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number 3

Greater City Aquarium Society - New York

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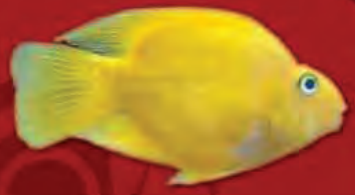




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Series III Vol. XXXII, No. 3, May, 2025

ON THE COVER

Our cover photo this month, from GCAS member Scott Peters, features a beautiful pair of *Apistogramma Ortegai,* a small but beautiful little fish native to eastern Peru, near the village of Pebas.

In This Issue

From the Editor

by Dan Radebaugh

Judging by our recent meetings, the increased attendance at our meetings since moving to the Alley Pond Environmental Center seems to be both real and ongoing! Well, the more the merrier! More chances to meet new and interesting people, more fish for our auctions, and more interest and input from our members! It's great to see all of you!

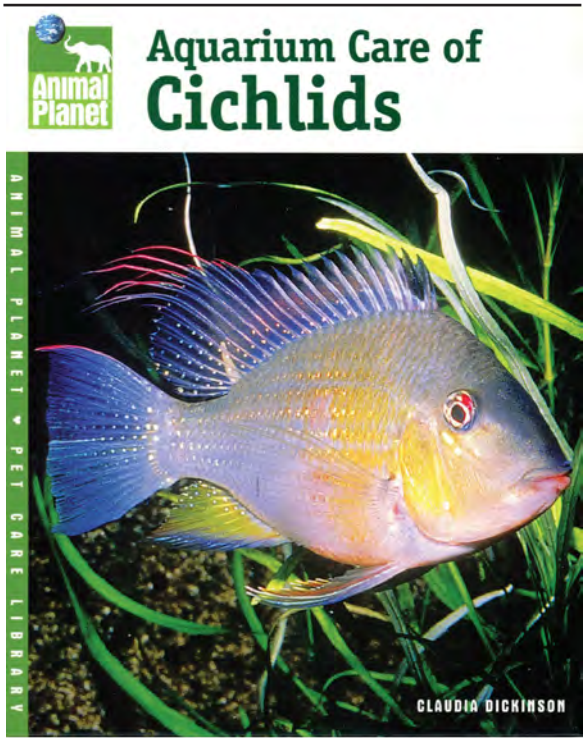
This issue of **Modern Aquarium** covers a lot of ground! Something old, something new, maybe even something a little bit different!

I think most of you have noticed Marsha Radebaugh's recent series that we're calling **Who Are We?** See page 14 in this issue for an introduction to Greater City member Ron Webb! I would also like to point out the tremendous contributions to this magazine over the years by Steve Sica. Be sure and see Steve's latest fishkeeping article, "Ten More Gallons," on page 7! Believe me, having Steve's consistently wonderful articles over the years has been a godsend to me, and to others before me. Thanks, Steve! Do keep up the great work!

I'd also like to welcome a **new** contributor to **Modern Aquarium**, Donna Ansari! Donna has also been part of our team of proofreaders, but if you look at her artwork (page 22) you'll see that she has other talents as well! I am also indebted to Tom Warns, who in addition to writing top-notch articles has been active as a proofreader, as have Donna Sica, Marsha Radebaugh and Joe Ferdenzi. Believe me, I couldn't do this job without such great help!

Modern Aquarium is produced by and for the members of the Greater City Aquarium Society. You, our members, are our authors, and with ten issues per year, we always, *always* need more articles. I know that many of you are keeping and/or breeding fish that I and others would like to know more about. So tell us about them! If you're a little unsure about the state of your writing technique, don't worry—that's why editors were invented!

