
- GBD discussion with illustrations: https://www.adfg.alaska.gov/static/species/disease/pdfs/fishdiseases/gas_bubble_disease.pdf
- Causes of gas saturation, etc.: http://www.aun.edu.eg/developmentvet/fish%20diseases/7_1.htm

NorthFin

100% Premium Ingredients In Every Pellet

- **Filler Free**
- **By-Product Free**
- **Artificial Pigment Free**

 **MADE IN CANADA**

Greater City Aquarium Society 2020 Awards

GENE BAIOTTO AQUARIST OF THE YEAR AWARD

JULES BIRNBAUM

JOSEPH FERDENZI ROLL OF HONOR

JULES BIRNBAUM

DON SANFORD BREEDER OF THE YEAR AWARD

JOSEPH GRAFFAGNINO

WALTER HUBEL BOWL SHOW CHAMPION

HARRY FAUSTMANN

AUTHOR AWARD PROGRAM (AAP) AWARDS

Greater City Authors who made contributions printed during 2020, or who received AAP points as a result of NEC publication awards announced in 2020, *and* who moved up to a new **AAP** level are:

Geri Domingo.....Author Lonnie GoldmanCorrespondent

Stephen Sica is Author of the Year for 2020!

GCAS Past Award Winners

JOSEPH FERDENZI ROLL OF HONOR

Gene Baiocco	Charles Elzer	Paul Hahnel	Al Priest	Marcia Repanes
Joe Bugeia	Joe Ferdenzi	Ben Haus	Susan Priest	Nick Repanes
Mary Ann Bugeia	Warren Feuer	Emma Haus	Herman Rabenau	Don Sanford
Dan Carson	Herb Fogal	Jason Kerner	Dan Radebaugh	Mark Soberman
Claudia Dickinson	Al Grusell	Jack Oliva	Marsha Radebaugh	

DON SANFORD BREEDER OF THE YEAR

1981-83, Ginny & Charlie Eckstein	1992-93 Steve Sagona	2002-05 Anton Vukich
1983-85 Rich Sorensen	1993-94 Joe Ferdenzi	2006, 2018 Warren Feuer
1985-86 Yezid Guttierrez	1994-95 Steve Sagona	2007, '08, '09, '10 Jeffrey Bollbach
1986-87 Joe Ferdenzi	1995-96 Tom Miglio	2011, '12, '19 Joseph Graffagnino
1987-88 Patricia Piccione	1996-97 Mark Soberman	2013 Leslie Dick
1988-89 Joe Ferdenzi	1997-98 Jeff George	2014 Mark Soberman
1989-90 Francis Lee	1998-'00 Tom Miglio	2015 Artie Platt
1990-91 Eddie Szablewicz	2000-01 Mark Soberman	2016 Joseph Graffagnino
1991-92 Dominic Isla	2001-02 Alexander Priest	2017 Joe Ferdenzi

GENE BAIOTTO AQUARIST OF THE YEAR (Since 1990-91)

1990-91 Diane & Harold Gottlieb	2004-05 Claudia Dickinson
1991-92 Doug Curtin & Don Curtin	2006 Anton Vukich
1992-93 Mark Soberman	2007 Ed Vukich
1993-94 Warren Feuer	2008 Al Grusell
1994-95 Steve Sagona	2009 Dan Radebaugh
1995-96 Alexander & Susan Priest	2010 Pete D'Orio
1996-97 Joe Ferdenzi	2011 Jeffrey Bollbach
1997-98 Claudia Dickinson	2012 Jules Birnbaum
1998-99 Vincent & Rosie Sileo	2013 Dan Puleo
1999-00 Pete D'Orio	2014 Leonard Ramroop
2000-01 Bernard Harrigan	2015 Alexander & Susan Priest
2001-02 Joe Ferdenzi	2016 Elliot Oshins
2001-02 Jason Kerner	2017 Joseph Gurrado
2002-03 Carlotti De Jager	2018 Dan Radebaugh
2003-04 Jack Traub	2019 Marsha Radebaugh

WALTER HUBEL BOWL SHOW CHAMPIONS (Since 1983-84)

1983-84, 84-85 Tom Lawless	1996-97, 97-98 Steve Sagona	2009 Mario Bengcion
1985-86, 86-87 Joe Ferdenzi	1998-99, 99-2000 Tom Miglio	2010 Alexander A. Priest
1987-88 (tie) Mark Soberman	2000-01 Pat Coughaine	2011, 2012 Richard Waizman
and Mary Ann & Joe Bugeia	2001-02 William Amely	2013 Jerry O'Farrell
1988-89 Jason Ryan	2002-03 Evelyn Eagan	2014 Ruben Lugo
1989-90 Eddie Szablewicz	2003-04 William Amely	2015, '16, '19 Richard Waizman
1991-92 thru 93-94 Steve Sagona	2004-05 Evelyn Eagan	2017, 2018 William Amely
1994-95 Carlotti De Jager	2006, 2007 Ed Vukich	
1995-96 Mary Eve Brill	2008 William Amely	

GCAS PRESIDENTS (Post 1945 — number in parenthesis = consecutive terms)

