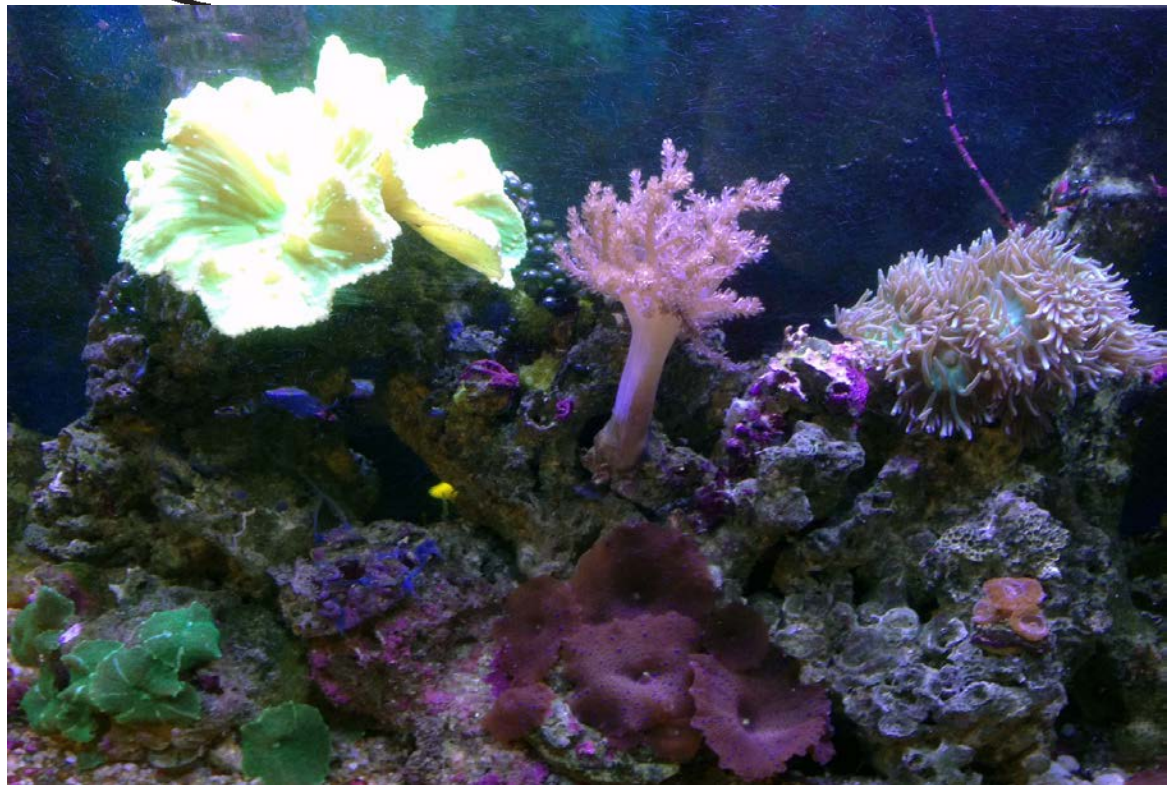


modern AQUARIUM



April 2018
volume XXV
number 2

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Series III Vol. XXV, No. 2 April, 2018

ON THE COVER

While I believe it's safe to say that not a lot of our members keep saltwater tanks, it is also safe to say that a growing number do. As you can see from our cover photo this month, the saltwater side can be very colorful! This month's photo is from Joe Ferdenzi, whose article, "My First Reef Tank," you can find on page 10.

Photo by Joseph Ferdenzi

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In This Issue

From the Editor.....	2
G.C.A.S. 2018 Program Schedule.....	3
President's Message.....	4
March's Caption Contest Winner.....	5
Our Generous Sponsors and Advertisers.....	6
Cartoon Caption Contest.....	7
Pictures From Our Last Meeting.....	8
Photos by Al Priest	
My First Reef Tank	10
by Joseph Ferdenzi	
Key Largo After Irma.....	13
by Stephen Sica	
The NEC 2017 Articles Competition.....	18
The Creature in my Aquarium.....	19
by Gary Haas	
Scenes from the NEC.....	22
by Joseph Ferdenzi	
To Be, Or Not To Be.....	25
by Elliot Oshins	
G.C.A.S. Classifieds.....	26
Tonight's Speaker: Judith Weinberg.....	26
Fishy Friends' Photos.....	27
G.C.A.S. Member Discounts.....	28
G.C.A.S. Happenings.....	30
The Undergravel Reporter.....	31
Better With Age	
Fin Fun (Puzzle Page).....	32
Trivial Pursuit	

From the Editor

by Dan Radebaugh

Last month as I was preparing this year's first issue of **Modern Aquarium**, one of the routine things that I had to do was update the volume number, from volume XXIV to volume XXV. "Cool!" I thought, "Twenty-five years! That's a pretty good run!"

As many of you know, we refer to this current incarnation of **Modern Aquarium** as Series III, meaning that there had been two previous incarnations produced by the Greater City Aquarium Society, but it had ceased publication for a number of years. Series III came into being due to the efforts of a group of Greater City members sometimes referred to as The Gang of Four—not to be confused with that other "gang of four" in China who briefly came to power after Mao. I mentioned our own gang of four a couple of years ago in this column, and they deserve to have their deeds remembered in these pages, as they dreamed up the current (Series III) incarnation of **Modern Aquarium** back in the 1990s, and their work back then still carries on today. You would not be reading this magazine without their efforts.



This is the notorious "Gang of Four" at the first editorial meeting of **Modern Aquarium** (Series III). The participants are, from left to right standing, Stephen Zander and Joe Ferdenzi, and seated, Warren Feuer and Al Priest.



However, after reflecting on how cool it is that Series III is now in its twenty-fifth year, I promptly went on about whatever it was that I was doing, totally forgetting to make any mention of it in last month's issue. So in *this* month's issue you will notice that I have been gently (and rightly) chided for my forgetfulness. It is therefore my pleasure to celebrate this 25th season of **Modern Aquarium** (Series III) by returning for this year to a more classic logo on our back cover, and to proudly add mention of this year's milestone.

The NEC (New England Council of Aquarium Societies) held its annual convention last month, and that event stimulated two items of reportage in this issue of **Modern Aquarium**. On page 18 of this issue you'll find the results of the council's annual Publication Awards, and on page 22 Joe Ferdenzi gives us a photographic glimpse of the venue and events this year. As to the Publication awards, **Modern Aquarium** once again did reasonably well, scoring three awards out of the thirteen presented. Congratulations to **Modern Aquarium**'s prize-winning authors Joe Ferdenzi, Steve Sica, and The Undergravel Reporter, and to all the winners from other clubs as well! Your contributions matter!





GCAS Programs

2018

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

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

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

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

President's Message

by Horst Gerber

After the mildest February on record, March really came in like a lion, and stayed that way to the bitter cold end. I was pleasantly surprised to have such a large turnout after we had to postpone our regular meeting due to the Nor'easter. I hope we reached everyone by phone, email, Facebook, etc. Our speaker gave an excellent presentation on the great research that is being done on fish cognition.