So if you have an article, photo, or drawing that you'd like to submit for inclusion in **Modern Aquarium**, it's easy to do! Just fax it to me at (877) 299-0522, email it to gcas@earthlink.net, or just hand it to me at a meeting. However you get it to me, I'll be delighted to receive it! Enjoy!



by Greater City member Claudia Dickinson
(Animal Planet® Pet Care Library)
Hardcover – Also available on Amazon Kindle
https://www.amazon.com/Aquarium-Cichlids-Animal-Planet-Library/dp/0793837774

GCAS Meeting Schedule 2025

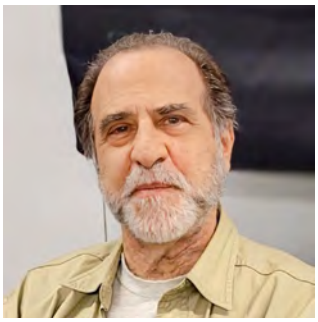
March 5	Breeder Boxes
April 2	Natural Aquariums, Part 1
May 7	Natural Aquariums, Part 2
June 4	Guppies
July 2	The Balanced Aquarium
August 6	Night At The Auction
September 3	TBD
October 1	TBD
November 5	TBD
December 3	Holiday Awards Dinner!

Articles submitted for consideration in ***Modern Aquarium*** (ISSN 2150-0940) must be received no later than the 10th day of the month prior to the month of publication. Please email submissions to gcas@earthlink.net, or fax to (347) 379-4984.

The Greater City Aquarium Society meets every month except January and February. Members receive notice of meetings in the mail or by email. For more information, contact: Dan Radebaugh at (718) 458-8437, email to gcas@earthlink.net, or fax to (347) 379-4984. For more information about our club or to see previous issues of **Modern Aquarium**, you can also go to our Internet Home Page at http://www.greatercity.net, http://www.greatercity.org, or http://www.greatercity.com.

President's Message

by Warren Feuer



Do you have what you want? Don't get me wrong, I am not talking about what you'd have if you won Mega Millions or Power Ball and had absolutely no limit on what you could get. No, I am talking about identifying and reaching your attainable goals. Allow me to provide some examples. I go to a local gym several times a week, and am always fascinated by the folks who work out and never seem happy with their muscle size and/or definition and are frequently checking how they look in the gym's mirrors, often seeming to frown at what the mirrors reflect. Or, continue to push themselves on the various running, climbing, cycling weight-based options there, clearly exhausted but pushing further. I can identify. When I was younger, I was always looking for that extra rep at the gym or extra minute or two pushing my stamina limits. The result? I eventually injured myself, not once but twice, and had to dial back my workouts.

In my business life, I was always looking to move upward and find a better opportunity, as defined by a higher level and better compensation. Eventually I landed in a position that was ideal; I had a very nice compensation package, a respectable level of position, responsibility, authority and was working on a state-of-the-art system that changed how commodities were traded. I was recognized nationally as an authority on this novel technology, and I was sought after to speak across the country. Still, I wanted more. I took a position at a competitor, with a considerable increase in compensation and title, and probably bit off more than I could chew. The result? I was let go at the job after a significant failure that was a result of a miscalculation on my part. I came crashing down to earth and had to start over.

My experience in the hobby world has followed a similar path. When I lived in an apartment in Forest Hills, I had 11 tanks in my 2-bedroom apartment, and I wanted a dedicated fish room. When we bought a house in Long Island, I turned the basement into my fish room. Eventually I had over 30 tanks set up down there, and spent as much free time as I could taking care of the fish, waking up early on weekends for water changes, and all other maintenance. Then I got sick and found it harder and harder to take care of all the tanks. You can guess what happened—I could not perform tank maintenance as frequently and regularly as I had been. I've since reduced my tank count and have been able to return to a more frequent and regular maintenance schedule. Fortunately, the fish I'm keeping did not suffer due to my maintenance decrease, but I suspect it was just a matter of time until they did.

On the society side of the hobby, I ran all over the place, attending as many conventions and club meetings as I could. I was looking for acceptance and recognition from the icons of the hobby. Now, of course, I realize how little that all means, but at the time, it was something I sought. I never reached my goal, whatever that was, because I didn't really know what I was looking for, and after a while, I realized that I was looking for something I'd never attain. These days, I am very happy with my place in the hobby. Hey, I'm the President of GCAS, and that's pretty great!