1946-49 Elliott Whiteway (4)	1968-70 Walter Hubel (2)	1981-84 Brian Kelly (3)
1950-51 Robert Greene (2)	1970-72 Dave Williams (2)	1984-86 Jack Oliva (2)
1952-53 Robert Maybeck (2)	1972-73 Dan Carson (1)	1986-97 Joe Ferdenzi (11)
1954-55 Leonard Meyer (2)	1973-75 Herb Fogal (2)	1997-99 Vincent Sileo (2)
1956-57 Sam Estro (2)	1975-76 Richard Hoey (1)	1999-00 Jeff George (1)
1958 Leonard Meyer (2+1)	1976-77 Ted Tura (1)	2000-08 Joe Ferdenzi (11+8)
1959-64 Gene Baiocco (6)	1977-78 Gene Baiocco (6+1)	2009-16 Dan Radebaugh (8)
1965 Andrew Fazio (1)	1978-79 Louis Kromm (1)	2017-20 Horst Gerber (4)
1966-68 Charles Elzer (2)	1979-81 Don Sanford (2)	

GCAS Author Award Program

We are always very pleased to welcome new names to our member/author list, and you will see a few new names once again this year! Also, a couple of our authors have moved up the ladder this year in our Author Award points rankings.

Congratulations to Geri Domingo and Lonnie Goldman for achieving new titles, and special congratulations are due Steve Sica, our **Author of the Year** for the *third* year in a row!

Modern Aquarium is primarily the product of our members. We are grateful for every article and photo from every member, and we hope to hear more from each of you in 2021! Hopefully we'll also get to see more of one another as we move through next year, hopefully free of pandemics!

Overview of the Author Award Program

The GCAS AAP awards points for contributions to **Modern Aquarium**. Persons acquiring a specified number of points will receive additional recognition in the form of a certificate for having reached designated Accomplishment Levels. (See "Accomplishment Levels.")

Each person making a qualifying contribution to **Modern Aquarium** receives points, as well as chances for a **Prize Drawing** at the Annual Holiday Party.

Eligibility

Any member of Greater City who makes a contribution to **Modern Aquarium** is automatically a participant.

Points

Five points will be awarded for an original article of 500 words or less.

Ten points will be awarded for an original article of 501 words and over.

Five points will be awarded for an original photograph, drawing, or illustration submitted with, and as part of, an original article. If more than two photographs, drawings, or illustrations are submitted with a related article, only two will be given points (this is in addition to the points awarded the article, based on its size).

Ten points will be awarded for an original color photograph that is used on the front cover. Photographs must be the work of the member submitting them, and must not have been previously published, or submitted for publication, in any commercial or amateur publication.

Two or more related photographs or illustrations submitted with captions, and occupying one or more pages, will be counted as two photos (10 points) and

as an article over 500 words (10 points), for a total of 20 points. An example would be a photo spread with captions.

An original article on a fish in the **C.A.R.E.S.** Preservation Program will receive **double points** (i.e., 10 points for an article of 500 words or less, and 20 points for an article of 501 words or more). Photos and drawings of a **C.A.R.E.S.** eligible species will also receive double points.

Five points will be awarded for an original puzzle which is used on the "Fin Fun" page of **Modern Aquarium**.

Ten points will be awarded to the winner of our Cartoon Caption Contest.

Points are awarded only once for an article, drawing, puzzle, or photograph. No points are awarded for subsequent reprints, regardless of whether the original article was awarded points previously in the AAP. To be eligible for AAP points, a contribution must first have been submitted to **Modern Aquarium**. However, if an article previously published in **Modern Aquarium** is significantly revised by its author (as a result of new information or developments), and if such a revision is first submitted to **Modern Aquarium**, it will be treated as a new article. Points are awarded in the year the article is printed. Editorials and President's Messages are excluded.

An article deemed unacceptable by the Editorial Staff of **Modern Aquarium** for reasons of appropriateness of topic, suitability, or possible violations of copyright or libel laws, will be ineligible for participation in the GCAS AAP. Decisions of the Staff are final.

Points credited to an author may not be carried over or credited to subsequent calendar years for the purposes of raffle prize chances or "Author Of The Year" designation.

Bonus Points

If, in the year following its publication in **Modern Aquarium**, an article is given a 1st, 2nd or 3rd place award by the North East Council of Aquarium Societies ("NEC") or by the Federation of American Aquarium Societies ("FAAS"), an additional 10 points will be awarded if the author is a GCAS member in the year the NEC or FAAS award is announced. This applies only to articles (not to drawings, columns, cartoons or photos). These bonus points are credited in the year that the award is announced, not the year for which it is awarded.

Prize Drawing

For every 5 AAP points earned in a calendar year, the recipient is given one chance in our "Authors/

Contributors Only” raffle.

Author of the Year

The person with the most points in a calendar year receives a certificate as “**Author Of The Year**” for that year. This is our most prestigious award, and the winner truly exemplifies the high value which they place on the contribution of experience and knowledge to the aquarium hobby at large.

Accomplishment Levels

For the accomplishment levels specified below, points are cumulative over the life of the AAP program. Points are **doubled** for each article on a fish in the **C.A.R.E.S.** Preservation Program. Points are also **doubled** for each photo or drawing of a **C.A.R.E.S.** fish used on the cover.