I went to the NEC convention in hopes of drumming up some raffle contributions for our club. Are you aware that our monthly raffles are solely supported by vendors? I distributed our prestigious, award-winning **Modern Aquarium** magazine to reinforce our reputation and credibility. The vendors I spoke with expressed astonishment at the quality and "professional level" of our magazine. Thanks, Dan. Even Oprah couldn't do it better!

I remember when I was involved with the newsletter we called **NetWork**. It was printed in black & white, with very small issues. Then along came the Gang of Four Dan mentions in his column, who took it to a whole new level, which became **Modern Aquarium**. When Al stepped down as Editor I worried that the next person wouldn't be able to keep up the high standard that had been set, but Dan took the bull by the horns and began producing the magazine in color throughout, keeping us at the top of the heap of aquarium society publications. I also would like to remind all our members that we can't do this without *you*. It is *your* articles that continue to make this magazine one of the best in the hobby! In fact, at the recent NEC Convention, **Modern Aquarium** authors were the most highly awarded—out of the four major article categories, **MA** authors took two first places and a second place in a third category, a result unmatched by any other publication.

The volume of our auction items was outstanding! Thanks to all our members who contribute to these auctions month after month, as well as the ones who buy all that stuff every month! We had more than fifty items from our members, plus a huge selection of aquatic plants, many of them quite rare, donated by Florida Aquatic Nurseries.

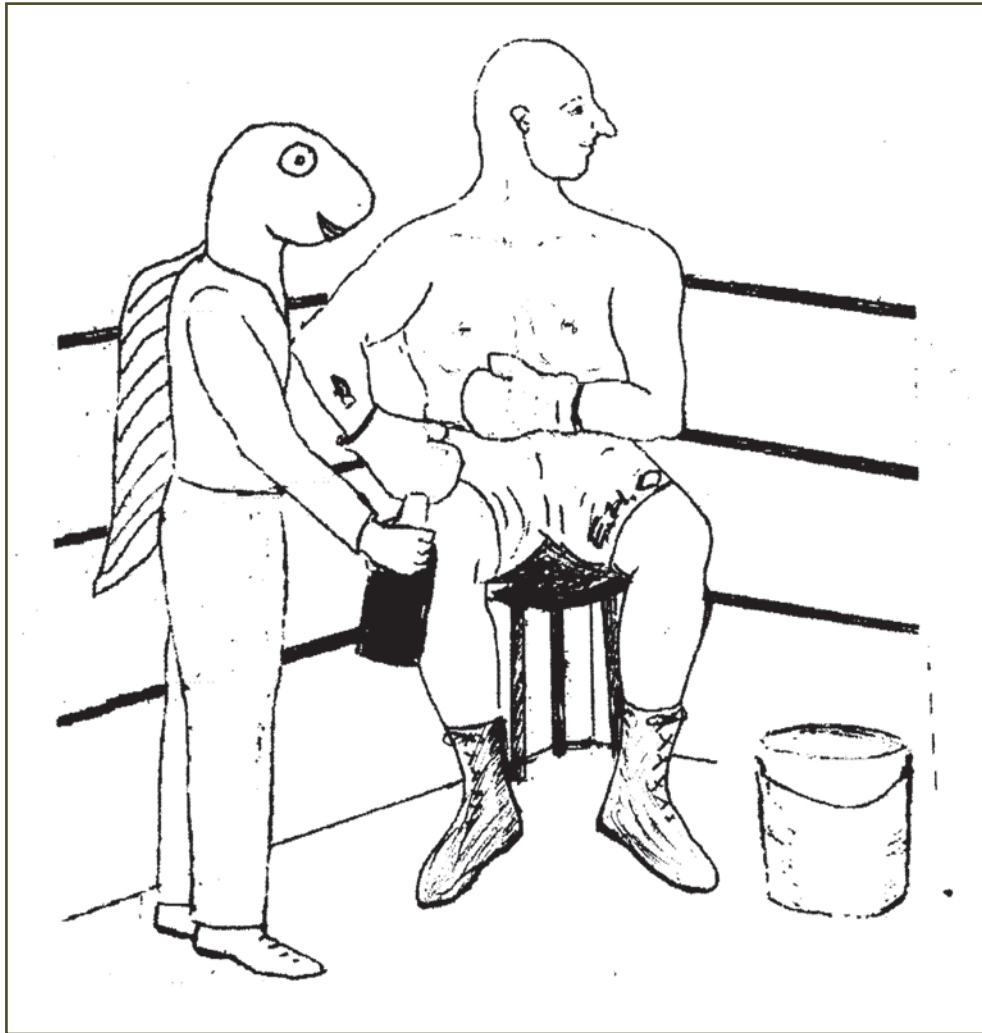
Because of the large auction, we had a little rush at the end to get through the raffle, so there were some great deals! We finished off at 10:20—just enough time to get to the parking lot by 10:30. If we don't get our cars out of there on time I get a phone call the next morning, and I mean not from my Mom!

If you've ever wondered where the proceeds go from the raffles and auctions, that's what keeps the club going. Believe me, the \$20 per year membership doesn't come close to covering our expenses for the year. Think about it! We have great refreshments every meeting, we pay rent to the Queens Botanical Garden, we have the magazine, which is free to every member, we have honoraria and expenses for our speakers, and other costs that I can't even think of right now. So your membership fee for the year is really a great deal!

Horst



March's Caption Winner: Ron Webb



Keep your guard up. That Jack Dempsey is one tough cichlid!





