

modern AQUARIUM



October 2018
volume XXV
number 8

Greater City Aquarium Society - New York

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Series III Vol. XXV, No. 8 October, 2018

ON THE COVER

Our cover photo this month features the 'glass catfish,' or *Kryptopterus bicirrhys*. For more information on this small, unique-looking and popular catfish, see Steve Sica's story, "Smooth As Glass!" on page 16.

Photo by Stephen Sica

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From the Editor

by Dan Radebaugh

A couple of months ago in this column I gave you all a rundown on what articles from **Modern Aquarium** have been reprinted in the journals of other aquarium societies. Well, I am pleased to give you the news that we have another article to add to that list. Jules Birnbaum's "Breeding Rainbows," which originally appeared in the April 2015 issue of **Modern Aquarium**, has been reprinted in the September issue of Buck's County Aquarium Society's **The Buckette**. Congratulations to Jules! I'm sure he will tell you that it feels pretty good when your efforts receive validation outside your own home turf!

Coincidentally, you'll find an article in this issue by Greg Steeves, who has spoken here at Greater City, entitled "Do Some Writing!" Besides imparting this wonderful advice, Greg goes the extra mile and tells you how to go about it! It isn't really all that daunting, and Greg's advice is both practical and concise. I urge you to read it!

Other subjects in this issue include an article by Joe Ferdenzi on the sad closing of Coral Aquarium, a review by Sue Priest of Rosario LaCorte's new book, **An Aquarist's Journey** (hopefully you've ordered your copy), a short article by Elliot Oshins called "The Three Amigos" (You know who you are!), an MA CLASSICS article by Joe Ferdenzi entitled "The Principles of Aquaristics," and Steve Sica's "Smooth As Glass," which tells about the fish on our cover this month. By the way, Joe's MA CLASSICS article is from Volume 1, number 6 of this present (Series III) incarnation of **Modern Aquarium**, and dates from June of 1994!



Marsha Radebaugh chips in with a photographic memoir of a recent visit she and I made to Adventure Aquarium, which is located on the New Jersey side of the Delaware River, across from Philadelphia.

Our exchange article this month, from Wayne Toven of the Greater Akron Aquarium Society, is entitled "The Mystery of the Crypt." Sounds a bit ominous, doesn't it? Rounding out the issue are the inimitable and prize-winning Undergravel Reporter, our Fishy Friends' Photos, and our Fin Fun puzzle. You might even find an unexpected cartoon stashed somewhere among these pages!

Remember, we need new articles every month from our members (That's you!). If you are working with a fish or plant that you enjoy and think we would like to know about (we come to these meetings at least partly to learn things, right?), then let us read all about it! Pass the knowledge along! We *do* want to know!





GCAS Programs

2018

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

March 7	Tom Keegan <i>Fish Bio 101</i>
April 4	Judith Weinberg <i>Starry, Starry Night Cichlids: An inter-species love affair</i>
May 2	Artie Platt <i>Fishroom Tools</i>
June 6	Ask The Experts <i>Joseph Ferdenzi, Moderator</i>
July 11	Salvatore Silvestri <i>Apistogramma and other dwarf cichlids</i>
August 1	A Night at the Auction
September 5	Kevin Kelly <i>Aquascaping: Basics to Expert, with Art Theory</i>
October 3	Tom Keegan <i>Fish Bio 101, Part II</i>
November 7	Rusty Wessel <i>Livebearers</i>
December 5	Holiday Party!

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

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

President's Message

by Horst Gerber

This month's message is a real life story from somewhere in New York City. It is early in the morning (and I mean real early). I am still half asleep, staggering out of the bathroom, and am greeted by, "The TV is on the fritz! It doesn't work! It is kaput! We need a new one!" This is a major crisis in my house, since the idiot box is on 24/7 (well, maybe 17/7). Anyway, a not-working TV is a major catastrophe calling for immediate attention! Did I mention that I hadn't yet had my coffee, and that I am not good at fixing electronics?

Well, thinking it could be an easy fix, I started pushing buttons on the remote (to no avail), then moved to the TV buttons. Oh boy, no joy! I then thought it might have something to do with the red button on my smart phone. You know, the one that takes over your TV—the one you should never touch unless you have a geek nearby. I played with that for a while, getting more frustrated by the minute, and wondering if maybe the TV was shot.

Should I get the big hammer I use for granite work and fix this TV once and for all? Alas, that hammer is in the car, and I don't feel like going out to get it at six in the morning. So more brainstorming. Could the problem be that black converter box that's been running hot lately? I can hear you groaning. It's an old TV—not even a flat-screen, but it's been working perfectly until now.

Then, out of nowhere, a thought! The TV has automatic electronic stuff in it; maybe turning it off and back on again would do something. Probably a waste of time, but at this point I was open to just about anything. OMG! The TV lights up! The world is saved!

As an afterthought, I probably should have had my coffee first, or called the computer guru from Greater City. No, I couldn't do that. It wouldn't have been a real man thing. Besides, I thought (now that the TV was running again), "As an aquarist you don't really have that desperate need to have the idiot box running all day long. Watching your fish relaxes you, calms you down, and a proven benefit is that it lowers your blood pressure! Why do I even need a TV?"

What am I forgetting? Oh, yes! We had a great meeting last month! We did it again! Like so many years before! Out of 78 FAAS (Federation of American Aquarium Societies) awards, we wrapped up 31—more than any other club! Our nearest competitor, Kitchener Waterloo A.S., won 15, followed by the Federation of Texas Aquarium Societies (FOTAS), which is an association of several clubs, with 12.

You could have been one of those award recipients. Start writing! If a 92 year old man (Elliot Oshins) can wrap up seven awards (more than anyone else!), what's wrong with you younger folks? Let's keep our publication number one!

Al and Sue Priest did a wonderful job of printing the awards. Thank you for your time and effort! They are very professional looking, and worthwhile for framing! I don't know how many years Greater City has taken home the most awards, but I believe it's quite a few!

Our guest speaker, Kevin Kelly, a professional aquascaper, did a great job of explaining and demonstrating the basics of aquascaping, and beyond! I like to decorate my tanks, and I got quite a few pointers and ideas from his presentation. Kevin also represents Aquarium Plants.com, and brought in a huge number of unusual potted plants for our auction!

Our raffle had some very nice pieces, and our auction had well over 100 items! At 10:05 we were on our way home for a good night's rest!

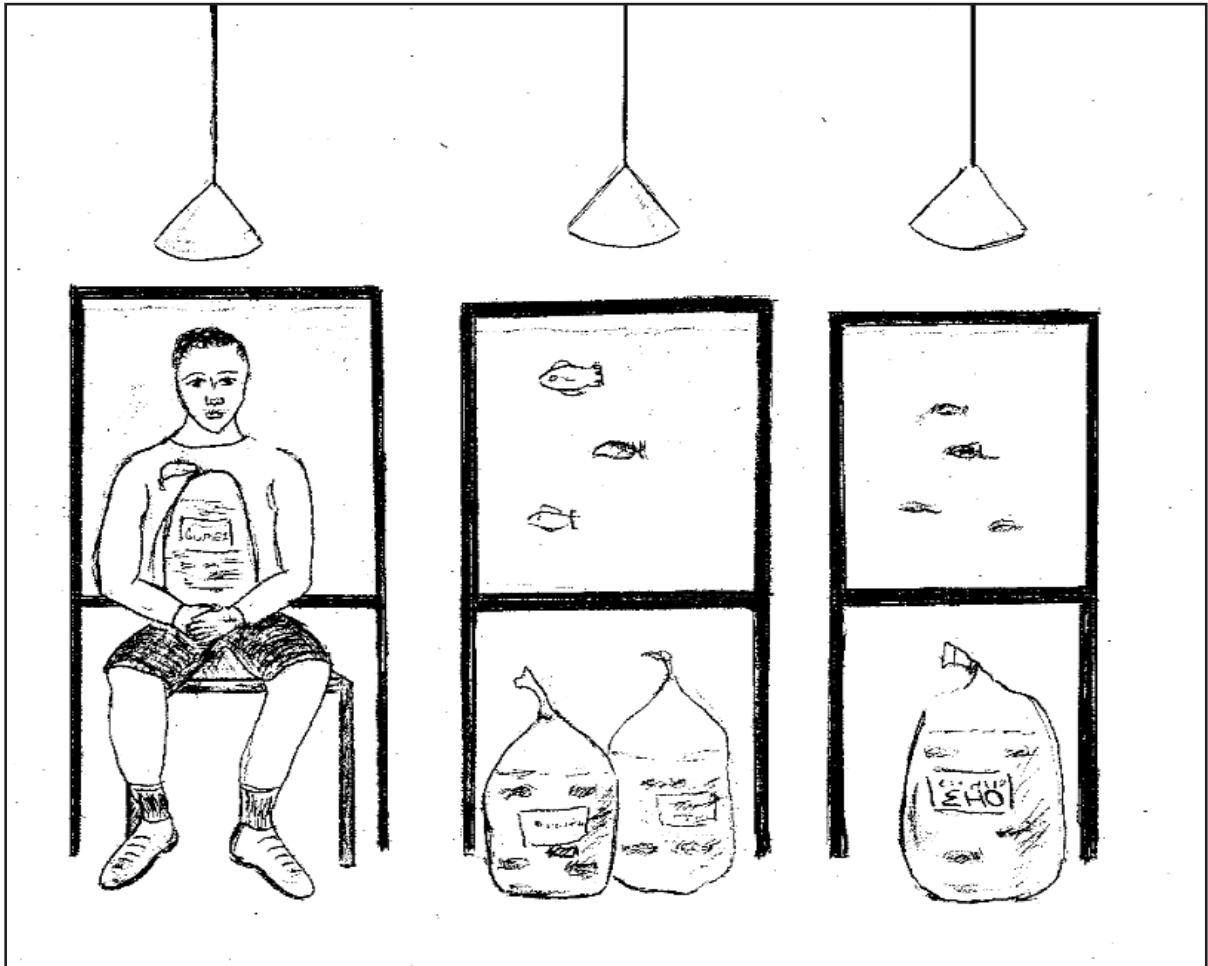
Until next month...