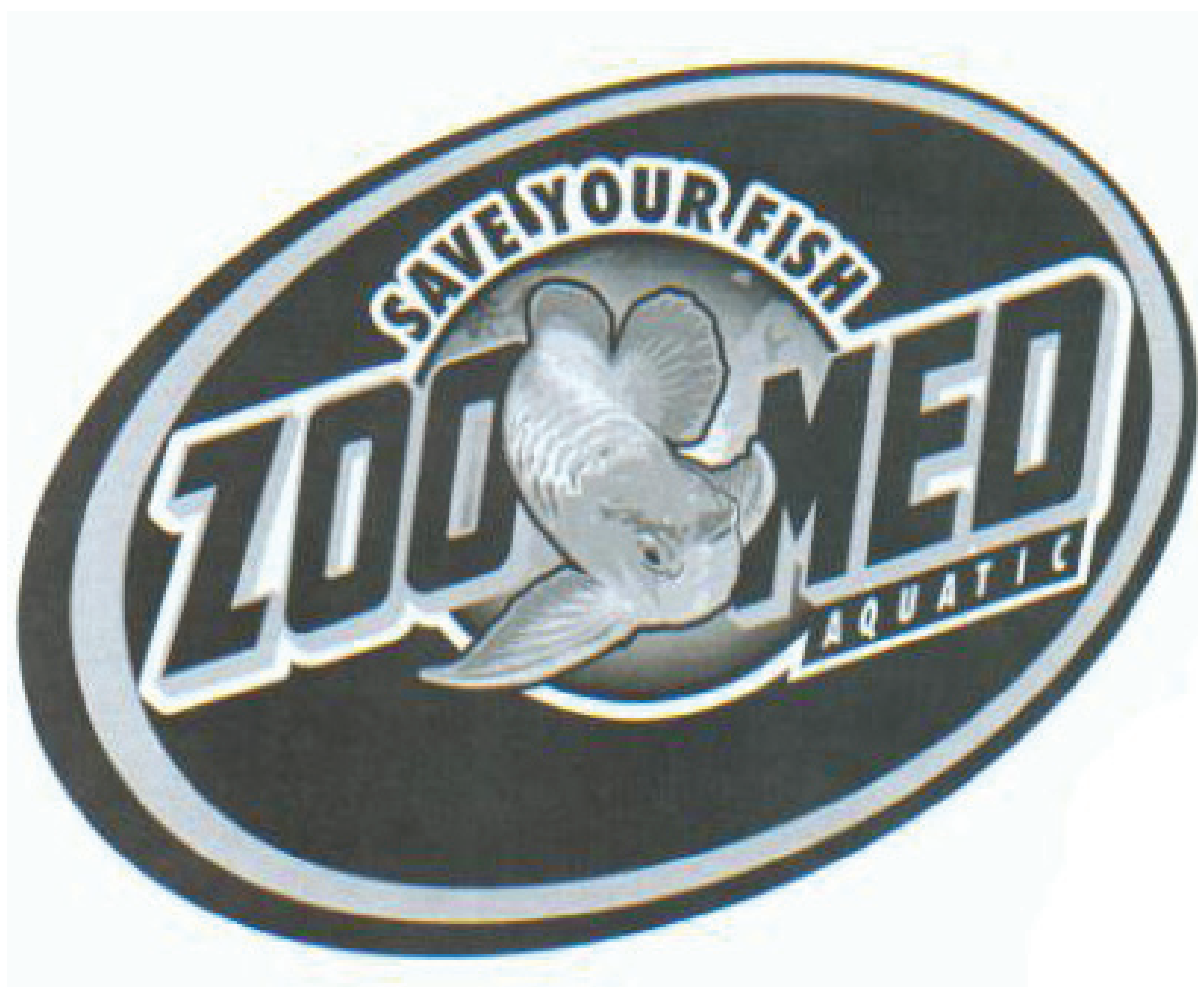
Bonus points are awarded to participants for awards (other than Honorable Mention) received from the Northeast Council of Aquarium Societies (NEC) Article Awards, in the year these awards are **announced**, not in the year for which they are

awarded.

Modern Aquarium staff members are ineligible for the Raffle. Family members of staff ARE eligible.

Author	25 to 45 pts
Correspondent	50 to 95 pts
Writer	100 to 145 pts
Essayist	150 to 195 pts
Journalist	200 to 295 pts
Columnist	300 to 495 pts
Laureate	500 to 745 pts
Senior Laureate	750 to 995 pts
Master Laureate	1,000 to 1,495 pts
Grand Master Laureate	1,500 to 1,995 pts
Sr. Grand Master Laureate	2,000 to 10,000 pts
Editor Emeritus	over 10,000 pts

Continues on next page



2020 Totals	Art Work (in points)	Number of Articles		Awards	Total Points	Prize
Author	Photo/ Drawing (up to two per article)	500 Words Or Less	Over 500 Words Or Caption Contest Winner	Bonus Points	Current Year Total March to December	Raffle Chances
Glen Aqua	5				5	1
Jules Birnbaum	60	3	3	10	115	23
John Brill	5				5	1
Gerry Brostek	10				10	2
Wallace Deng	10				10	2
Geri Domingo	30				30	6
Harry Faustmann	10	1	0		15	3
Joseph Ferdenzi	50	1	5	20	125	25
Peter Goldfien			1		10	2
Lonnie Goldman	30				30	6
Joseph Graffagnino	80	3	6		155	31
Joseph Gurrado	100	0	2	10	130	26
Victor Huang	15				15	3
Denver Lettman	5				5	1
Elliot Oshins	3	0	0		3	1
Alexander A. Priest	50	0	0	10	60	n/a
Susan Priest	10	0	2		30	n/a
Dan Radebaugh	30	1	2		55	n/a
Marsha Radebaugh	30	0	1		40	n/a
Lauren Ramroop				10	10	2
John Sciacca	15				15	3
Stephen Sica	130	0	10		230	46
Gilberto Soriano	25				25	5
Shrestha Suman	5				5	1
Undergravel Reporter	0	10	0	10	60	n/a
Michael Vulis	5				5	1
Herb Walgren	5				5	1
Tom Warns	10		0	0	10	2
Ron Webb	10	0			10	2

Following are the **total** AAP points for **all** GCAS members as of December 2020. If you have questions, or feel that there are errors, please contact Dan Radebaugh.