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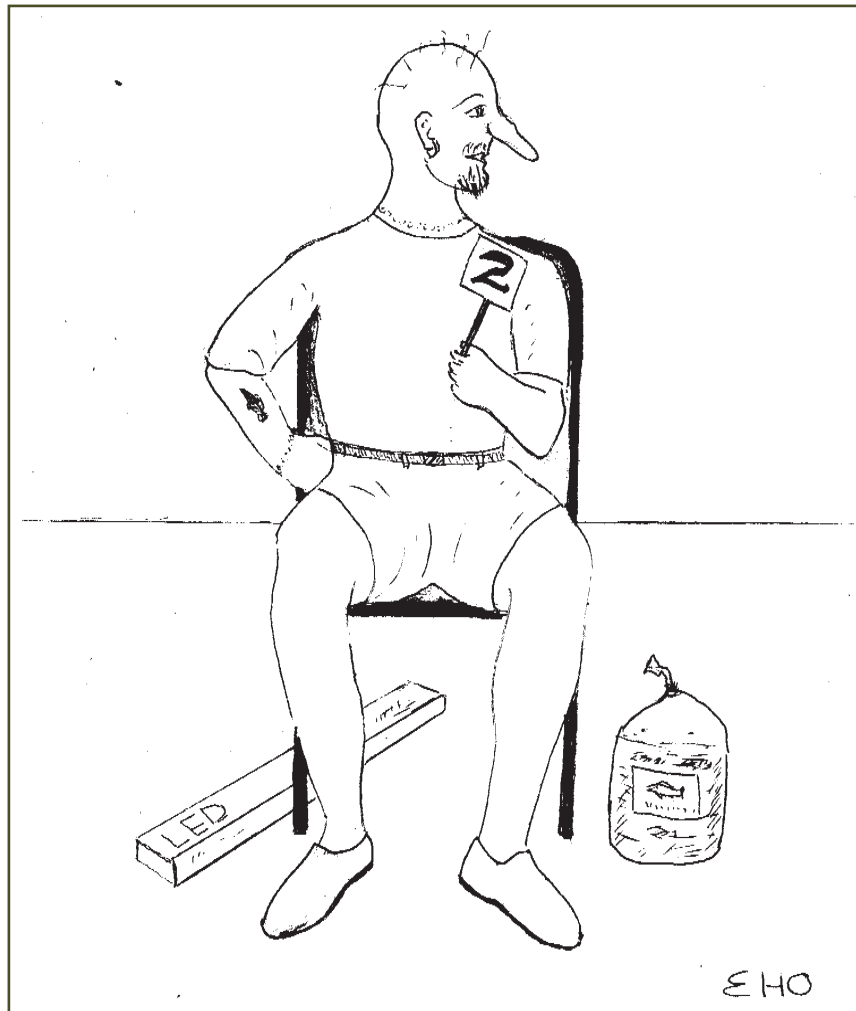
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The Modern Aquarium Cartoon Caption Contest

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:

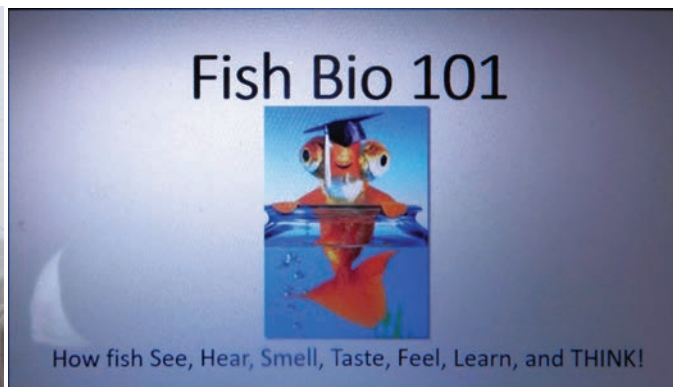
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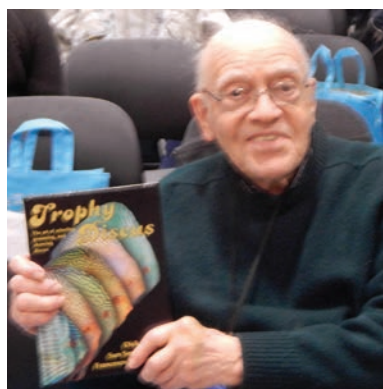
Photos by Al Priest



Tom Keegan speaks to us on
Fish Bio 101



He took us back to school,
but there was no Final Exam!



Door Prize winner:
Elliot Oshins



Just some of the donations from
Florida Aquatic Nurseries

Bowl Show Winners:



2nd Place:
Rich Waizman



1st Place:
Bill Amely



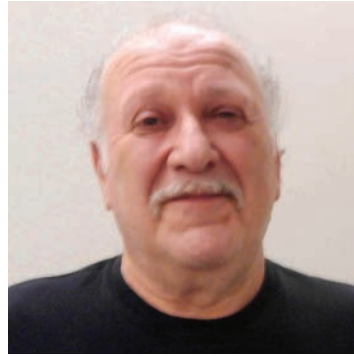
3rd Place:
Carlotti DeJager

Our Last Meeting

We warmly welcome our newest members:



Tony Siano



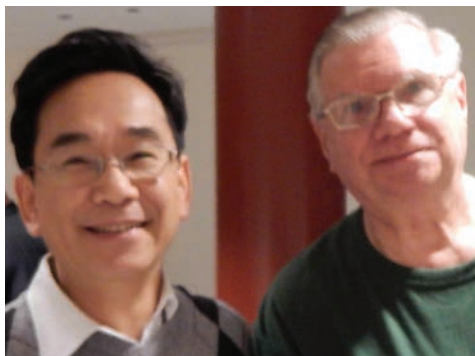
Marty Karfinkel



Al Turrisi



Barbara Small



Steve Chen and Al Priest



**Jim Breheny
of Bronx Zoo Fame**



**Ed Vukich auctions off the mother
of all aquarium plants**

My First Reef Tank

by Joseph Ferdenzi



Golden leather coral

My first marine aquarium came about in 1980, when at the urging of my wife I decided the time had come for me to give it a try. Trust me, it didn't take much urging. Aquarapholics like me don't need their arms twisted when someone whispers, "set up another tank." Plus, the now-defunct magazine **Freshwater and Marine Aquarium** was running a series of monthly articles on how to establish a marine aquarium, and I was prepared to use that as a guide.

The first marine aquarium was a modest affair. It consisted of a 10 gallon tank with crushed coral over an undergravel filter and some dead coral pieces as décor. It worked out well, as I only placed two small fish in it—small, but very colorful. It is little wonder then that when we bought our first house the following year I had dreams of even larger marine aquariums. And so it came to pass that at one point I had a 125 gallon saltwater aquarium, along with three smaller ones. Keeping saltwater fish was not all that difficult, but I gave up on it after some ten years. Why? Frankly, it got boring. You cannot easily breed and rear marine fish, nor can you grow plants (unless you include marine algae as plants). Seeing the same (albeit beautiful) fish swimming around year after year just didn't keep me interested.

However, in the years following my first marine aquarium a revolution began to develop on the saltwater side of the hobby. This development was the advancements made in being able to keep live corals in the aquarium. In short, reef keeping. I watched this growing field with amazement and appreciation. After all, reef keeping seemed to promise the ability to finally reproduce marine organisms other than algae in the home aquarium.

But, being busy with other things, it took a while before I decided to try my hand at reef keeping. And, the way I came around to it was rather circuitous.

It began in 2014, when some of the members of my local killifish club decided to seine for tropical fish that get caught up in the Gulf Stream and pass the south shore of Long Island. In anticipation of that, I set up an empty 20 gallon high aquarium. While the collecting trip was not particularly successful, I now had a fully-functioning marine aquarium waiting for inspiration.

That inspiration came in the form of my retirement (albeit a very temporary one) and from looking at the beautiful reef tanks at Franklin Pet Center in Franklin Square. The owner, Manny, is a very nice guy and very knowledgeable, and I felt confident that with his help I could establish a successful reef aquarium.



A Kenya tree

So, under his guidance, I purchased 'live' rocks for my aquarium. Then I added the chemicals he recommended. Next, I purchased a programmable LED light made especially for marine aquariums. This was the only expensive piece of equipment I needed to buy, as all the filtration and water pumps I used I already owned.