Horst

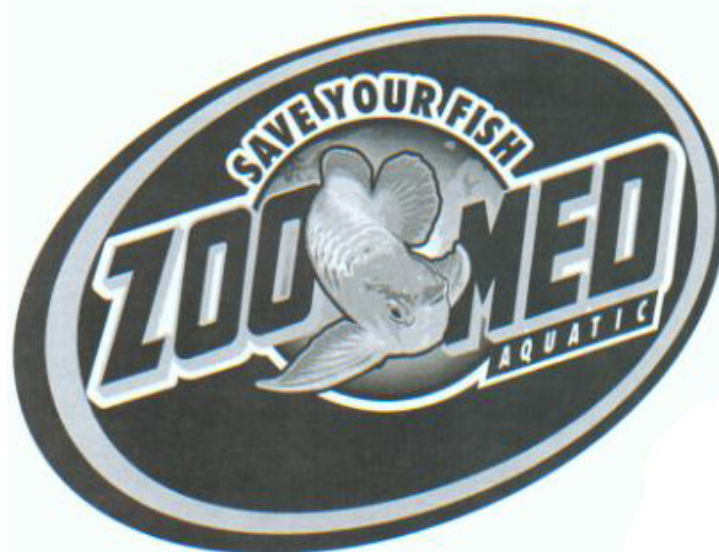


September's Caption Winner:

Denver Lettman



I went overboard at the auction again...





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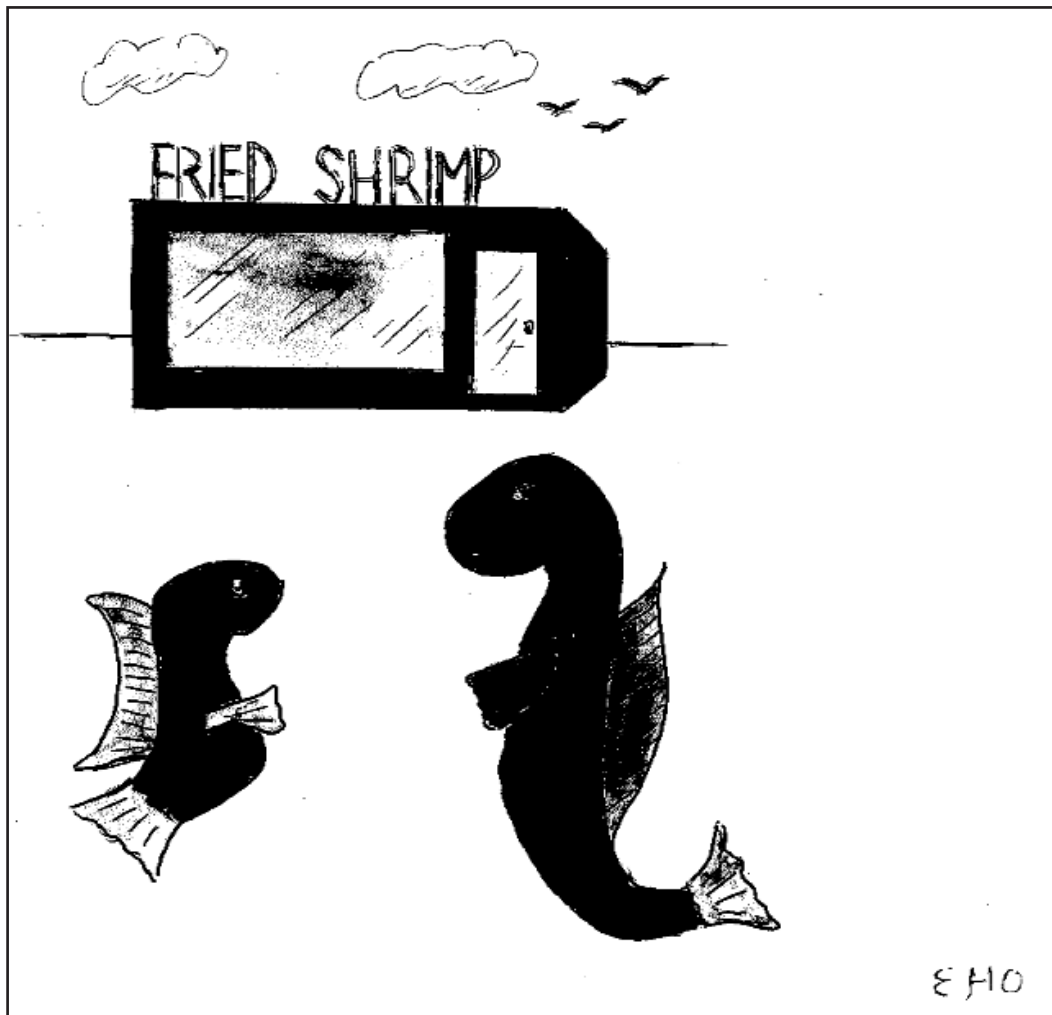
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The Modern Aquarium Cartoon Caption Contest

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



Your Caption:

Your Name:

Coral Aquarium Ceases Operation

Story and Photos by Joe Ferdenzi

As reported in the local news media, Coral Aquarium closed its doors on August 31, 2018, after being in business for over half a century. The store opened in 1954, and I started going there in 1967. That was the same year that I started attending Monsignor McClancy Memorial High School. The school was located at 73rd Street and 31st Avenue, which meant that every day I took the 7 Train from my house in Corona (103rd Street) to the stop at 74th Street and Roosevelt Avenue. Coral Aquarium, located at 75-03 Roosevelt Avenue, was only a block away. As a young boy interested in aquariums, this store was not only on my route, but they had a nice selection of fish and equipment.

The current owners, Larry and Anna Paul, purchased the store in 1970. Prior to that the store was co-owned by a young blonde woman whose



The now empty fish room

name I never knew, but Larry informed me recently that her name was Jean Evans. It was in her store that I first saw a tank full of exotic killifish (*Fundulopanchax gardneri*), at that time called *Aphyosemion calliurum*. I still have it recorded in a notebook that I kept that I paid \$2.98 for a pair of those fish. I also paid \$1.00 for three cardinal tetras, 39 cents for a Harlequin rasbora, 49 cents for a pair of German half-black guppies, and 59 cents for a tuxedo platy.

When Larry and Anna owned the store it became my go-to place for saltwater fish. The store manager at that time was very accommodating, and would feed



Its namesake on sale

any marine fish I wanted, in order to show me that they were eating standard aquarium fare (which meant that they were healthy and easy to care for). In those years the store would often have



The sad going out of business sign

innovative products, such as items made by the Italian manufacturer Sicce. I still have one of their HOB power filters in operation some 30 years later!