Shunmugan Al	40	Mario Bengcion	15
Tamer Altan	5	Steve Berman	25
Bill Amely	280	Jules Birnbaum	1,270
Glen Aqua	5	Tom Bohme	15
Sharon Barnett	30	Victoria Bohme.	25
Fred Bellise	10	John Brill	5

Gerry Brostek	10
Jeffrey Bollbach	150
Roger Brewster	10
Tommy Chang	105
Donald Curtin.	10
Doug Curtin	90
Carlotti De Jager	155
Adrian Deng	10
Wallace Deng	140
Xavier Deng	50
Les Deutsch	5
Leslie Dick.	55
Brad Dickinson	20
Claudia Dickinson	3,195
Al DiSpigna	5
Pete D'Orio	5
Geri Domingo	30
Rod Du Casse	5
Rita Dunne	10
Evelyn Eagan	25
Frank Fallon	65
Harry Faustmann	65
Anita Ferdenzi	15
Francesca Ferdenzi	5
Joseph Ferdenzi	2,180
Marisa Ferdenzi	20
Alison Feuer	5
Warren Feuer	327
Michael Foran	25
Artie Friedman.	15
Peter Foster	10
Mike Gallo	10
Jeff George	165
Joe Galarza	5
Horst Gerber	150
Linda Gerber	10
Steve Giacobello	15
Peter Goldfien	20
Lonnie Goldman	60
Joseph Graffagnino	475
Steve Gruebel	10
Al Grusell	25
Joseph Gurrado	1,085
Bernard Harrigan	1,800
Steven Hinshaw	165
Victor Huang	15
Andrew Jouan	195

Tom Keegan	15
Jason Kerner	140
Charlie Kuhne	10
Denver Lettman	180
Rich Levy	105
Bill Luckett	
Ruben Lugo	360
Beth Macht	10
John Malinowski	5
Desiree Martin	45
Tom Miglio	25
Jackleen Minassi-Haftvani	20
Temes Mo	5
Jerry O'Farrell	317
Elliot Oshins	1,011
Jim Peterson	5
Margaret Peterson	10
Artie Platt	20
Alexander A. Priest	4,350
Susan Priest	3,820
Dan Puleo	135
Dan Radebaugh	1,035
Marsha Radebaugh	420
Jannette Ramirez.	220
Lauren Ramroop	65
Leonard Ramroop	45
Mark Rubanow	5
Charley Sabatino	170
John Sciacca	15
Donna Sosna Sica	10
Stephen Sica	2,930
Vincent Sileo	50
Danielle Soberman	5
Ilyssa Soberman	15
Robin Soberman	10
Mark Soberman	75
Gilberto Soriano	190
Jack Traub	20
Undergravel Reporter	1,820
Anton Vukich	5
Ed Vukich	105
Michael Vulis	55
Tom Warns	45
Ron Webb	65
Larry Whitfield	60
Greg Wuest	25



GCAS Breeder Awards 2020

GCAS BAP 2020										
		Date	Name	Pts	1st	Cares	Type	Origin	Common Name	# Species
Bollbach	Jeff	01/16/20	<i>Melanotaenia bowmani</i>	15	*		Cyprinids		Bowman's Rainbowfish	
			Total Points	15						1
Graffagnino	Joseph	11/14/2019	<i>Coptodon kottae</i>	35	*	♥	Cichlids	Old World	Same	
		11/19/2019	<i>Phallichthys tico</i>	15	*		Livebearers		Dwarf Widow	
		02/01/2020	<i>Gynogeophagus terrapurpura</i>	25	*		Cichlids	New World	Same	
		03/02/2020	<i>Andinacara latifrons</i>	25	*		Cichlids	New World	Platinum acara	
		03/14/2020	<i>Phenacogrammus interruptus</i>	20			Characins		Congo tetra	
		03/29/2020	<i>Geophagus Alto-Sinu</i>	25	*		Cichlids	New World	Same	
		03/01/2020	<i>Carlhubbisia kidderi</i>	15	*		Livebearer		Champoton gambusia	
		04/30/2020	<i>Coptodon mamfe</i>	25	*		Cichlids	Old World	Same	
		06/10/2020	<i>Metraclima greshaki</i> (Metraclima/Maylandia/Pseudotropheus)	15			Cichlids	Old World	Ice Blue Zebra	
		08/13/2020	<i>Simpsonichthys reticulata</i> Xingue (Spectroblebias) [annual]	25		♥	Killifish	New World	peat spawner, hatched 8/13	
			Total Points	225						10
Peters	Scott	27-Jun-20	<i>Apistogramma ortegai</i>	25	*		Cichlids	New World	Same	
			Total Points	25						1
Soberman	Mark	01-Jun-20	<i>Fundulopanchax oeseri</i>	10			Killifish	Old World	Same	
		01-Jul-20	<i>Phallichthys tico</i>	5			Livebearers		Dwarf Merry Widow	
			Total Points	15						2



Tonight's Speaker

I got my first fish tank when I was twelve or thirteen years old. It was a 12+ gallon tank that I made from an old gasoline pump cylinder. Shortly after 'cutting my teeth' on some Mollies and Zebra Danios, I added my first cichlids, two Angelfish, two Green Severums, and two Festivums.