Once the water had aged for several weeks and had the right chemical parameters (measured by inexpensive test kits), I began to add fish and corals. I learned, to start, that 'soft' corals are generally easier to keep than 'hard' corals, so that is what I purchased, but only two or three at a time. Placement of the corals on the 'live' rock was easy, and just a matter of picking what looked like the best spot.

While I purchased my first corals at Franklin Pet Center, a new aquarium store subsequently opened closer to my home, and specialized in corals—Advanced Marine, in Albertson. The display of corals at that store is one of the best I have ever seen. To top it off, the owner, Andrew, is also very friendly and knowledgeable. Since he opened I have also purchased 'soft' corals from his store.

As for the fish, I have purchased them from several stores, and have been very pleased. I only have three fish, but they are all very colorful, and most importantly, get along, in the sense that they don't fight with each other, and are equally adept at getting their share of the food. I use marine pellets and flakes—

nothing fancy—and they are doing very well after one year in my aquarium.

As regards the corals, I have found that it can be a "hit-or-miss" operation. That is, some thrive, while others shrivel away in a matter of days. Because of this, I do not buy very expensive pieces. Instead, I buy what are called "frags" (or coral fragments) which, under the proper conditions, should grow into whole pieces. I am now at the point where some of my "frag" corals are doing very well. One or two have even multiplied. Finally, I have a marine aquarium that promises not to become boring.

I hope this article encourages some of you to try reef aquariums. They are really not that difficult, and contrary to what you might have believed, do not require a lot of expensive equipment. Honestly, it doesn't cost much more than a well-equipped freshwater aquarium. Yes, corals are more expensive than say, neon tetras, but the thrill of having your own slice of an ocean reef is unequalled.

If you are so inspired, I strongly recommend that you find a store that maintains reef aquariums and has the know-how to guide your first efforts. If you know any hobbyists who have been successful with reef aquariums, I would also seek their advice before setting up one of your own. Of course, there is much information on the subject in magazines, books, and online. Trust me on only one thing: If I can do it, you can too!



Maroon mushroom corals



Green mushroom corals





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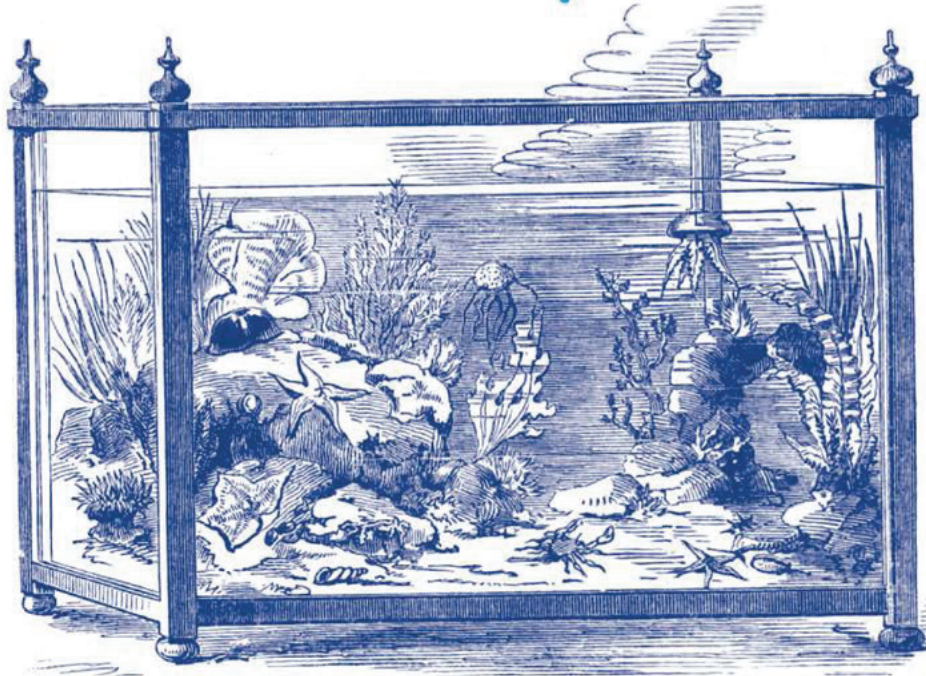
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Key Largo After Irma

Story and Photos by Stephen Sica

It was a day or two before we were leaving for the eleventh annual divers' reunion at Sea Dwellers Dive Center in Key Largo, Florida that I discovered a small puddle of water on the stand of my 17.1 gallon open top aquarium. The next day, Sunday, I discovered the leak at the bottom back seam of the fish tank. The following day we were flying to Florida, but it had rained heavily all weekend, and flights were behind schedule. On Sunday morning, Donna discovered a JetBlue e-mail informing us that we could change our flight from Monday to Tuesday without penalty. She did so while I hauled my twenty gallon tank out of the garage. I switched tanks on Sunday, rested on Monday, and took off for Tampa early Tuesday morning.

We stayed two nights at Donna's sister's home, and drove the 330 miles from Clearwater to Key Largo on Thursday. Florida City, at the end of the mainland, was as we always remembered it, as were the next thirty miles or so to the beginning of Key Largo. Driving through Key Largo to our hotel, I noted that elevated signs on or near buildings had been damaged or destroyed by Irma's hurricane winds. On the sides of the main road, U.S. 1, there were piles of debris

every few yards. Most of the debris consisted of the remains of trees and large bushes and other plants, but I thought that I saw a refrigerator and other property debris as well. I did notice one impressive sight. Off the roadway and beyond storefronts, I saw two large lots, one of which was fairly enormous. Both were totally filled with tree and vegetation debris to a height of eight or ten feet. Every other tree, bush and hedge in Key Largo must have been there. There may have been other such places off the main road. However, it didn't appear to me that Key Largo's landscape had been severely denuded—although you could tell that it had been damaged. Perhaps some of this debris came from further south, where the destruction had been more severe. We learned that Sea Dwellers' sixty-five foot boat, as well as all other boats that were anchored in Key Largo, had escaped damage.

While I failed to photograph the topside hurricane damage, I did photograph a few sunsets, friends, and wildlife. But my priorities are usually below the waterline. Rob, co-owner of Sea Dwellers, said that there had been damage to the reefs from shifting sands. Some sand had been carried in from deeper water by the winds and surge of Hurricane



Donna and Cordelia watch the setting sun on Key Largo's calm bay side, that runs into the Gulf of Mexico southwest of Key West. There are no signs of Hurricane Irma's effects either on the land or sea

Irma, but the majority was simply the reef's own shifting sands that covered some hard corals, and covered or destroyed many soft corals and sea fans. Soft corals and most sea fans are quite flexible and can bend with the current, but exceptional weather can destroy them. I have seen many uprooted corals and fans, and don't recall finding any propagating. Most frequently, especially the sea fans, they just fall in the reef or sand and wither away.