Over time, the store expanded to more than twice its original size by taking over the space next door. It then became Coral Aquarium and Pet Center. It was a busy store located in a prime shopping district—lots of pedestrian traffic would pass that store every day (it was open seven days a week). Unfortunately, as the population in the area (Jackson Heights) grew, it became harder

and harder to go there by car; it would simply take too long to find a parking space. Because of that I've gone there less and less over the past ten years. But the store continued to be supportive of our hobby, and they were regular advertisers in **Modern Aquarium**.

Alas, nothing lasts forever. Spiraling rents and competition from online retailers have resulted in the demise of yet another heirloom from the glory days of our hobby. Many of us are saddened to see it go, and we wish Larry and Anna well in their future.



An old aquarium product they hadn't yet sold



The store's distinctive awning on Roosevelt Avenue



WET LEAVES



By Susan Priest

My original thought on the subject of purchasing this book was that I didn't need to. Why? Because I am a proofreader for **Modern Aquarium**, and I had already read every page two or three times. But further thought led me to conclude that my humble library of books on tropical fish would benefit by the addition of an emblem of distinction. Therefore, in the profound words of Joe Ferdenzi, (I'm quoting him from the back cover of this book), "let the adventure begin!"

What a refreshing experience it is to hold this book in my hands. After having read it one chapter at a time over a period of three years, all of a sudden it has assumed its true persona! I wonder if Rosario could see the end result in his mind's eye as he worked on it page by page? It makes me feel both young and old at the same time. The photo of Rosario and Jeannie when they got engaged made me feel old (yikes! 1950 is the year I was born). Then there are the occasions when a new fish is discovered in nature, brought home to New Jersey, bred in captivity, and

distributed throughout the hobby. These occasions make me feel young, as if I am witnessing a new era. Some of these fish are already threatened with extinction, and hobbyists (that's us) are keeping them vital.

Without a contents page, we are plunged right in to Chapter One. Some of the chapters have no name or title, while others have such names as Instant Fish, Brazil, Venezuela, Amazon, Back To Brazil, and The Drawings of Constance White (chapter 24). After thirty chapters we have been on countless trips.

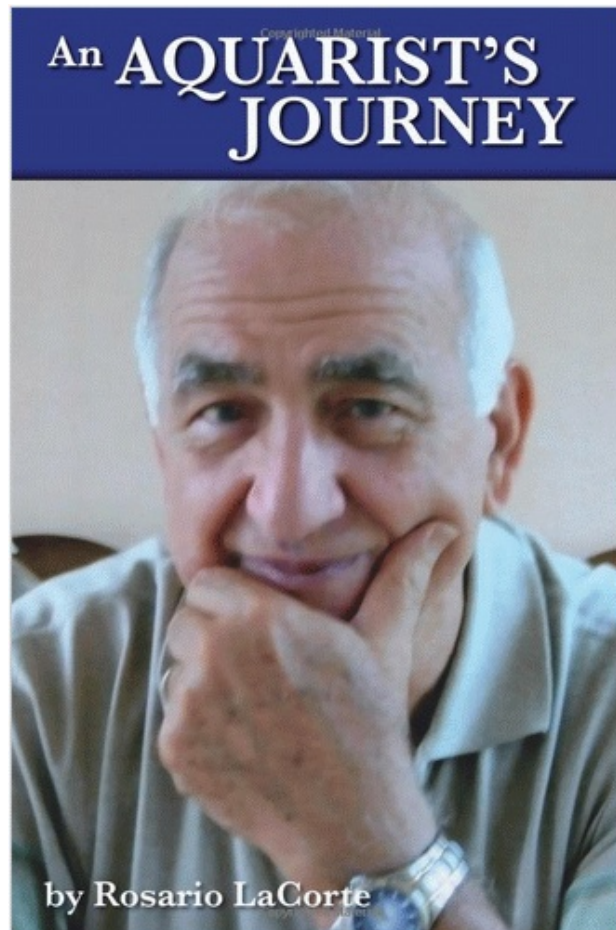
Some of them have taken us as far as Rosario's back yard, and on some of them we have gotten our feet wet in the most remote of rivers and puddles. Before I move away from the topic of the chapters, there is one chapter which deserves its own paragraph.

The title of chapter 14 is The Emperor Tetra. After a bit of bouncing back and forth between a few different people and a few different fish, the inevitable happened. Yes, you guessed it. The tetra which is commonly known as **the rainbow emperor** (AKA **the red eye emperor**), was definitively determined to be a

newly described species. Its scientific name became *Nematobrycon lacortei*. In 1971 Rosario Lacorte had this beautiful tetra named after him. Kudos!

On page 83 Rosario introduces us to

An Aquarist's Journey
by Rosario LaCorte, 2018
Edited by Dan Radebaugh
Available at [amazon.com](https://www.amazon.com)



Bobby Ellermann “who today is one of our foremost hobby historians.” Late in the book we encounter Bobby again, where he has compiled a list of articles written by and about Rosario. It is like a bibliography of a person! This list in itself is a significant contribution to the history of our hobby. By perusing this list we learn that Rosario has visited the pages of **Modern Aquarium**, once in 1969, and again in 1999.

Then there is the index. This is a true historical document. There are, of course, dozens of names of fish. But of more significance are the names of the people who have given shape to this story, as it is not just the story of “Za,” (see page four), but a story of the aquarium hobby in the twentieth century. Long time members of the GCAS will recognize several of these people as having presented programs at our meetings. It is the names we don’t recognize that we want to learn about, and this index is the best place to start.

As you thumb through the pages, certain of the many photos will catch your attention. My eyes were particularly drawn to “Rosie” the standout pitcher (page 17), instant fish/kwikee fish (pages 56 and 57), the giant gourami (page 73), the butterfly ginger (page 144), and the aye-aye from Madagascar (page 174). (The chapter on Madagascar was my favorite.) It is remarkable to me that our author has so many photos from so many different periods in his life. (I don’t have much besides a few baby photos and my wedding album.)

I’m very glad that I changed my mind and purchased a copy of this book. Not only does it add a new dimension to my library, but as I hold my copy of **An Aquarist’s Journey**, in my hands, it makes me proud to call myself an aquarist.



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)



Do Some Writing!

Story and Photos by Greg Steeves



Ask any editor of any aquarium hobby-based publication, be it on a club level or a professional printed magazine, and they will all tell you the same thing. We need content! Trying to get an aquarist to pump out a little something for their association's periodical can be like pulling teeth. Here is a summary of the type of people that an editor has to deal with when asking people to write for their journal.

- 1) "I'm not much of a writer but I will do what I can." These folks come through, and the editorial team might have to do a little revising but are happy to do it.
- 2) "Certainly, be happy to write for you! I'm a little busy right now but will get you something in a couple weeks." Forget about it. These people very rarely ever come through.
- 3) "No, I don't write." Well, this is at least honest, but does little to extend the effort of putting out a publication.

I have been fortunate enough to write a few well received bits over the years, and I can tell you from first hand experience, you don't have to be William

Shakespeare to make a literary contribution to our hobby. The toughest part of writing is beginning! We live in a busy time, but there is NO ONE who can't find a half an hour here or there to try and pen an article. Instead of watching that episode of **Friends** that you've seen a dozen times, turn off the TV, put on some music, and open a text editor. Now, some people need total concentration when trying to write, and others enjoy relaxing music in the background to clear their thoughts and get into the right mindset. Try a couple different things. You would be surprised how your thoughts can flow when you have created a little 'happy place.'

So you have set aside a little time to try this out. Now you have to come up with a subject. I hate hearing "I have nothing really interesting to say." Gimme a break! We are fish geeks! We love hearing from other fish geeks! Some of the common and most interesting subjects can be your experiences with maintaining and perhaps even spawning a fish. These are always popular articles and live in infamy.

Years after you have forgotten you ever wrote about this subject, someone will be looking for

information on the topic you chose, and will get something from your material. In the modern days of information distribution, this *will* occur.

Another popular subject is collecting or seeing fish in the wild. People love being able to go on an adventure through your eyes. A trip to a public aquarium, zoo, or retail establishment are all great subjects. Coupled with some photography, these articles are a great read. Other topics, such as product reviews, show and convention pieces, and pretty much anything hobby related make for good fodder.

There are at least two methods to use when writing an article. Firstly, you can let it flow out of your mind as if you were having a conversation with another person. Pros of this method include relatable and personal experiences, which can be an attractive element that some readers enjoy. The cons are that structure suffers, and instead of a concise well planned out article with thoughts strung coherently together, it's more like talking with your drunken uncle Eddy about who is the best baseball player of all time. You'll eventually understand what he's trying to say, but you might have to wade through a lot of off-topic conversation (and some spittle) to get there.