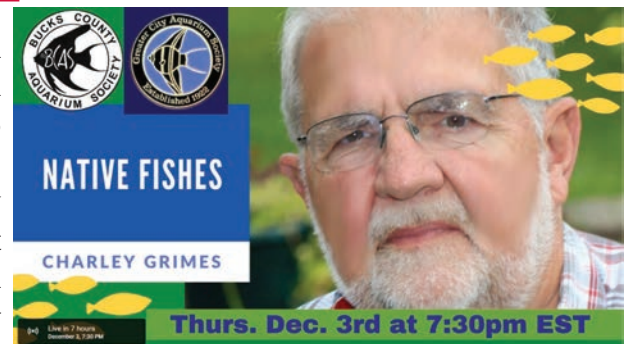
Within six months, my quarter sized Angelfish had body size a lot bigger than a silver dollar and erased any doubt that Angelfish are true cichlids—they ate all of the Molly fry and then all of the Zebra Danios. I learned three things during my first year of fish keeping:

- 1) I really like keeping fish
- 2) By and large, it is cichlids' nature to eat fish if given the opportunity.

By the way, I'm now 78 years old and I still like keeping fish. Except for my college years, I have always kept tropical fish, and I have never been without cichlids, livebearers, and tetras. Our home has a 600 square foot fishroom that I added onto the existing house. I currently have over a hundred tanks operating in my fishroom. I've had more, a lot more (over 200), but that was just too much fish fun. For me, a hundred tanks is a good number; enough for both fun and projects, but not so many as to become burdensome.

I have collected Native Fishes in all but five states east of the Mississippi, in Mexico, and three different times in Brazil. I'm pretty sure this is bragging, but YOU asked for a biography: I have had over 450 species and/or varieties of fish spawn in my fish rooms. Having fish spawn in my tanks is a big deal for me.

Just about the only thing I like better than tropical fish is hanging around with aquarium fish people, which includes going to fish meetings, auctions, workshops, and conventions.



<https://www.youtube.com/watch?v=gHal2KOBaOY...>

Charley





GCAS 2020

Breeder Award Totals

	<u>NAME</u>	<u>POINTS</u>	<u># BRED</u>		<u>NAME</u>	<u>POINTS</u>	<u># BRED</u>
1	JOSEPH GRAFFAGNINO	2,310	143	39	LOUIS KROMM	170	16
2	JEFF BOLLBACH	1,760	126	40	JEFF GEORGE	165	17
3	JOSEPH FERDENZI	1,215	77	41	DICK MOORE	160	5
4	MARK SOBERMAN	1,175	62	42	LESLIE DICK	160	8
5	WARREN FEUER	990	64	43	JEAN BRAUDE	155	12
6	ANTON VUKICH	910	70	44	BARRY LYNCH	150	18
7	TOM MIGLIO	875	66	45	JOE CUCINIELLO	135	9
8	EDWARD VUKICH	835	64	46	JORGE RODRIGUEZ	135	9
9	STEVE SAGONA	655	47	47	THADDEUS TURA	135	9
10	JOHN STORA	540	47	48	SHARON MIRABELLA	135	10
11	JOSE ARANDA	505	47	49	JERRY SCHULTZ	120	11
12	JOHN IANNONE	485	44	50	KEN BRUST	120	14
13	THE ECKSTEINS	455	39	51	FRANK GANNON	120	16
14	CARLOTTI DE JAGER	440	33	52	JOE MANCUSI	115	8
15	CLAUDIA DICKINSON	435	27	53	GEORGE MAROTI	115	8
16	RICHARD SORENSEN	420	33	54	THE KELLYS	115	12
17	FRANCIS LEE	380	28	55	HARRY EVANS	110	10
18	CHARLEY SABATINO	360	20	56	HERB FOGAL	100	13
19	THE REPANES	355	27	57	DENNIS EGIELSKI	95	4
20	JACK OLIVA	355	42	58	JERRY MAYER	95	7
21	GERALD GORYCKI	350	41	59	JOE FLANAGAN	95	12
22	HAROLD KETTERER	335	30	60	BRIAN KELLY	90	6
23	AL PRIEST	330	8	61	PETE D'ORIO	90	9
24	THE LOMBARDIS	325	32	62	ROBERT MC KEAND	85	5
25	DON SANFORD	310	25	63	NOEL RODRIGUEZ	85	7
26	GREGORY WUEST	310	30	64	EDWARD SZABLEWICZ	85	7
27	TED KURDZIEL	295	24	65	BOB KUHLE	80	6
28	TONY FERRARO	275	23	66	BRADLEY PLOTKIN	80	6
29	THE BUGEIAS	270	31	67	LEONARD RAMROOP	80	11
30	STEPHAN ZANDER	230	14	68	JOHN LEE	75	5
31	DOMINIC ISLA	225	20	69	JOSE PEREZ	75	6
32	ARTIE PLATT	210	16	70	DAN RADEBAUGH	75	6
33	YEZID GUTIERREZ	206	20	71	BRUCE WEILER	75	6
34	PHILIP INGENITO	205	13	72	TOM BOHME	75	7
35	JULES BIRNBAUM	195	13	73	DOUGLAS CURTIN	75	12
36	ROD DU CASSE	190	14	74	PAT PICCIONE	70	7
37	THE DONATONES	175	18	75	BOB RADAMACHER	70	9
38	JOHN MORAN	170	11	76	DONALD CURTIN	70	10