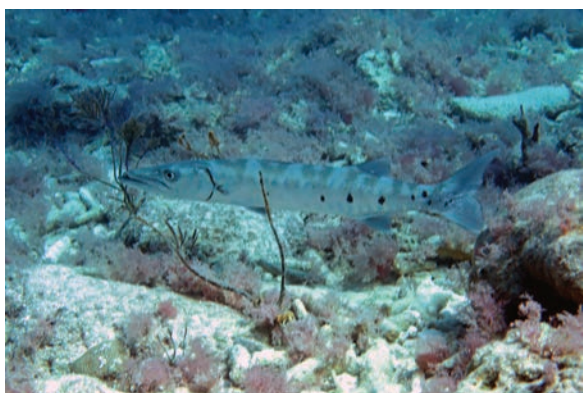
I am unsure if this has anything to do with Hurricane Irma (probably not), but we did observe several Caribbean reef sharks and turtles. In twenty years of Keys diving I don't recall seeing a reef shark. Were these sharks migrating to or from somewhere?



On our first diving day we cruised past a manatee in the canal leading to the open sea. Is this a sign of good things to come?



A pair of four-eye butterflyfish, *Chaetodon capistratus*, hover by a pillar coral. I think, more specifically, that this is a finger coral, probably a thin finger coral, *Porities divaricate*. There are three varieties of finger corals. One is common on moderate to deeper reefs, while two are common on shallow reefs. Thin finger corals often extend their polyps during daytime



◀ At left: This great barracuda, *Sphyaena barracuda*, exhibits a profile of dark spots and mottled camouflage to blend into the seafloor and background. Sinister looking with pointed teeth, they usually move away when approached.

Rob said that in some areas the prime dive sites had become a foot or so shallower from the shifting sands. We did seven dives in three days. I thought that maybe the ocean had become shallower on a few sites with which I was familiar. I admit that it may only have been the power of suggestion. When you stand on a small boat looking out on the vastness of an insignificant fraction of the ocean, how can the water truly become shallower?

There is one thing that I do know, but I'm saving it for another article at another time.



A pair of Bermuda chub, *Kyphosus sectatnix*, swim over an undisturbed bottom. I wonder if Irma blew them off course, since the Keys are a long way from Bermuda? Actually, they are fairly common in Florida and throughout the Caribbean, and have been seen north to Massachusetts. They usually swim in medium-sized schools, and average one to two feet in length. These are about one foot, which is closer to their true size.



This Queen angelfish, *Holacanthus ciliaris*, a colorful jewel by anyone's opinion when it comes to marine fish, is a blend of yellow and blue. A very shy fish, when approached by a diver it often hides in the nearest crevice, often to escape from a neighboring hole in the reef. I often try to guess the exit, only to leave in exasperation. This one stayed and nibbled at the reef. It must have felt that I'm harmless compared to a hurricane.



This pair of French angelfish, *Pomacanthus paru*, frolic amidst a few grunts. Notice the bleached and broken pieces of dead coral littering the seafloor beneath them.



A medium-size green turtle, *Chelonia mydas*, rests on the seafloor near a reef. After I took its photo, the turtle swam almost straight up to the surface for a breath of air.



Donna is quite good at finding small creatures near the bottom. She led me to this goldentail moray eel, *Muraena miliaris*, poking its head out from a crevice in the reef. Maximum length is only two feet. I wonder if moray eels reside in a favorite crevice, or just roam about inhabiting any convenient nook or cranny?



A popular reef resident is the trumpetfish, *Aulostomus maculatus*. In the Caribbean almost all trumpetfish are beige to brown, while in the Keys they adapt very well to blue and yellow, like this specimen. They tend to avoid divers, and favor overhangs for protection.



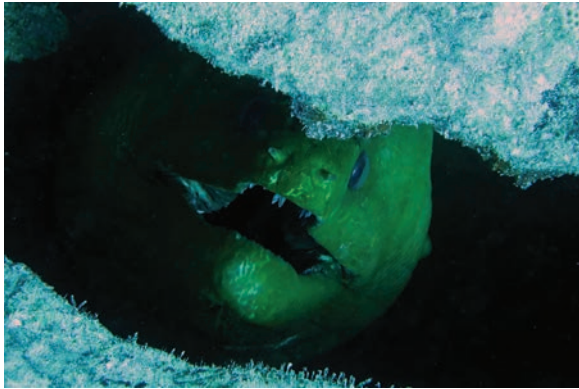
There are fish that I always try to photograph. When the Scrawled filefish, *Aluterus scriptus*, shows off its body's bright blue dots and dashes, I'll follow it almost anywhere to photograph this unique fish. Sometimes the fish displays a bland coloration. I have seen it switch its color in a matter of seconds. One of its favorite foods is a delicious jellyfish.



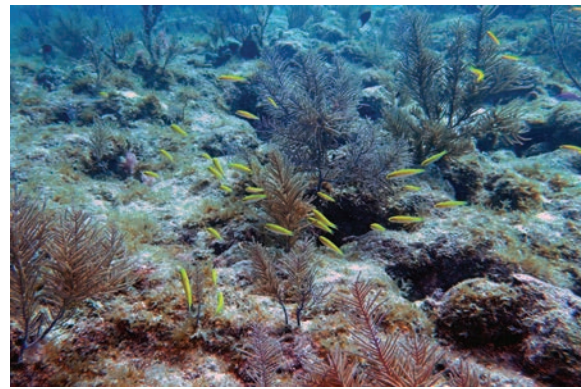
A five foot blacktip Caribbean reef shark, *Carcharhinus limbatus*, enters the reef about ten yards in front of Donna. Luckily, I was looking at Donna and took this photo of her pointing at the shark.

This duo at right is two of the most popular squirrelfishes found throughout Florida and the Caribbean. The top fish is a common squirrelfish, *Holocentrus adscensionis*, while the bottom one is a longspine squirrelfish, *Holocentrus rufus*. The longspine is different by its tall, pointed back dorsal fin and white triangle markings on the tips of its forward dorsal fin spines.





We all know to keep our hands out of places where we know not what we may encounter. Fortunately, this green moray eel, *Gymnothorax funebris*, is warning the wary diver that this is its lair. I was contemplating putting my upper torso into a dark open hold on the Benwood's steel deck when I spotted the eel a few feet away, lurking below a rusted fissure. Morays have poor eyesight, which often results in bitten fingers.



Young wrasses are difficult to identify because their coloring does not resemble that of the adult. Small schools of these torpedo shaped yellow fish are abundant throughout Florida and the Caribbean. Because it is very common, I am fairly confident that this is a school of yellowhead wrasses, *Halichoeres gamoti*, in its intermediate juvenile phase. These fish allow an approach of three feet before swimming a short distance away to keep a diver at arm's length.



I felt bad when I encountered this adult stoplight parrotfish, *Sparisoma viride*. When it saw me, it immediately hid in the narrow crevice lying flat on its side. It would not move from the crevice, so I took a few photos and moved on. I was bothered that I may have frightened this fish for no apparent reason.