The other method is to have an outline that covers everything from your opening to closing with an information flow that makes sense, portraying the information you want to present in an orderly manner. Now the good part of this process is that from an informative standpoint, you will hit all topics and provide the reader with a well thought out flow of material. The negative aspect is that this can sometimes be almost robotic or form letter-like.

My preference as a writer and a reader is to have a mixture of the two aforementioned methods. I feel a basic structure is very helpful to ensure you don't miss any of the points you want to touch on when portraying a subject. People like to read your personality in a piece you put together. If you are on a roll and the words are flowing, don't stop writing just because you strayed off the area you were discussing. If it doesn't fit, you can go back and edit it or have it revised later. The important thing is to have a nice flow to your subject. If you are penning a scientific paper, these suggestions might not be what you want to follow. However, for other hobbyists to enjoy your writing, let your personality and emotions into your article.

When writing, write about what you know. If your topic is on a fish species you keep, write about your experiences. It's great to research a subject, but really, people want to hear about what **YOU** know. If you have put together something appealing, it will encourage the readers to do further research for themselves using the same sources that your research had come from.

If you use any materials that are not your own, be sure to include that reference at the end of your

piece. An example of this would be "the angelfish is from South America", which would be okay to use as it is common knowledge. If you were to say "this angelfish comes from the Rio Dingo, three kilometers upstream from the town of Tikiwiki," and you did not go to Tikiwiki and catch this fish yourself, you have to provide where you got this information from. You can keep a list of these and include them together in a References section at the end of your article. Not only is it the proper thing to do, this also allows for a reader, inspired by your article, to dig further into the subject for themselves using the same sources you did. There are easy formats used to reference material. They can be found listed here: <https://libguides.murdoch.edu.au/c.php?g=246256&p=1640961>

So, you've written an article. You've read it over and changed a little, corrected some obvious mistakes, and feel pretty good about yourself. It came out fairly decent. Now what? It is always helpful to have maps or photographs to accompany and enhance your efforts. If you can draw your own pictures or maps, or take your own photographs, perfect! This is the best-case scenario. You cannot scan a photo from a book or take a photograph from the Internet unless these are common and free use, and stated so. Even at that, it would be best to provide the link stating the free use policy of the material. Alternately, you can reach out to the source of the items you might want to ask for permission to use them in your article. Most people will not have a problem with this, but still need to be recognized as the source. If you do *not* have permission, it is not okay to use things that aren't yours to begin with. The same rules that apply to your lawn mower apply to your photographs. You wouldn't want someone doing that to your stuff, so don't do it to theirs. **ALWAYS ASK FOR PERMISSION!!!**

So, you've read and reread your article. You've gathered up some pictures to accompany it. Now what? I would suggest asking a friend or family member to give it a read. They might have some suggestions and tell you what they think. After this it is off to your club editor. This person will generally format your article as it will appear in publication and scour it for edits. They may or may not ask for your approval on any alterations and edits. After they have gone through it and have it ready to roll they may send you the proof for your final review. After this, you will sit back and wait until the publication date to anxiously open it up and see your efforts in print. While you are waiting, I hope you have already begun your next article.

One of the best ways to leave a legacy in the aquarium hobby is to write. When your work is printed, it is immortal. I have read aquarium books and magazines from the 1930s that are still relevant today. Try your hand at writing. It is a wonderful way to contribute to our hobby!



The Three Amigos!

By Elliot Oshins

Living in a one family house with a finished basement, I was able to turn my basement into a fishroom that contains twenty tanks. From guppies to cichlids. It's a lot of work, from feeding the fish to making water changes. But I enjoy it and it gives me something to do.

If you want your fish to be healthy, water changes are very important. I do water changes about every two to three weeks. In my den upstairs I have a 135 gallon planted tank. I have a filter in the cabinet and two Emperor 400s on the back of the tank.

Unfortunately, one of the filters malfunctioned, and it spilled water on my rug, leaving a big stain and a bad smell. The only thing to do was to remove the rug. I was lucky that three of my friends from the fish club (who shall remain anonymous) were nice enough to help me.

One brought a very large container to hold the fish. It was the size of a bathtub! I hope he doesn't

bathe in it! We put the tub in my kitchen, and then transferred all the fish into it.

My friends then removed the rug, and put all the furniture into the rest of the house. My house is not big, so I kept bumping into the empty tank and stand, and all the rest of the furniture that had been moved into that room.

I shopped around for three weeks, and finally decided on a vinyl flooring that looks like wood. I had considered a tile floor, but I was afraid that all the weight of the tank might crack the tile. The sales people told me it wouldn't, but I don't always trust salespeople.

It took me three weeks to find what I wanted, and I am happy with what I bought. My three buddies were back like clockwork, and moved the tank back into its place. Many thanks to them—I would be lost without them! My Three Amigos!



Add the final notch to your belt!

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caresforfish.org

THE PRINCIPLES OF *Aquaristics*

JOSEPH FERDENZI

People often seem amazed that I am able to maintain some 80 aquariums while raising a family of three and pursuing a legal career. I mention this not for self-laudatory reasons, but as a prelude to explaining the purpose behind this article. People seem skeptical when I state that it is really not that time consuming. Indeed, I often say, were it not for the multitudes of baby fish I raise, it would be a "piece of cake." Then, more amazement. How can one do all of the above and still have time to actually breed fish?

At first blush, it seems like second-nature to me. I've been keeping aquariums since the age of 12 (as of this writing, I am 40). Over these years, I've learned a few things, a few principles, that make it easy to be a fairly successful aquarist. Perhaps I can be of help to some of our novices if I explain what I believe these principles to be.

An aquarium is not simply a glass container holding water and fish. A common error is to assume that these three elements can be combined almost simultaneously. The second erroneous assumption is that any water can be combined with any fish. The third is that an aquarium can accommodate fish mass of the same cubic volume as the aquarium itself. Well, actually, all of those assumptions are literally true. The problem is that, if you follow them, you won't have an aquarium. You would get the same effect, but for a lot less money and effort, if you simply went out and bought a can of sardines.

Principle number one is *patience*. Unless you have an incurable and rapidly fatal disease, please take your time in stocking an aquarium. Let an aquarium age before adding any fish. Let it breathe. Let it grow old. How long? As long as your patience will hold out. A month is not too long. Neither is two months. Use the time to read books, scour the pet shops, and dream about your goal. Spend idle hours thinking about what fish you would like to have and how you are going to acquire them. Half

the fun of setting up an aquarium is in the planning and daydreaming.

Principle number two is *learning*. You simply must read aquarium books and talk to knowledgeable aquarists, be they pet store people or other hobbyists. Get as many opinions as you can. The main idea is to listen and learn. Learn about the fish. Is it a territorial species? An aggressive feeder? Large or small? What water temperature is preferred? Does it eat aquatic plants? There is lots of information and lots of fish to choose from. Remember principle number one: patience. Don't rush your learning.

Principle number three is *restraint*. It is not healthy, wise, natural or anything but evil to overstock one's tank. If you simply must have a new fish, get rid of an old one or buy a new aquarium. Do not endlessly add fish to an existing aquarium. Never mind the hodge-podge look of eclectic collections of fish. If you have bad taste, that won't necessarily kill your fish. Overcrowding, however, will. Unless, of course, you are prepared to work on that aquarium like a maniac. Super filtration, constant water changes, and incessant attention to maladies will be the order of the day. I just don't find that kind of regimen very enjoyable. I suspect the fish are less than thrilled as well.

An understocked aquarium can be a thing of beauty and enjoyment. Understocking does not mean you will never need filtration or water changes. It does not mean your fish will never get diseases. However, it sure cuts down on all three substantially. It certainly is possible to maintain aquariums for months, if not years with a minimum of filtration and water changes. Let's take a look at a few examples in my fish room.

Tank "A" is a 20 gallon high aquarium planted with a dense stand of *Sagittaria*, some Java Fern, and a few *Cryptocorynes*. The filtration consists of two sponge filters. Into this tank went seven swordtails (*Xiphophorus helleri*), which have since spawned. (Fry are removed when they start to get to be too numerous.) You see? Seven swordtails (average length 3 inches) in a 20 gallon tank, and a well planted one at that. When was the last time I did a water change? I don't remember. It's not that critical. I feed once a day, mostly flake food. There is also one bristlenose catfish (*Ancistrus* species, about 3 inches long) in the tank. The tank is clean, the water

clear and sweet smelling. All the elements work. Why? There are only eight adult fish in 20 gallons of water! Not eight large fish – eight small to medium-sized fish.