	NAME	POINTS	# BRED			NAME	POINTS	# BRED
77	SARA MONHEIT	65	6		107	STUART KRICHEVSKY	20	3
78	JOEL FORGIONE	60	4		108	DANNY SHEPARD	20	3
79	CHARLES KUHNE	60	8		109	IGNACIO ARENCIBIA	15	1
80	HORST GERBER	55	4		110	THE FERNANDEZ	15	1
81	BOB DU BOIS	55	5		111	PETER GOLDFEIN	15	1
82	BOB WRANOVICS	50	4		112	WILLIAM SADERA	15	1
83	MIKE CASSANO	50	5		113	JOE ARONNE	15	2
84	WILLIAM BRANDOFINC	45	4		114	DAN GAWIAK	15	2
85	WARREN BURKE	45	7		115	RICH LEVY	15	2
86	CHARLES SHATAKA	40	5		116	BILL ARONNE	10	1
87	BARRY CENTER	35	3		117	KATHY BUSBY	10	1
88	ARTHUR MAYER	35	3		118	FRANK FALLON	10	1
89	VINNIE RITCHIE	35	3		119	JASON KERNER	10	1
90	BRIAN STERN	35	4		120	JERROLD MEYER	10	1
91	THE MARTINS	35	5		121	HORST MIEHLBRAD	10	1
92	AL PHANEUF	35	5		122	DIANNE SPELLMAN	10	1
93	CHARLES BENEFATTI	35	6		123	ABE COOPER	10	2
94	ROB ALTONEN	30	2		124	JOHN MC CAFFERY	10	2
95	ROGER BEAULIEU	30	2		125	WALTER ROSTOWSKI	10	2
96	THE STEGMANS	30	3		126	JAMES BROOKS	5	1
97	GENE BAIOTTO	30	4		127	DANNY CIRNIGLIAR	5	1
98	MICHAEL VILLANO	30	4		128	GEROLD COCH	5	1
99	VINCENT BABINO	25	2		129	KATHY FERNANDEZ	5	1
100	STANLEY WEGLARZ	25	4		130	ADAM KLEINROCK	5	1
101	SCOTT PETERS	25	1		131	JAY LIEBOWITZ	5	1
102	STEVEN MILLER	20	1		132	EDYTH MONSOUR	5	1
103	PETER SCHLEISMAN	20	2		133	THE QUINNS	5	1
104	ARNOLD FREED	20	3		134	BILL SMITH	5	1
105	EMMA JORDAN HAUS	20	3		135	WILLIAM STALZER	5	1
106	GUNTER HORSTMANN	20	3		136	RICHARD WALSH	5	1



President's Message

JOSEPH FERDENZI

I recently read the following item in a local newspaper:

16 tentacles & 16 seconds of passion

Bored with "The Little Mermaid"? Try "Gay Sex Under the Sea."

Scientists have not only caught two male octopi *en flagrante delicto* some 10,000 feet beneath the Pacific — they captured the passionate scene on 16 seconds of videotape.

It was the first time such behavior had been observed in the wild, according to a report in the latest "Nature" magazine.

Male octopi in captivity have been observed with their many arms locked around each other. But the behavior had been attributed to crowded conditions in aquariums, said Janet Voight of invertebrates at Chicago's Field Museum of Natural History.

Voight and Rutgers University oceanography professor Richard Lutz made their discovery in December 1993 while aboard a submersible about 1,000 miles west of Guatemala.

What I found especially interesting about the item is the revelation that not all aquarium behavior is as "unnatural" as one might suppose. Indeed, our own intrepid commentator, "The Undergravel Reporter," has previously noted that the meaning of animal behavior may often elude us, and has wryly alluded to the opinions of experts as so much ROT (rules of thumb).

My own experiences in aquarium keeping have taught me that careful observation can lead to wonderful discoveries. Amateurs are quite capable of making observations that are valuable, both to fellow hobbyists and the scientific community. In part, that is the purpose of this magazine. It serves to encourage all of us amateur hobbyists to write about our experiences and observations. These experiences and observations, just as those had in every other field of human endeavor, may serve as useful building blocks in the creation of our storehouse of knowledge.

No one should be afraid to write. Your experiences, observations, and opinions are as important as those of anyone else. Never mind that you were not an English major in college. Our magazine has a wonderful group of editors. Rest assured that your article will appear in perfectly decent English. However, what we cannot manufacture are your experiences and opinions. So, please, take the time to jot down a few words. What you are seeing in your aquarium may be more important than you think.





GCAS Thanks You!

Our Generous Sponsors and Advertisers

The Greater City Aquarium Society extends our heartfelt thanks to the following manufacturers for their generous donations. Thanks also to our advertisers, whose contributions to our success as a Society are deeply appreciated. Please patronize our supporters.

Aquarium Pharmaceuticals

Aquarium Technology Inc.