If you like rays, the southern stingray, *Dasyatis americana*, is sure to turn up during a dive. Partially buried in sand, this large specimen is probably a female, because they are much larger than males. They usually lie quietly in sand and allow a close approach before swimming away.



You cannot dive the Florida and Caribbean basin without an encounter with the sergeant major, *Abudefduf saxatilis*, a damselfish. They usually swim or hover in loose schools. Solitary fish are guarding nests of purple eggs, and if they are, their aggressive behavior will verify it. Most divers have been harmlessly nipped when approaching a nest too closely.



A young stoplight parrotfish, *Sparisoma viride*, meets up with a Venus sea fan, *Gorgonia flabellum*. I found the angle of the fish looking at the sea fan (to take a nibble?) interesting and a bit artsy, so I took the photo.



I had the good fortune to see a large nurse shark, *Ginglymo cirratum*, cruising along the reef. Most encounters involve seeing the shark resting in a protected area or under an overhang of some sort. They once had a reputation for biting divers who were foolish enough to tug at the tail of a "harmless" fish!



A sunny autumn day in the Florida Keys. A blacktip shark, *Carcharhinus limbatus*, cruises along a coral reef surrounded, halo-like, by a school of bar jacks, *Caranx ruber*, in both the fore and background. Local divers told me that this species has begun to be regularly sighted in the Keys over the past one and one-half years



The NEC 2017

Articles Competition

OPEN CATEGORY

1. Natural Aquariums	Joseph Ferdenzi	Modern Aquarium	GCAS*
2. You've Been Slimed!	Evelyn Eagan	Paradise Press	LIAS**
3. Moss In Aquaria	Michael Buckma	Tank Tales	ACLC**

BREEDING CATEGORY

1. Wild-Caught <i>Hemichromis fasciatus</i> Bonding	Will Lujan	The New England Cichlid	NECA***
2. <i>Corydoras</i> sp. CW16	Don Kinyon	Tank Tales	ACLC**
3. Fry Savers or Death Traps	David Banks	In Depth	TFCB [‡]

HUMOR

1. Duckweed: Still a Delight	Stephen Sica	Modern Aquarium	GCAS*
2. Temporary Tanks	Jim Peterson	Paradise Press	LIAS**
3. How My Spouse Adopted A Tank	Barbara Romeo	Gills 'N Gossip	DAS***

Continuing Columns

1. Editorial Column	Ann Whitman	In Depth	TFCB [‡]
2. The Undergravel Reporter	The Undergravel Reporter	Modern Aquarium	GCAS*
3. The View from the Other Side of the Tank	Margaret Peterson	Paradise Press	LIAS**

JUNIOR AUTHOR

1. My Experience at the NEC Fish Auction	Oliver Mackinnon	In Depth	TFCB [‡]
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*Greater City Aquarium Society

**Aquarium Club of Lancaster County

***New England Cichlid Association

[‡]Tropical Fish Club of Burlington

^{‡‡}Long Island Aquarium Society

^{‡‡‡}Danbury Aquarium Society

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Freshwater Invertebrate or ... **SLIME MOLD?** The Creature in my Aquarium

Photos & Text by Gary Haas



As a strictly fresh-water aquarist, I have always envied the salt-water hobbyists for the wide assortment of invertebrates available to them, especially the sessile (non- locomoting) ones. They have gazillions of attractive tube worms, sea anemones, corals, sponges, etc. We have hydra. And in theory, freshwater sponges and bryophytes. But have you ever even seen one?

So I was totally thrilled when, during morning feeding, I came across a delicate, cream-colored, fan-shaped structure on the side glass of an aquarium in my fishroom. Thrilled and puzzled, because I didn't recognize the creature. And creature it was, because the next day it had more than doubled in size. But what kind of creature?

Google is a wonderful tool for finding out about something you know the name of, but less wonderful for discovering the name of something you can only describe. I spent hours perusing pages pertaining to "fan-shaped cream-colored sessile freshwater aquatic invertebrate", or variations thereof. To no avail.

Images of bryozoans and freshwater sponges did not resemble the creature in my tank. And no other possible identifications emerged from the search.

So I posted a photo of my creature on a Facebook group interested in aquaria, specifically killifish.

Aquarium keepers are biology geeks, interested in all sorts of biology "stuff," and killi people even more so, because they often cultivate live food, leading them to interests in worms and daphnia and brine shrimp and the like. One of these biology geeks responded in a comment, saying that she had seen a similar photo while pursuing an interest in Myxomycete. In great excitement I Googled "Myxomycete" – also known as "Slime Mold." Ewwww! I had been hoping for something more like "Fairy Duster."

More hours on Google. Some images of slime mold did indeed look just like my creature. But in reference after reference, slime mold was described as living in dark places among damp leaves, not in an aquatic habitat. Nonetheless, my interest was piqued.

Slime mold

Slime mold is, first of all, not strictly speaking an animal. Nor is it a plant, or even a fungus. It belongs to the biological kingdom Protista, one of the six (or sometimes five) kingdoms into which biologists now divide living things.

Protista is sort of a "miscellaneous" category for living things that systematists can't find a logical place for. The phylum Myxomycetes is made up of slime molds, and the term "myxomycete" seems to

Reprinted from *Tank Tales* – May 2017 / Volume 46, Issue 5; Aquarium Club of Lancaster County.



be interchangeable with the less scientific term “slime mold.” A well-known example of a myxomycete is the bright yellow “dog vomit fungus” occasionally seen on wood-chip mulch. Another infests potatoes, and caused the Irish potato famine of the mid-19th century. Pleasant company, eh?

Despite the distasteful name, slime molds are pretty interesting. They have a life cycle that includes a microscopic, free-swimming amoeboid phase, a macroscopic “multi-nucleate amoeboid mass or sheet” phase, also known as a “plasmodium,” and a “fruiting” phase which distributes spores. The plasmodium phase is the most interesting, and the most observable. It seems that when sufficient free-swimming amoeboids

get hungry enough, they somehow get together into a plasmodium, which has many cell nuclei which share protoplasm, with no internal cell walls. The resulting blob-creature (not a technical term) goes looking for food (bacteria and the like) by extending itself in a fan-like form, trailing tube-like structures which allow the protoplasm to flow to the advancing front. A slime mold has been observed to move at speeds over 1 mm/s (2+ inches per minute), incredible for a creature with no muscles or even tissues. The plasmodium phase of a slime mold life-cycle looked very much like the creature in my tank.

Aha!



But all the information I could find said slime molds live in dark, moist places, like leaf litter. So what was this creature that lives under water in my aquarium? Then Google found me an article from Fungi magazine, Fall 2013, titled “Aquatic Myxomycetes.” The article stated that “myxomycetes are typically found in moist terrestrial habitats” but “there are scattered reports of aquatic myxomycetes,” and went on to describe an experience with a myxomycete plasmodium in an aquarium. And that plasmodium looked JUST LIKE my creature. Mystery solved!