Example number two: tank "B". Another 20 gallon aquarium. Two killifish – a male and female Blue Gularis (*Fundulopanchax sjoestedti*) averaging about 4 inches in length; two box filters; a few potted aquatic plants; some ramshorn snails. Feed once a day, sometimes twice a day on weekends. Change what fouled water? Clean up what mess?

Example number three: tank "C". A 15 gallon aquarium. Some rocks; dolomitic gravel; one small plant (a *Bolbitis* fern); one sponge filter and one box filter. Inhabitants: seven *Julidochromis ornatus* cichlids from Lake Tanganyika. The adult fish average about 2 inches in length. Feed once a day flake food or frozen brine shrimp. Water changes every now and then. Clean the gravel once in a blue moon.

Final example: tank "D". An 80 gallon tank, 6 feet long. Two canister filters, each about 120 gallon-per-hour flow rate and one air stone; gravel, rocks, no plants. Swimming about are twelve *Cyphotilapia frontosa* cichlids averaging 6 inches in length. This is one of my more "overstocked" tanks. Fish are fed, on average, once daily on pellets, flakes, freeze-dried shrimp. Very little to clean up. An occasional water change. Clean the canister filters twice a year.

At this point, some readers might say: "Big deal! Easy for you. You must have a lot of space in your house. Whenever you want a new fish you just add another tank." Well, that's only partially true. No one has limitless space. I may have more space than some, but I still have to follow my rules. For example, tank "D" doesn't have 20 *Frontosa*. Tank "C" does not get new inhabitants like Clown Loaches, *Labidochromis caeruleus*, or any other fish, unless and until I move the *Julidochromis ornatus*. I have no room for more tanks. Right now I have about 70 species of fish. With over 1,000 gallons of water in my basement, don't you think I could easily have twice that number?

Sure, if you live in confined quarters you will have to limit the size and number of aquariums. But, let me ask you: What is the point of having a collection of fish if you have to constantly struggle to maintain them? No one will be impressed by the number of fish you have unless they know nothing about fish. The

quality of the fish you have is far more important and impressive to aquarists. However, forget about impressing people. Let's get back to what aquariums should be.

An aquarium should be a source of beauty and enjoyment. Nature's beauty often takes time to reveal itself. Sardine cans and seafood salads may be appetizing but they hardly mirror natural beauty. Crowded aquariums require too much work to be truly enjoyable. They are not very happy places for their occupants either. You have to make up your mind. Do you want a successful aquarium, or do you want a glass container with some water and fish in it?



modern AQUARIUM



JUNE 1994
volume 1
number 6

Smooth As Glass!

Story and Photos by Stephen Sica

Many years ago my brother and I had two ten gallon aquariums with all the “exotic” fish of that time. We had guppies, but they weren’t very fancy. In fact, they were just plain looking fish, but we enjoyed them very much, especially their procreation events. When you’re a youngster, there

is nothing like a handful of baby fish swimming around your tank. We had other “exotics” too. There were green swordtails and black mollies. I remember that we had a few hatchetfish. Now those were really exotic! I would stare at them in fascination, wondering how they could swim near the surface. I don’t recall having had covers for our two tanks, so I would sit or stand at the tank with my hands cupped, ready to catch a flying hatchetfish should it leap out of its home. My brother, being two and a half years older than I, thought this was silly, but I wasn’t taking any chances. I especially noted how these fish used what I perceived to be wings, not fins, to propel themselves through the water.

Thinking about this now I guess that it was silly, but as a young boy I had a lot of fun and fascination with my fish. Besides, who wouldn’t rather observe their fish tank than do their homework? My older brother was the lead man so when he began to develop an interest in girls the fish tanks were mothballed. Since my mother wouldn’t allow us to own a dog, I



In my opinion, the transparent body, full length spine, and elongated barbells give this fish a unique appearance matched by relatively few other fish species.

substituted chameleons and hamsters for fish. Being a typically smart woman, my mother knew that caring for a dog was an intensive job. She doubted that any of her three sons would be up to the task in the long term. She was probably right, but to this day I occasionally wonder about it.

Many years later Donna and I purchased our home. About two or three years into being a homeowner, I decided

that I needed a ten gallon fish tank. The impetus was a visit to the Queens County Farm Museum on Little Neck Parkway. I definitely recall speaking with Jason Kerner. I think that Sue and Al Priest were there too. But this was over twenty years ago. In addition to setting up an aquarium again, Donna and I eventually joined the Greater City Aquarium Society.

Coincidentally, my family resided on 124th Street in Richmond Hill, so my brother and I would either walk or bicycle to Cameo Pet Shop on Jamaica Ave. It was almost a mile from our house. Unfortunately, I can’t remember much about Cameo in the late 1950s and early 60s, but we did purchase many of our original fish there.

Donna’s mother lived in Ozone Park, where there was a Pathmark supermarket a few blocks away. We parked our car in her mother’s driveway and took the A train to work, in Brooklyn for Donna and Manhattan for me. They relocated their office when the



I put six glass catfish, three at a time, into my twenty gallon aquarium. The first group of three hid among plants on the bottom until these two ventured out. I initially thought the fish perished because I couldn’t locate them. I began a new search and found the smallest fish’s hiding place. It has never ventured out after several months.



After I added three more glass catfish to my aquarium, a group of three fish eventually decided to venture out and school at mid-level but towards the surface. They would readily feed at night, when I occasionally did a second hand feeding.



Another view of the three “bravest” glass catfish. While all six stay out of sight during the day, these three develop a dose of courage and show themselves when the T5 compact fluorescent lights turn on.

lease expired from downtown to midtown Manhattan. I was fortunate to no longer be in the shadow of the World Trade Center on that fateful day of September 11, 2001. After work we would visit Donna’s mother, and occasionally shop for her and us in Pathmark on the way home. Shortly after Pathmark opened, a Petland opened next door, so every time that we shopped I would browse in Petland and occasionally purchase fish, plants, accessories, or food.

One day as I was browsing in the store I saw what I thought was an interesting fish. You might say that it was awesome, but I don’t recall that overused adjective being fashionable at the time. It was simply labeled ‘glass catfish.’ I peered inside its body, and thought, “I need one of these fish.” I think that they were about three dollars each. I don’t remember how many I purchased during the next few years, but when my ten gallon tank grew to twenty, I had a school of six that never left the group and hovered in the middle of the tank at midlevel. I don’t believe that I ever photographed them, but I would study them through the glass for many years.

In recent years, Petsmart opened a brand new store in New Hyde Park about four miles from our home. This straight run from our house, as well as having a second pet, our dog Cordelia, prompted an occasional visit. I always scan the fish when I’m in a pet store, and I saw that Petsmart carried a smaller glass catfish, under the common name of ‘ghost



Look at this fish formation. Give these fish wings and let them fly (swim?)!

Modern Aquarium - Greater City A.S (NY)



I check my aquarium almost every evening. Recently a fourth glass catfish joined his or her tankmates. Will I ever see five or all six? On most nights, there are only two or three swimming around.

catfish.’ Each was seven dollars, but occasionally on sale for about six and change. Ultimately I splurged and purchased three of these glass catfish. They soon disappeared in my plant strewn aquarium, only to be rediscovered several weeks later hanging out near a plant at the bottom of the tank. My previous school of six always hovered in midwater, so I was surprised to find them hidden away.

Once I found them, I began to observe them in earnest. One would never leave its well-hidden spot! I purchased three more, but they also disappeared. Ultimately four would arise from their hiding place to swim around together. Two stayed near the bottom hidden away, but now I knew where to look for them. A slight rearrangement of the plants did not induce the two to show themselves. I found this behavior interesting but puzzling.

I decided to examine my small personal library to research the glass catfish. Surprisingly, Barron’s **The New Aquarium Handbook** by Ines Scheurmann, published in West Germany in 1985, with an English translation the following year, discussed this fish in a chapter titled “Common Species of Fish.” In this book the fish is identified as a glassfish. Its origin is Southeast Asia, with a habitat in both still and moving waters. They grow to about three inches. I like that they are transparent and that you can clearly see their vertebrae. The visible swim bladder is the key to identifying their sex, according to Scheurmann.



An enhanced view of the catfish foursome

October 2018

17



Look at that catfish undulation! Who says that glass catfish don't have character?

The male's swim bladder is pointed towards the tail, whereas the female's is rounded. These peaceful fish are easily frightened, and live in groups. Scheurmann discusses breeding these fish, and claims that morning sunlight increases willingness to spawn. She states that spawning fish do not take care of their eggs, and the young are difficult to raise because fry do not hunt their own food but wait for the food to float or swim to them.