My point in all this is, as I watch the gym attendees pump and pose, I wonder if any of them will ever get what they want, whatever that is. Most of them are in pretty good shape already and quite a few of them have reached a level that almost all of us would be very happy with. And yet, they seem unsatisfied, checking their progress in the gym's mirrors and often visibly unsatisfied. And, while it's likely that they have reached their current levels by not being satisfied and working harder, there's a limit to what can be accomplished as well as the cost to obtain those goals.

I have visited many fish rooms, and many in content and condition that completely minimize what I have set up. However, I realize my own limits in how much time and resources I want to devote to my fish and what the trade-offs are, and I am completely satisfied with what I have. Well, maybe not completely satisfied. But that's my nature. As you can probably guess, I am a Type A person and have always been fairly ambitious. It's brought me success and I am glad that, at this point, I have learned to temper my ambition and not suffocate it. I believe that there's nothing wrong with ambition as long as it's managed and not allowed to run wild. As an example of this, my dear late friend Victor Becker (who by the way introduced me to GCAS way back in 1992) always wanted to own a house and have a fish room. However, he was never able to purchase a house and lived in an apartment his whole life. Once his children moved out of the apartment, he turned their bedroom into a fish room and was completely satisfied with what he had. He never complained about his limits in keeping fish and enjoyed what he had.

As you consider your wants and needs, specifically as it pertains to our hobby, make sure your goals are in line with what's possible. Take it from me, overreaching is not worth it and satisfaction and happiness are best measured in setting realistic goals and achieving them.

Warren

GCAS Thanks You!

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BOWL SHOW RULES

There is a Bowl Show at every GCAS meeting, except our Night at the Auction/ fleamarket meeting and our Holiday Party and Awards Banquet meeting. Bowl shows are open to all members of GCAS. Rules are as follows:

- Only current GCAS members may enter fish in the Bowl Show.
- There is a limit of 2 entries per member per meeting.
- Unlike some other clubs, every month is an "open" Bowl Show at the GCAS (i.e., there is no "theme," such as that one month cichlids are judged, the next livebearers, the next anabantoids, etc.).
- Any fish that wins any prize (1st, 2nd, or 3rd) may not be entered again in the same meeting year.
- B.Y.O.B. (Bring Your Own Bowl!) Entrants are responsible for providing suitable containers and suitable water for their fish. These containers must be clear on at least three sides.
- Only one fish per container (i.e., no "pairs").
- No plants, ornaments, or equipment (filters, airstones, etc.) are allowed in the judging tank (an external mirror, or opaque cards between containers is acceptable, as is a cover that does not obstruct side viewing).
- Points are awarded: 5 points for 1st Place, 3 for 2nd Place, and 1 for 3rd Place.
- Ribbons are awarded: blue for 1st Place, red for 2nd Place, and green for 3rd Place.
- The person with the most points at the end of the meeting season receives the Walter Hubel Bowl Show Champion trophy at the Awards Banquet.
- The decision of the judge(s) is final.
- A running UNOFFICIAL total of the points awarded is printed in **Modern Aquarium**. Only the tally of points maintained by the Bowl Show Coordinator is official.

- **In case of ties**:
- 1st Tiebreaker – most 1st Places
- 2nd Tiebreaker – most 2nd Places
- 3rd Tiebreaker – most entries

Ten More Gallons

Story and Photos by Stephen Sica

My wife proof read this piece and told me that it was disjointed. Since she, as a retired lawyer, is much smarter than I am, I did a brief partial rewrite, so if this story doesn't make much sense, I present it as a series of thoughts about my fish. You probably understand that if you have had one hobby for a certain number of years, your mind may eventually begin to flutter all over the place. Mine certainly does.