Creature, I KNOW YOUR NAME!

By the third day, the myxomycete plasmodium in my aquarium had shrunk and faded, and a couple days later only a whitish discoloration on the glass remained of the once-lovely fan structure. Here and there throughout the aquarium, though, you could see on the surfaces of filters and ornaments features resembling the protoplasmic tubes of the slime mold. These remnants were sometimes associated with disgusting, amorphous, stringy masses undulating in the water currents, evocative of the name “slime mold,” or at least “slime.” Did I mention that this tank was long overdue for cleaning?

What brought this creature to this tank and not to some other tank in my fishroom? One possibly relevant fact is that this tank had no snails competing for the algae and bacteria on which the myxomycete feeds. And did I mention that this tank was long overdue for cleaning?

Epilogue

I kept the tank as it was, uncleaned and populated by hardy Rivulus killifish, for some months thereafter, in vain hopes that the graceful plasmodium might reappear. The killifish did not seem interested in the myxomycete, nor did they appear to suffer from its presence, or the unhygienic condition of the tank. Eventually I lost interest and cleaned the tank, with bleach. So my club associates need not fear Protist bycatch with my auction offerings.

But I wouldn't mind if it came back to my fishroom. At least for a few days.



1. Everything I know about slime mold I learned from https://en.wikipedia.org/wiki/Slime_mold first.
2. [https://en.wikipedia.org/wiki/Taxonomy_\(biology\)](https://en.wikipedia.org/wiki/Taxonomy_(biology))
3. If your friends think you weird because of your niche hobby, consider the Fungi aficionados. The magazine advertises the Fungi Festival, and a book called **Mycophilia** (not what you might think). Strange crowd indeed. Excellent magazine, though.
4. “Aquatic Myxomycetes,” Mitsunori Tamayama and Harold W. Keller, **Fungi** magazine 6:3, Fall 2013, pp. 18-24.
5. Sorry, too much science fiction in my youth.

SCENES FROM THE NEC

Photos & Captions by Joseph Ferdenzi



A view of the vendor room at the 2018 NEC Convention



A nano tank on display



Tom Allison of ZooMed



Tom Allison with ZooMed founder and owner Gary Bagnall



Jim Cumming of Canada, who gave several talks on cichlids



A troupe of Irish step dancers who entertained at the Saturday night banquet, which fell on St. Patrick's Day

TO BE, OR NOT TO BE...

by Elliot Oshins

Living in a one-family house with a finished basement, I was able to turn my basement into a very nice fishroom, or “private aquarium.” This private aquarium gives me a great deal of pleasure. When I speak to my friends at the fish club, they tell me that they can only fit so many tanks in their apartment. In my basement, I have set up twenty tanks. The size of my tanks ranges from ten gallons all the way up to 125 gallons. In most of my basement tanks, I have cichids.

In my den upstairs I set up a 125 gallon tank, which is overgrown with plants, thanks to my CO₂ system (and to “Big Ed,” who helped me set it up). The CO₂ unit must run only when the lights are on, otherwise the excess CO₂ can poison the fish. To my way of thinking, a CO₂ unit is a must.

In addition to the plants, in this tank I have tetras, swordtails, clown loaches, three golden rams, and some rose-line sharks. And how would a fish tank look without catfish? I have quite a few—don’t ask me to name them. OK, I will: Harry, Sam, and Eddie. I also have some African kribbs, which are very colorful. They all seem to be doing well and eating, so I can’t complain.

One day a couple of my friends from the fish club called me, wanting to see my fishroom. I said I would be very happy to have them visit. I love to show my fishroom to friends who appreciate it. I put a great deal of work into it to make it a beautiful showplace that I am proud of.

Of course all this takes work, and I tend to my fishroom on a daily basis. I enjoy fixing fish tanks, and making sure the water is changed frequently. I also make sure I decorate the tanks with different sized rocks. I also have faux rocks that have caves built into them, so that the fish can swim in and out them and hide.

My friends who visit like my setup. In two of my tanks in the basement I have a model of a man o’war (ship) with holes in the bows from sea battles. (Not really, the holes allow the fish to swim in and out of the ships.)

One of my friends says he likes it when a tank has a natural look: no sailing ships, no mermaids or castles. To each his own; to me an empty fish tank is like a barren stage with the actors waiting in the wings. Some people go to museums to look at the art of the Old Masters. Others only want to look at abstract art. It’s all up to the individual person.

When setting up a new tank, I bring fish into the fishroom in plastic bags. I take that opportunity to set

up the tanks like a set director or a lighting director in a show, by placing the bags of fish in the tank. I then decide what colors I want to see, how much sand I will put in and what sort of rocks I will place “on stage.”

One of the reasons I have taken a liking to sailing ships was that, at a very early age (3 or 4 years old), my mother used to dress

me in a sailor suit. From then on, I fell in love with the Navy. When I was drafted into the Army, I told the recruiter that I wanted to join the Navy instead, as I thought I looked better in blue than in brown. He didn’t think it was funny, and I ended up in the Army.

What gives you pleasure and enjoyment is really all that counts. A vacation, spending time with good friends, an entertaining Broadway show, or now in my case, going to a fish auction has become my guilty pleasure. I find that the most important thing when buying fish, and I have said this many times, is making sure you quarantine your newly-acquired prize for about three weeks. Most people never heard of quarantine, let alone quarantining fish. It’s possible that you’ve heard the word in an old movie about the French scientist Louis Pasteur. To me it’s a must. After three weeks you will know the fish is healthy if its frisky, eating, and swimming around the tank. If not, then unfortunately it becomes “flush time” for the fish, and the sound of Niagara Falls.

My point to all this is that with a little care and knowledge, you too can enjoy the hobby much more.





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Tonight's Speaker



Judith Weinberg is an aquarist and freelance writer in her hometown of Franklin, Massachusetts. Her interest in the endangered *Paratilapia* species of Madagascar began early on in her fishkeeping career.

With the purchase of a single fish, known to the fish community as "Bo," Ms Weinberg became devoted to caring for and breeding a number of the spot species, or Starry Night cichlids. Bo and others of his ilk have won many best of show awards at fish shows local, regional and national. Most notable are her three wins at the Northeast Council of Aquarium Societies (NEC) cichlid shows, two of which were the William T. Innes Award. She is most proud to have won the C.A.R.E.S. Championship at the ACA Convention in 2015 with a female small spot *Paratilapia*. Her presentation tonight is entitled, "Starry, Starry Night Cichlids: An inter-species love affair."