On the internet, Arizona Aquatic Gardens Company sells them, as do other internet companies. This company identifies the glass catfish as *Kryptopterus bicirrhys*. They believe that the fish can grow to four inches. It has a six to eight year lifespan, and prefers to be in groups of six or more, in slow moving water and a heavily planted tank.



A recent photo shows three glass catfish. The remaining three are in there somewhere!

Another website claims that their fish are caught wild in Thailand. I couldn't determine, if the glass catfish is commercially bred. It is unlikely. Many websites sell this fish, with half of them listing it as not in stock.

I think that a school of ten to fifteen might make for an attractive medium-sized specialty aquarium, with a substrate of black sand or stones. Donna and I were renovating our basement this past September, so by the time you read this the job may be completed. I hope to have a fish tank or two down there. Are there more glass catfish in my future? Only time will tell.



This recent photo shows a twenty gallon aquarium flush with plants from GCAS's auctions and the donations of friends. Is it any wonder that I can't find the glass catfish? I'm sure that Sharon Barnett would have approved of my plant aquascaping!

GCAS December Banquet Menu



*Welcome to
Georgia Diner*



Choice of Soup or Salad:

Soup:

Soup of the Day
Chicken Noodle
Chicken Rice
Manhattan clam chowder

Choice of Dressing:

French	Italian
Russian	Bleu Cheese
Honey Mustard	Ranch

Entrees:

Mediterranean Tilapia Filet with rice and vegetables
Broiled Norwegian Salmon with Lemon Butter sauce, pot. and veg.
Baked Chicken with Olive oil and lemon juice, pot. and veg.
Romanian Steak Tips with mushroom onion over rice
Chicken Parmigiana with spaghetti
Penne with Broccoli and Grilled Chicken mixed
with garlic and oil

Beverage:

Coke Diet Coke Sprite Ginger ale Coffee or Tea

Adventure Aquarium

Story and Photos by Marsha Radebaugh



View of Philadelphia, across the river from the Adventure Aquarium

On a recent trip to Philadelphia, my husband Dan and I decided to take a brief detour to Adventure Aquarium in Camden, New Jersey.

We've long made it a habit to visit the local public aquarium wherever we travel. We've often been pleasantly surprised and impressed, as was the case with the Aquarium of the Smokeys in Gatlinburg, Tennessee, and the Tennessee Aquarium, in Chattanooga. This was not so much the case in Camden. In fairness, as hobbyists, our expectations may have impacted our judgement.

My impression was that the Adventure Aquarium positions itself more heavily as an entertainment venue for children rather than an institution of science education. The facility is attractive, and the location, right on the Delaware River, is a real plus. The walkway along the river with a lovely view of the Philadelphia skyline was an added bonus, and the sight of the Battleship New Jersey, moored nearby, was really cool. As for the aquarium itself, it is divided into 3 main exhibits: Penguin Park, The World of Sharks, and Sea Turtle Cove. Within each of these there are smaller interactive exhibits, touch pools of stingrays and small sharks, an exhibit of jellyfish, and of all things, hippos! Also, there is something that has now become a trend in many aquariums, a tunnel

allowing visitors to walk under and through the Ocean Realm, a 760,000 gallon seawater exhibit of southern stingrays and various sharks. In this tank there are also many other species of fish, all unidentified and many injured by being included in a tank of larger predatory fish. Likewise, in the hippo exhibit there are several African species, difficult to see due to the lack of lighting, and again unidentified.

A positive note from a conservation perspective is their involvement in breeding African penguins, an endangered species. This is in addition to and apart from their exhibit of Australian Little Blue Penguins.

But really, that's about all there is: sharks, penguins, turtles, some jellyfish, and yes, hippos! To be fair though, I must say that there were a lot of parents there, with lots of children! So they must be doing something right.



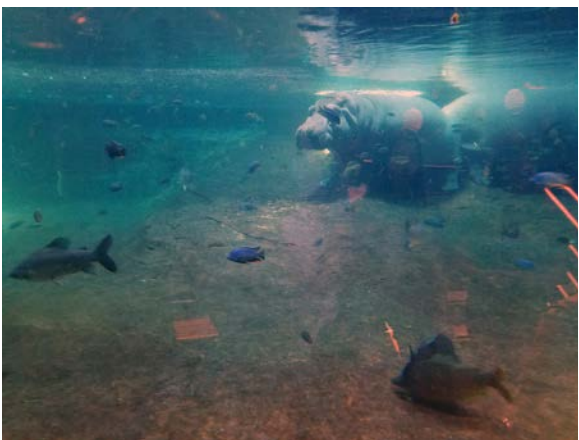
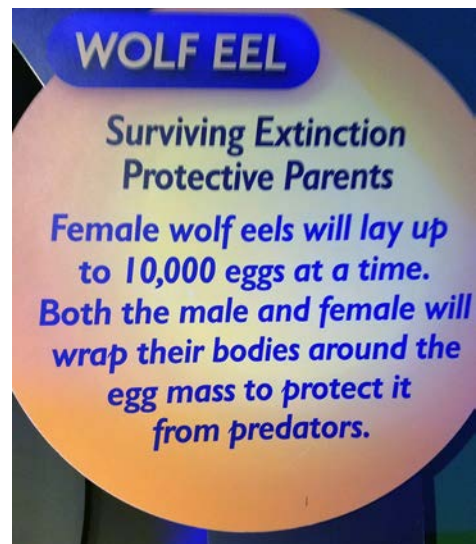
USS New Jersey (BB-62). A popular attraction in its own right, New Jersey is an easy walk from the Aquarium. It has distinction of being the most decorated battleship in US history.



Feeding time for juvenile African penguins, *Spheniscus demersus*. The aquarium conducts an important breeding program for these (cute) endangered birds.



A few of the jellyfish on display



A pair of hippos (*Hippopotamus amphibius*) inhabits their own pool and adjacent dry-ground "beach." This photo simply cannot do justice to their size.



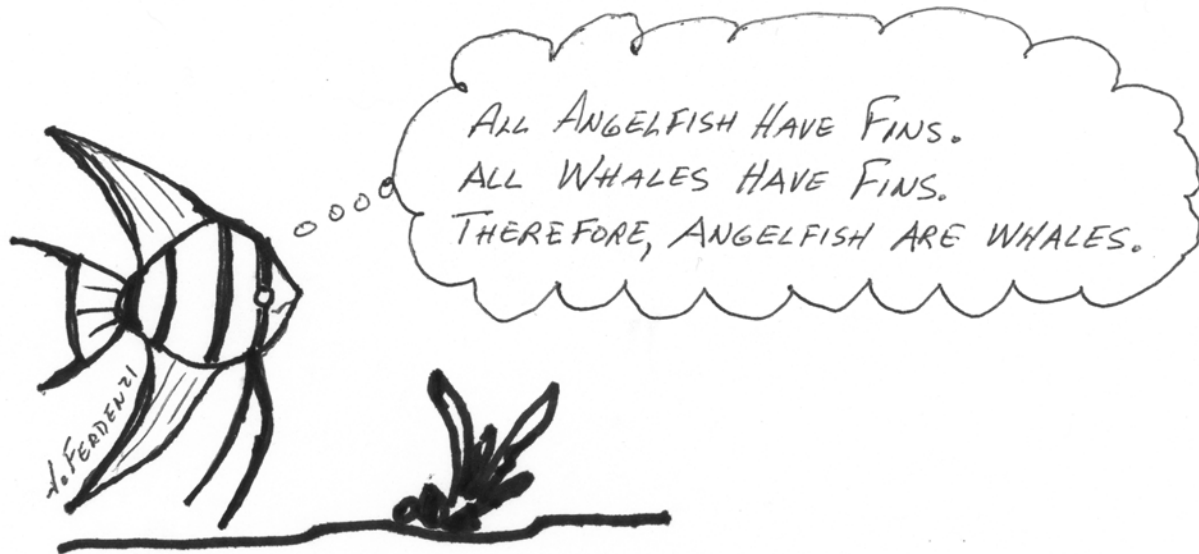
Some other inhabitants of the hippos' pool