Aqueon

Brine Shrimp Direct

Carib Sea

Cobalt Aquatics

Coralife

Ecological Laboratories

Florida Aquatic Nurseries

Fritz Aquatics

HBH Pet Products

Hydor USA

Jehmco

Jungle Labs

Kent Marine

Marineland

Microbe Lift

Monster Aquarium, Inc.

NorthFin Premium Fish Food

Ocean Nutrition America

Oceanic

Omega Sea

Penn-Plax

Pet Resources

Pisces Pro

Red Sea

Rena

Rolf C. Hagen

San Francisco Bay Brand

Seachem

Sera

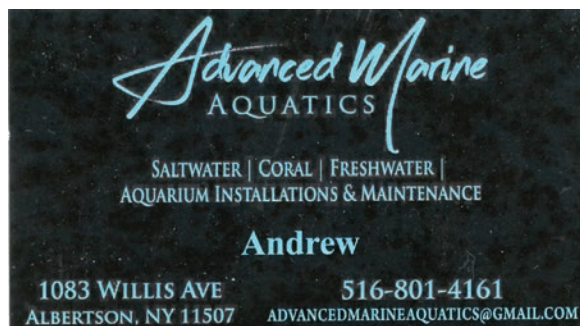
Spectrum Brands

Zilla

Zoo Med Laboratories Inc.

Your Fish Stuff.com

GCAS Member Discounts at Local Fish Shops



10% Discount on everything.



20% Discount on fish. 15% on all else.



10% Discount on everything.



10% Discount on everything.



10% Discount on everything.



10% Discount on fish.



10% Discount on everything.



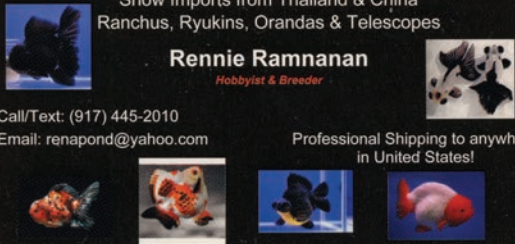
10% Discount on everything except 'on sale' items.

High Quality Exotic Goldfish
 Show Imports from Thailand & China
 Ranchus, Ryukins, Orandas & Telescopes

Rennie Ramnanan
Hobbyist & Breeder

Call/Text: (917) 445-2010
 Email: renapond@yahoo.com

Professional Shipping to anywhere
 in United States!



10% Discount on everything.

FISHWORLD
 USA
 QUALITY AND SERVICE

152-69 10TH AVENUE
 WHITESTONE, NY 11357
 TEL: 718 902-6117
 WWW.FISHWORLD1.COM

STORE HOURS
 MON - FRI 11AM - 8PM
 SATURDAY 10AM - 7PM
 SUNDAY 10AM - 6PM



10% Discount on everything.

JUNGLE BOB ENTERPRISES, INC.

 4130 Sunrise Hwy
 Oakdale, NY 11769
 ph: 631-319-6592
 www.JungleBobAquatics.com 

Manufacturer of Quality Reptile & Aquarium Supplies

15% Discount on everything in store, or online at:
<http://www.junglebobaquatics.com> Use coupon code gcas15.

AL'S AQUATIC SERVICES
 ALSAQUATICSERVICES@OUTLOOK.COM

AL TURRISI
 516.633.8806

- SPECIALIZING IN
- POND DESIGN & INSTALLATION
- PONDLESS WATERFALLS
- TURTLE PONDS
- SALT & FRESH WATER AQUARIUM SET UPS
- REEF TANK SET UPS

Services Include

Scheduled Maintenance

Repairs & Emergency Service

Pond sitting while you travel

Professional Aquatic Services

Specializing in Aquatic Animals

AlsAquaticServices@outlook.com



10% Discount on everything.

NATURE'S REEF & REPTILE
 PET SUPPLY CO.

917-300-2293

124-11 Jamaica Ave
 Richmond Hill, NY 11418

naturesreefandreptile.com

Mon-Sun
 10 am - 8 pm

natureefandreprs

nature_reef_reptile




GCAS Classifieds

FOR SALE: African cichlids -- all sizes, as well as tanks and accessories.
 Call Derek (917) 854-4405



GCAS Happenings

December

November's Bowl Show Winners:

No meeting or bowl show in November

OFFICIAL 2020 BOWL SHOW TOTALS:

HARRY FAUSTMANN	5	JOHN BUZZETTI	3	WILLIAM AMELY	1
-----------------	---	---------------	---	---------------	---

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: 2021

Speaker: TBA

Event:

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: TBA

Speaker: TBA

Topic: TBA

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.brooklyn-aquarium-society.org>

LONG ISLAND AQUARIUM SOCIETY



Next Meeting: TBA

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@liasonline.org

Website: <http://liasonline.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.nj.com

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

NORWALK AQUARIUM SOCIETY



Next Meeting: TBA

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/>

Grumpy Grouper

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.

A grumpy-faced grouper named Mikko in a Finland aquarium was more down-in-the-mouth than usual, after the facility temporarily closed to the public due to the coronavirus pandemic. So the aquarium's staff threw him a birthday party. Mikko missed seeing human visitors at the Sea Life Helsinki's Sea Lab ocean laboratory, because he had no fish companions in his tank ... due to the fact that he wouldn't stop eating them!

Since the COVID-19 shutdown in the spring, Mikko's caretakers noted that the already-solitary fish seemed listless and apathetic, though he was still physically healthy. To cheer him up, they recently brought him a special treat to celebrate his 16th birthday: a salmon "cake."