When I was a child, I used to think that any young person who was interested in fishkeeping would start with either a goldfish bowl or a ten gallon fish tank full of guppies. Today, you can probably replace either the bowl or tank, or both, with a betta fish setup. Better yet, just add the betta setup to the other two and have three choices for beginners.

Male swordtail searching for food near the bottom

I currently have four ten gallon aquariums. This is nothing special except I decided to write a story about how I came to have the fourth tank. First, one tank sits in the den with eleven or twelve black neon tetras and two trapdoor snails. A betta was formerly the thirteenth fish, but it aged and passed away the day before I began this article. He was hardly eating or swimming around. He mostly slept on his betta leaf near the surface. I did my best to take good care of him. I hope that he had a good life.

My first thoughts were to replace him with a small school of tetras or similar. The current inhabitants mostly prefer to lie low if anyone should gaze into the tank. A few days before the betta passed, a New Year's Eve visitor recognized the sleeping betta on his artificial leaf, but insisted that the tetras were guppies. She did enjoy the betta leaf concept. I told her that her "guppy-tetras" liked to stay out of sight despite my displaying their tank in a prominent location. I thanked her for her astute tropical fish knowledge and she happily left just after midnight.

I decided to lie low before replacing, or not, the betta. I do not give fish names, although Donna will, but the betta was a favorite. I would sit on the sofa close to him and often gaze at him while trying to stay awake while the TV was on. If I looked at the tetras, they would swim away and hide near two large rocks. I occasionally tried to photograph them to recall what they looked like.

The remaining three ten gallon fish tanks are in my basement. For years one was a plant nursery, until two tiny fish appeared. I suppose plants that I purchased at GCAS auctions came with fish eggs. One fish grew into an Emperor tetra but the other still is a mystery to me. The second fish looks similar to a Clown loach. It's probably a cichlid of some sort, but I am no expert on this species.

The next ten gallon tank is actually a home for a few guppies and four *Corydoras aeneus* catfish, plus a few more trapdoor snails, and lots of moss and fern plants. I had no plans to have a fourth ten gallon aquarium, so it must have been fate.

On a summer day in July 2024 I decided to inspect two LED fixtures on the top of a storage shelf in my basement. The fixtures were above my head, so I never paid them any heed until that fateful day. The larger light fixture was in a box so I could tell most details about it easily. The smaller fixture was thoroughly entwined in bubble wrap. I grabbed it down, sat on a chair and began to unwrap it. The small LED light fixture soon turned into a glass top for a ten gallon tank. I think it was the Perfecto brand name. No wonder it was securely bubble wrapped! I guess that I decided that an extra glass top might come in handy someday. I probably bought it at a good price. →

Two weeks later I was sitting in the back of the room for the August GCAS auction-only meeting. Joe Ferdenzi, spelling Ed Vukich, offered for auction a wrought iron ten gallon tank stand for ten dollars. No one seemed to be interested, so I shot up my left hand and bought it. You cannot buy any size tank stand for a reasonable price nowadays. I bought it because the price was good. Now I had a stand and glass top for a ten gallon tank.

Another month or so went by and I was in the Riverhead PetSmart. The store was having one of its recurring tank sales. A ten gallon tank was fifteen dollars, so I bought one. Again, it was a good price. I took the tank home and placed it on the stand. I shifted the ten gallon plant tank a few inches to the right and added the new tank under a small basement window right in front of an electrical outlet. A perfect fit. Plus, it seemed that it was meant to be.

Like most aquarists I have boxes full of stuff; you know, miscellaneous items and spare parts, such as heaters, filters, tubing. I decided to place a small triangular sponge filter in the rear corner of the tank. I added a fifty watt submersible heater—the type that has its temperature control on the electrical cord section that is out of water. I like these for this very reason, because these newer models enable a person to adjust the temperature easily and keep dry hands. It sure is easier to operate. The tubes are usually shorter, too. Personally, I doubt if the temperature is any more accurate than earlier heaters with the adjustment knob on top of the submersed tube.