Some oceanic species viewed from the underwater walk-through tunnel



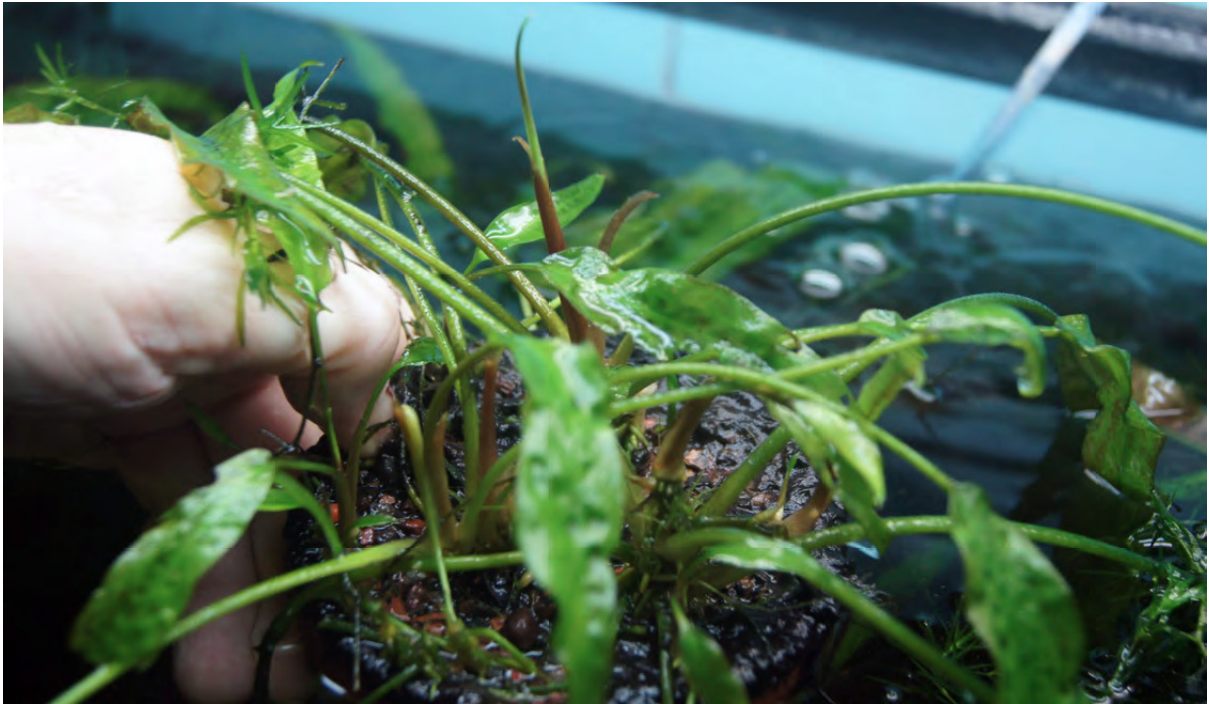
During our tunnel walk-through we came upon this unfortunate fish taking what refuge it could between our viewing window and the rock wall. Notice that one of his tankmates seems to have relieved him of his tail.



LOGIC: ANOTHER THING THAT ANGELFISH
AREN'T VERY GOOD AT.

The Mystery of the Crypt: *Cryptocoryne usteriana*

by Wayne Toven



Reprinted from *Tank Topics* – May/June 2016 ; The Greater Akron Aquarium Society

Over the past too many years that I've tried to keep several different species of *Cryptocorynes*, they sort of just survived, but did not flourish as they should have. I figured out part of the problem could have been that all of my well water goes through a Kinetico water softener, which removes the minerals and odors (rotten egg smell) that often accompany well water, but it replaces them with sodium ions (salt). This might also explain why I can't keep certain species of fish, mainly angels and guppies, and also why I can't get Java moss to grow in my tanks. I have friends that can grow it by the tankfull, but at my house it just sits there, eventually turns brown, and then to mush, which I have to siphon out. It will grow in a terrarium for me, that is out of the water, in a dirt substrate, and in an enclosed tank to keep the humidity up. Other plants that grow well that way are *Anubias*; these plants also grow faster and larger this way than they do in submersed conditions.

At present I have a few different species of *Cryptocorynes* in a variety of aquarium setups, in order to see which way yields the best results. I have a few in a couple of home-made 50 gallon breeders that we got many years ago from a guy that had them custom made for a pet shop he ran in Garrettsville.

They are 48" long x 20" wide x 12" tall, the perfect size for a lot of fish that don't like or need deep water, like livebearers. We got these for \$15 each (a real steal). I am currently running nine of them, almost all housing livebearers. I also have a couple of crypts in a 29 gallon, with, you guessed it, livebearers and a couple of rainbow fish, and a couple in a 120 gallon (also from a shop that went out of business), again with not only livebearers, but also cichlids, rainbows, and a couple of barbs. All are unheated, so the growing conditions only vary in water depth and lighting. The two breeders are uncovered, so the light does not get filtered. The 29 and 120 both have glass tops, and all have fluorescent lighting, as I haven't upgraded to LED yet. The two pots containing the *Cryptocoryne usteriana* that are actually flourishing are in one of the 50 breeders. They both have lots of rhizome runners escaping over the rims of their pots. The crypts in the other 50 breeder are different species: one *C. ciliata*, one *C. affinis*, and one *C. cordata* which did flower for me. None of them is doing as well as the *C. usteriana*, even though the conditions are identical. I use Flourish™, the liquid plant fertilizer, regularly. This is the mystery of the Crypts. I guess the *C. usteriana* is growing so much better than the others

because it is just better suited to the conditions that I have in my fishroom. All of my crypts are planted in 4-inch pots, because I use a thin layer of sand as a substrate in almost all of my tanks. Originally I used a mixture of topsoil and sand, but have since changed it to a mixture of fine gravel and sand with some laterite mixed in.

C. usteriana is endemic to the Philippines. It was first collected near Buenavista by A. Usteri, but that location no longer exists. It was rediscovered in 1983 by J. Bogner in the Bigo River, near the town of Concepcion on the island of Guimaras, growing in shady areas of shallow water with a pH of around 6, in a gravelly/sandy substrate. For many years it was thought that *C. aponogetofolia* and *C. usteriana* were the same species, due to their size and appearance. However, after further research by Bogner in 1984 in their natural habitat, it was determined that they were in fact two different species. *C. aponogetofolia* has leaves that are green on top and lighter green on the underside, whereas *C. usteriana* has leaves that are green to greenish brown on top and a pale to deep reddish purple underneath.



C. usteriana is a rosette plant that grows from a rhizome/root; the leaves grow from a central point on petioles (stems) of varying lengths, and can grow up to almost 18 inches long and almost 2 inches wide. They have a lanceolate (ribbon-like) shape, coming to a point. The leaf has a strong mid-rib. On both sides the surface can have 2 to 3 rows of prominent bumps or blisters (which are known as bulate) with a wavy (undulate) margin.

The inflorescence in the submersed form is adapted to the depth of the water; the spathe or tube is colored a dirty flesh-red and grows to around 4 inches tall. The opening known as the throat is smooth and bright yellow; there is a slightly twisted limb above the throat. I have not seen this, as I have never noticed either of mine flower.

The species grows well in soft to hard water, under medium intensity lighting, in a loose, nutrient-rich medium, and at room temperatures, so it should be the perfect plant for me. Propagation is by rhizome runners. After being established for a while the plant will have runners start growing from the main rhizome/root, from which new plants will start growing. The runner I cut off to submit for the Horticultural Award Program had one good-sized plant with roots, and then split into two small plants, with the runner continuing to grow. However the species does not stand transplanting very well; it will need some time before it starts growing again. I don't know if it will do the typical crypt melt (caused by changing water parameters, or temperature changes). If I can grow this crypt, anyone that has water and light should be able to do so as well.