Now 16 years old, Mikko arrived at the aquarium in 2007. The pet store that was Mikko's former home gave him up because he outgrew all their tanks (he measures about 3 feet), and because he kept eating his tank-mates.



Image: © Sea Life Helsinki

At the aquarium, Mikko is fed three to four times a week on a diet of squid and small fish such as herring, mackerel or whiting. Unfortunately for Mikko's neighbors at Sea Life, he also demonstrated a hearty appetite for whatever happened to be sharing his tank — including a venomous lionfish.

After the so-called "lionfish incident," caretakers moved Mikko into a tank by himself. Deprived of the company of his fellow fish, he appeared "depressed" when people stopped coming to visit him at the aquarium during the spring shutdown. "To cheer him up during the time that we were closed, the caretakers and other staff had lunch and coffee breaks by his tank," an aquarium representative stated in an email.

"They brushed him with a soft brush to activate him a bit, and he also had a TV to keep him company."

However, they had to be very careful when using the brush. In December 2019, Mikko snatched a brush from a keeper's hand and swallowed it. The brush lodged in his throat, and aquarium staff had to anesthetize Mikko to remove the brush safely.

But, was he truly depressed? Biologists at Troy University in Alabama have found that fish do exhibit signs of depression. Depressed zebrafish are withdrawn and lose interest in stimuli, much as people do when they are clinically depressed. By comparison, "happy" fish in those experiments were more active and spent time close to the surface, the researchers said.

Maybe Mikko needs a few doses of Prozac with his squid?



Reference:

<https://www.livescience.com/mikko-sad-grouper.html>



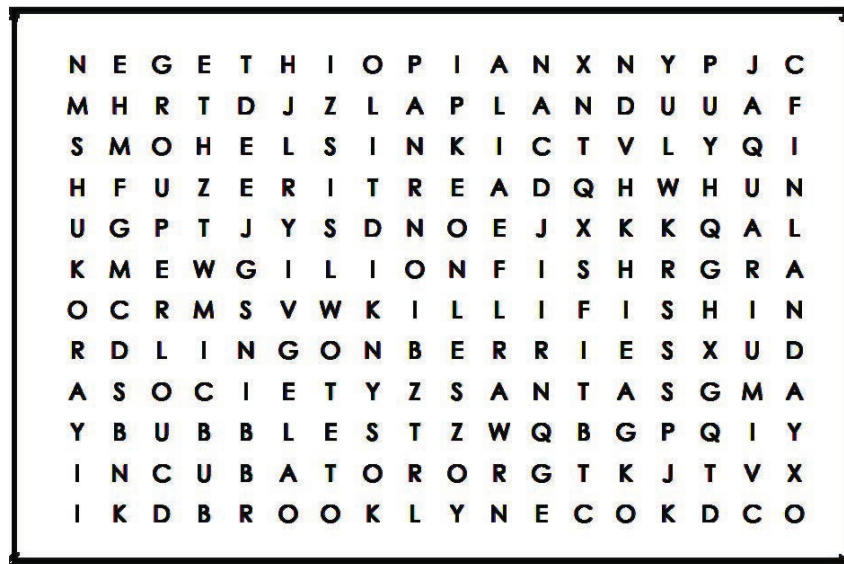
Fin Fun



In This Issue . . .

You've reached the end of this issue of **Modern Aquarium**. The word search puzzle below consists of words and places mentioned in this issue. Have fun solving it, stay safe and have a happy whatever you celebrate. See you next year!

AQUARIUM
BROOKLYN
BUBBLES
ERITREA
ETHIOPIA
FINLAND
GROUPE
HELSINKI
INCUBATOR
KILLIFISH
LAPLAND
LINGONBERRIES
LIONFISH
SANTA
SHUKORAY
SOCIETY



Solution to our last puzzle: **INSIDE OUT**





K.O.I.™ News!

Koi Organisation International

Current Accurate Useful

F November 2020



New Members Get the Waterproof Guide

Renewing members get a Supplement

Do YOU have something you'd like to see in the Guide?

- We're working Supplement #8
- Will be FREE with YOUR membership renewal in Feb!
- Send ideas to Karen pattist@snet.net

Guide is changing to All White Paper!

- If you have 3 paper colors, your supplements will still be 3 colors
- New Guides and supplements will have all white paper – they no longer make colors!

EXTENDED

Current Memberships!

No renewals required until Feb 1, 2021
THANK-YOU Members!



WANT TO LEARN MORE? Take a Course!
<https://koiorganisationinternational.org/courses>



Koi Clubs take advantage of Half - Price Courses!

- BKKS now has it's 3rd Group of club members learning Water Quality from Syd Mitchell!
- Colorado Koi Club has 7 members taking ALL 9 CKK courses!
- BKKS has a group taking Advanced Filtration from Syd Mitchell!
- BKKS now has a 6 members taking Nutrition!

Is YOUR club a member club?

Want to Join? Bill bbllayman@gmail.com



TIP OF THE MONTH



DID YOU KNOW ?

KH and TA are the same!
KH means Carbonate Hardness (German spelling)
TA means Total Alkalinity –

which is also measured in Carbonates
Carbonates absorb acids to keep your pH from crashing – they BUFFER your pond to keep pH stable!
You should keep KH at 100 or higher in your pond