Finally, the tank needed light. I have spares in various types of light fixtures but I wanted to use one with a fluorescent tube. I got out my twenty inch T-8 classic stainless metal fixture

made for ten gallon tanks. I had purchased it at a GCAS auction many years ago. It still worked, but the original wiring was hazardous so I quickly put it away. I think that I paid ten dollars; I must have thought that it was a good price at the time. Fortunately, I have the same fixture in a modern black plastic design. It is my only spare "traditional" fluorescent fixture for a ten gallon tank, so it came in very handy. The light cast by a single T-8 tube is not very bright in my view, but it was the perfect match.

I leisurely assembled the tank and accessories in my spare time, and added water, large gravel stones and a few large *anubias barteri* with broad leaves. I used black thread to attach three of the plants to a small piece of driftwood. I placed these in the center rear of the tank; everything looked good to me. I added some java moss and ferns to fill the tank up with plants.

I had no thoughts of adding fish, but by the time I finished writing this several months had passed, so the tank currently contains more trapdoor snails, a pair of young green swordtails that I bought at the now closed Pets Warehouse in Carle Place, a very young female betta that I purchased at Petco in Riverhead, and ten mystery (to me) fish fry that I purchased at a GCAS auction last year. I already had the snails and I feel that I purchased the other inhabitants at a reasonable price. A few months later, every occupant is alive and well so I am pleased. This is what always matters most in the end!

Still Another Invasive Aquatic Species, Mosquitofish, Found

Strange little fish inhabits Glad Run Lake, Butler County

by Deborah Weisberg

Pittsburgh – It appears that someone did a stocking of their own at the newly refurbished Glad Run Lake in Butler County, upsetting the ecosystem with an unwanted invasive.

***Gambusia Affinis* - Western Mosquitofish**

Pennsylvania Fish & Boat Commission biologists were stunned to discover Western Mosquitofish – a small but voracious non-native prey species never before documented in Pennsylvania – during a an electrofishing demonstration for a Glad Run Conservancy event in early October.

Drained for a $4 million dam reconstruction in 2011, Glade Run lake has been catch-and-release-only since it was refilled and stocked with largemouth bass, bluegills, and other species in 2017, and will be regulated for harvest as of January 1.

"We found hundreds – maybe thousands – of this fish we'd never seen before," said an area fisheries manager Tim Wilson. "We collected some and brought them back to the lab to be looked at under a dissecting microscope, and ID'd them."

"Western Mosquitofish are native to the Mississippi Drainage but not Pennsylvania and so they obviously didn't get there on their own. We suspect they were illegally introduced to the lake with a bait bucket."

Western Mosquitofish are a live-bearing species that grow to about 2 inches and can survive in harsh environments with limited oxygen. They can be purchased from Amazon and some pet supply retailers and are marketed as effective at controlling aquatic insect larvae and algae in backyard ponds and aquariums.

Its cousin the eastern mosquitofish is native to the Delaware and lower Susquehanna rivers, but has been illegally introduced outside of its indigenous range, said Sean Hartzell, the commission's aquatic invasive species coordinator.

"It's too soon to know the full impact of either species because neither one has been that well studied. They are forage for sportfish, but they are feeding on the plankton community and competing with larval fish and juvenile pan fish for food resources."

"A major concern," he said, "is that anglers will continue to introduce both the eastern and the Western Mosquitofish where they don't belong."

"The Western Mosquitofish is among about 60 invasive aquatic animals of greatest concern in Pennsylvania, and putting them into any commonwealth water is unlawful," said Hartzell.

"As of January 1 of this year, we adopted stricter regulations aimed at controlling the spread of invasive species. You can't release any bait fish that isn't on a hook into any commonwealth water; can't dump bait buckets into commonwealth waters."

"The new regulations strengthen existing regulations that prevent people from taking a fish from one lake or stream and releasing it anywhere else," he said.