References:

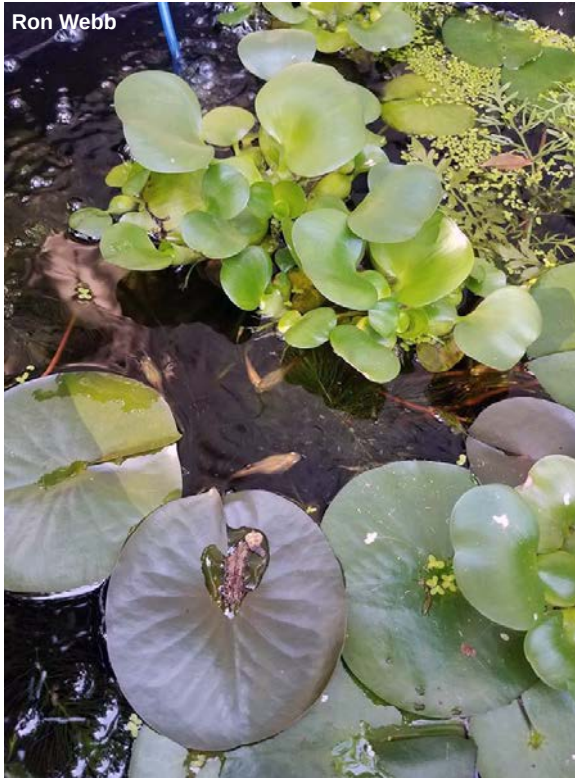
Aquarium Plants, by Christel Kasselman

Aquarium Plants, Their Identification, Cultivation, & Ecology, by Dr. Karel Rataj & Thomas J. Horeman

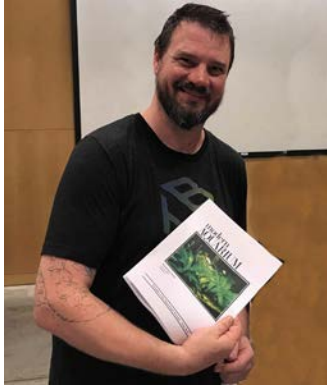
Fishy Friends' Photos

by Greater City Aquarium Society Fishy Friends

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



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Our Speaker: Kevin Kelly



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Jerry O'Farrell

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Photos by Joe Gurrado

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Michaelle "Myk" Bengson F. Kua

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GCAS Happenings

October

Last Month's Bowl Show Winners:

- | | |
|-------------------|---------------------------------|
| 1 RICHARD WAIZMAN | BLUE HALFMOON BETTA |
| 2 WILLIAM AMELY | GALAXY MALE PLAKAT BETTA |
| 3 WILLIAM AMELY | ORANGE/COPPER MALE PLAKAT BETTA |

UNOFFICIAL 2018 BOWL SHOW TOTALS:

WILLIAM AMELY	32	RICHARD WAIZMAN	21	CARLOTTI DEJAGER	1
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A SPECIAL WELCOME TO NEW GCAS MEMBERS MICHAELLE (MYK) KUA, JERRY SCHWARTZ, AND BISMARCK VANEGAS

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

GREATER CITY AQUARIUM SOCIETY

Next Meeting: November 7, 2018

Speaker: Rusty Wessel

Topic: *Livebearers*

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.org>

BIG APPLE GUPPY CLUB

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

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

Contact: Donald Curtin (718) 631-0538

BROOKLYN AQUARIUM SOCIETY

Next Meeting: October 12, 2018

Speaker: None

Event: *Giant Auction*

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: October 19, 2018

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.

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

Contact: Gene Baudier (631) 345-6399

NASSAU COUNTY AQUARIUM SOCIETY

Next Meeting: October 9, 2018

Speaker: 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 PUBLIC SQUARE BUILDING, room 209A. See website for directions.

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

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

NORTH JERSEY AQUARIUM SOCIETY

Next Meeting: October 13, 2018

Speaker: Charles Clapsaddle

Topic: *Magnificent Mollies*

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

Contact: NJAS Hotline at (732) 332-1392

Email: tcoletti@obius.jnj.com

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

NORWALK AQUARIUM SOCIETY

Next Meeting: October 18, 2018

Speaker: Kevin Carr

Topic: *King of the Monsters*

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/>

Count Piscine

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 series by "The Undergravel Reporter"

New research shows that fish can tell the differences between quantities. Why, you may ask, is that important? Well, in the wild, this allows individuals to join larger social groups, determine the number of mates available, and choose more plentiful food. Counting has long been considered the purview of "smarter" species. Increasingly, though, scientists have shown that fish—often considered near the bottom of the spined-species hierarchy—are able to discern between discrete quantities much like their more cognitively complex counterparts. Moreover, the evidence shows that the way piscine brains "count" is similar to way our own brains process numerical quantities, suggesting deeper evolutionary origins for one of our most essential cognitive skills.

Recently published research shows that freshwater angelfish presented with two small quantities of food reliably chose the larger stack of snacks. The preference for larger quantities supports the idea that fish are able to process quantitative information in order to be more successful foragers in the wild. This isn't "counting" in the "one, two, three" sense, but it shows that fish do know the difference between these quantities.



New research shows that fish can tell the differences between quantities. What does that mean for our special human brains? (istock/Gregory_DUBUS)

The new research demonstrated more than just a fish's ability to count. As the food quantities grew larger than four items, the angelfish in the study were less picky with their choice. Other vertebrates behave the same way when presented with large quantities. Vertebrates, including humans, are thought to have separate systems of counting for small and large quantities, in which small numbers are perceived as exact quantities and larger numbers are more roughly estimated. And humans, just like the angelfish in the study, seem to switch from the exact system to the approximate one around the magic number four.

The connection between fish and humans may come in handy as scientists continue to explore the intricacy of human cognition. "Fish are easier to study than complex humans," says Robert Gerlai, a biologist at the University of Toronto and one of the authors of the paper. "In the long run, ideally, we would like to know what the [human] brain can do, and you can study much better with fish."

Studies also show that fish's cognitive abilities rival other vertebrates in many ways. Sharks' sense of smell is 10,000 times more sensitive than humans'. Thanks to an extra cone in their eyes, some fish see colors more vividly than we do. Fish can recognize family members, inherit social traditions in the form of migration patterns, and use primitive tools. The recent findings on fish cognition may not immediately change human hearts and minds with respect to their intelligence, but every new study can be counted as a step in the right direction.

I wonder if the size of the food flake container in my hand affects my greeting?



Reference:

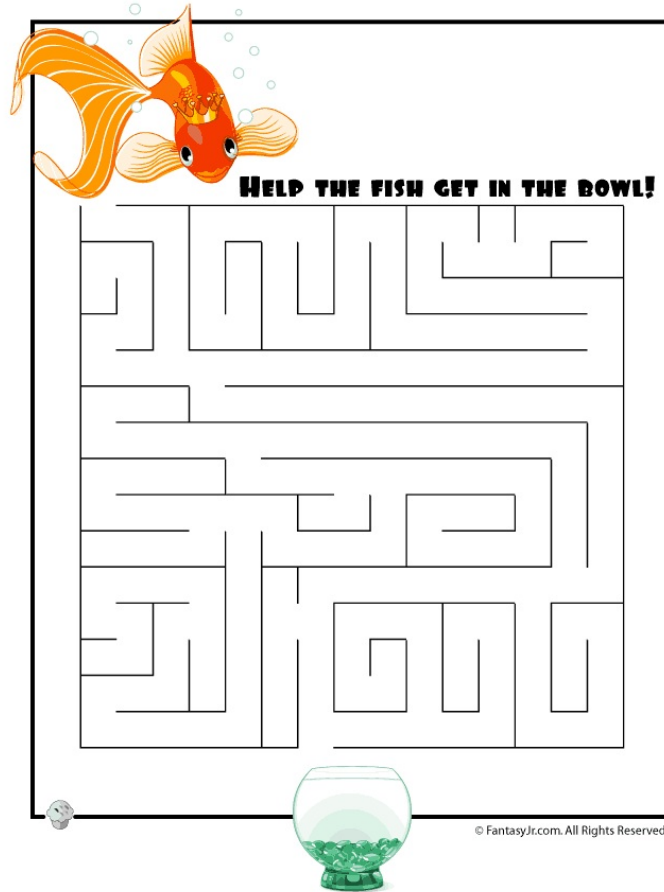
<https://www.smithsonianmag.com/science-nature/one-fish-two-fish-fish-can-count-ish-180970122/>



Fin Fun



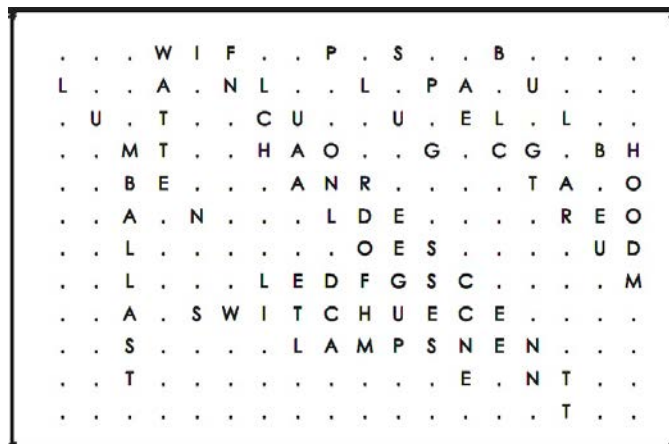
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Hood	Watt
Incandescent	



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