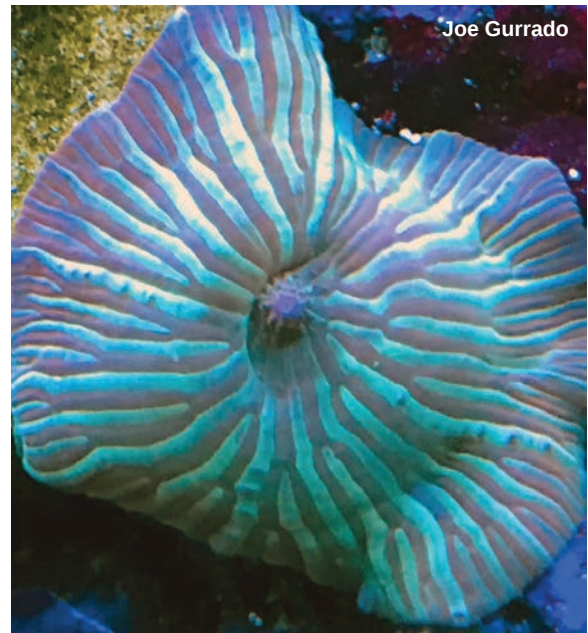
Ms. Weinberg holds two masters' degrees, in library science and literature. She is currently working on a book of short stories.



Fishy Friends' Photos

by Greater City Aquarium Society Fishy Friends

Below 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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| 2 RICHARD WAIZMAN | RED DOUBLETAIL MALE BETTA |
| 3 CARLOTTI DEJAGER | WHITE OPAQUE MALE BETTA |

A WARM WELCOME BACK TO RENEWING GCAS MEMBERS WILLIAM AMELY JULES BIRNBAUM, JEFF BOLLBACH, JIM BREHENY, STEVEN CHEN, ROBERTO COMMISSIONG, HARRY FAUSTMANN, ARTIE FRIEDMAN, WALTER GALLO, JOE GRAFFAGNINO, JOSEPH GURRADO, VICTOR HRITS, JASON IRIZARRY, CARLOTTI DE JAEGER, HERB KAREN, THOMAS KEEGAN, DENVER LETTMAN, GINA LEWIS, MICHAEL MACHT, SCOTT PETERS, AL & SUE PRIEST, DAN PULEO, STEVE SICA & DONNA SOSNA SICA, ED VUKICH, THOMAS WARNS, RON WEBB, AND PETER WOLTJEN!

A SPECIAL WELCOME TO NEW GCAS MEMBERS MARTIN KARFINKEL, TONY SIANO, BARBARA SMALL, AND AL TURRISI!

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

GREATER CITY AQUARIUM SOCIETY

Next Meeting: May 2, 2018

Speaker: TBA

Topic: TBA

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: April 13, 2018

Speaker: Joe Ferdenzi

Topic: *Saltwater For Beginners*

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: April 20, 2018

Speaker: TBA

Topic: TBA

Meets: Olive Garden Restaurant

257 Centereach Mall,

Centereach, NY 11720

Phone: (631) 585-4027

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

Email: Margaret Peterson - president@liasonline.org

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

EAST COAST GUPPY ASSOCIATION

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

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

Contact: Gene Baudier (631) 345-6399

NASSAU COUNTY AQUARIUM SOCIETY

Next Meeting: April 10, 2018

Speaker: TBA

Topic: TBA

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

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

Contact: Mike Foran (516) 798-6766

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

NORTH JERSEY AQUARIUM SOCIETY

Next Meeting: April 21, 2018

Speaker: Oliver Lucanus

Topic: "Discus In Their Home Waters"

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

Contact: NJAS Hotline at (732) 332-1392

Email: tcoletti@obius.jnj.com

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

NORWALK AQUARIUM SOCIETY

Next Meeting: March 15, 2018

Speaker: Peter George

Topic: *Lake Victorian Cichlids*

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/>

Better with age

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.

Fact of fishkeeper life: **fish jump**. If not all fish, then most do (especially those in my tanks). Another fact of life: we slow down as we age, and can't do as well physically as when we were younger. Well, apparently this latter "fact" doesn't apply in all circumstances for certain fish.

Researchers from the universities of Exeter and Alabama have discovered that mangrove rivulus, *Kryptolebias marmoratus*, can leap further as they get older, and are capable of "tail-flip jumping" many times their body length when out of water, allowing them to escape predators and find better habitats.¹

They found certain traits were linked to longer jumping among younger fish, but as they got older these effects diminished and age itself was most closely linked with jumping distance.

Of more than 200 fish examined, the longest jumper was also the oldest—a four-year-old mangrove rivulus that jumped more than twelve times its body length.

"We found that the length and position of certain bones seem to help younger fish jump further," said Dr Tom Houslay, of the Centre for Ecology and Conservation on the University of Exeter's Penryn Campus in Cornwall.

"However, these links disappear as they age, and older fish are better at jumping regardless of these physical characteristics."

The mangrove killifish lives in brackish and marine waters (less frequently in fresh water) along the coasts of Florida, through the Antilles, and along the eastern and northern Atlantic coasts of Mexico, Central America and South America. It has a very wide tolerance of both salinity (0-68 ‰) and temperature (12–38 °C or 54–100 °F), and can survive for about two months on land, and mostly breeds by self-fertilization.²

"The next step in this line of research is to figure out whether genetic variation underlies differences in body structure associated with jumping performance in young fish," said Joe

Styga, PhD candidate at the University of Alabama and lead author of the study.

"This information may help us to determine to what extent jumping performance may evolve in the face of environmental change."

Let's see, since researchers already want to do

genetic experiments on this fish, why not mix some mangrove rivulus DNA with human, for an Olympic class jumper?



Mangrove rivulus jumping. Credit: Ben Perlman and Nickolay Hristov



References

¹ <https://phys.org/news/2018-03-trumps-youth-fish.html>

² https://en.wikipedia.org/wiki/Mangrove_rivulus



Fin Fun



Trivial Pursuit

This is the second issue of **Modern Aquarium** in 2018. How many of you have noticed that this is a landmark year for our fine publication? Thus far, neither our Esteemed Editor nor our Grand Pooh - Bah President have made any mention of it. If you return to the cover and look directly under the photo, you will find the month and the year as well as the Volume Number. **XXV!** In America that translates to twenty five (25). Yes friends, 2018 is the twenty fifth season of **Modern Aquarium**, series III (3). By the end of this year that will add up to 249 issues. Yikes, that's a lot of Fin Fun! So, in commemoration of this special occasion, here is a trivia challenge for you. Very simply put, match up each column, article or question with the correct name.

Who authored the column "Spotlight on Plants?"	Jannette Ramirez
Who authored the column "Mermaid Tales?"	Dan Radebaugh
Who is The Roll of Honor named after?	Al Priest
Who is the C.A.R.E.S. coordinator of G.C.A.S.?	Sue Priest
Who wrote the first Wet Leaves book review?	Charley Sabatino
Who wrote the second Wet Leaves book review?	Rosario LaCorte
What luminary of the hobby brought us a preview copy of his book "An Aquarist's Journey?"	Claudia Dickinson
Who authored the column "Aquarian Minds Want to Know?"	Joe Ferdenzi
Who brought color to the inside pages of M.A. in 2008?	Sharon Barnett

Solution to our last puzzle: **Know thy mbuna**

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

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