"When snakeheads, for example, were first documented in the Delaware and Susquehanna watersheds over a decade ago there was concern about how they would affect other fish communities, but data now suggests that although they are widespread they may be less impactful than originally anticipated," Hartzell said, noting that it can take time to assess the effects of any invasive on a fishery.

A recent survey of Lake LeBoeuf in Erie County turned up white perch, a native to southeastern Pennsylvania waters but considered invasive in the western part of the state. At LeBoeuf, they join another and more worrisome invasive – the round gobies. "White perch are

This article appeared in the January, 2025 issue of the Aquarium Club of Lancaster County's publication ***Tank Tales****.*

probably hurting the white bass population by over competing it for habitat and food, but they're a relatively recent introduction, so we'll come back in 10 years and see," said Hartzell.

"Round gobies were first documented in LeBoeuf 10 years ago and I'm losing more sleep over them."

"White perch have shown up in other western Pennsylvania fisheries, including Lake Erie and Pymatuning Reservoir, where they are growing in abundance," said Wilson. "We first sampled them in Pymatuning five years ago and this year we saw a ton."

"In Erie they reach a quality size. In Pymatuning they have been surveyed at 6 to 7 inches or less and they are growing in abundance. We first caught them in surveys five years ago and this year we saw a ton."

"In some waters white perch show a tendency to stunt," he said. "Quite often, they so over-produce that they inhibit their own growth through over-abundance. They compete with natives and more desirable species like bluegills and crappies."

"White perch are nest raiders and egg predators, and consume other fish," Wilson said. "If they can get it into their mouth they will probably eat it."

"Besides stricter regulations around keeping non-natives out of commonwealth waters, the commission has focused on public education and monitoring." Said Hartzrell, who notes that the Governor's Invasive Species Council is the nexus in an effort involving many partners, including Pennsylvania Sea Grant.

"Although it can be a little hard to measure, we've had some success. We've gained a lot more traction in the past for years, and we are getting a lot more reports of invasives from the public because of greater awareness."

Source:

Reprinted with permission from: **Pennsylvania Outdoor News**, November 22, 2024, Volume 21, No. 24

FISHES ON THE WEB

Zebrafish protein unlocks dormant genes for heart repair

More medical marvels from the Zebrafish (*Danio rerio*)! Researchers have successfully repaired damaged mouse hearts using a protein from zebrafish. They discovered that the protein Hmga1 plays a key role in heart regeneration in zebrafish. In mice, this protein was able to restore the heart by activating dormant repair genes without causing side effects, such as heart enlargement. This study marks an important step toward regenerative therapies to prevent heart failure.

Photo from Wikipedia

https://www.sciencedaily.com/releases/2025/01/250102162650.htm?utm_source=substack&utm_medium=email

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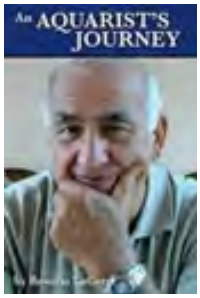
Book Review:
An Aquarist's Journey

by Rosario LaCorte

Reviewed by: Clifford H. Crain, Jr.



Rosario LaCorte (nickname "Za," read the book for where that name came from) was for many years the most well-known and respected aquarist in America. In 2008 Za's friend Joe Ferdenzi asked Rosario to write a book about his life, and we are indeed fortunate that Za did so. The Greater City Aquarium Society published **An Aquarist's Journey** in 2021, and the book is available on Amazon.com.

No one has made more presentations at aquarium society meetings than Za. It all started in the early 1960s at a meeting of the New Jersey Aquarium Society, when he told the group about his experience breeding the neon tetra, quite an accomplishment at the time.

Za has had two fish named after him: an annual killifish, *Martecoara lacortei*, and the rainbow emperor tetra, *Nematobrycon lacortei*. In addition, he was responsible for introducing the black phantom tetra to the aquarium world, and he bred it in quantity.

In his talks, Za emphasized the importance of live food. I was fortunate to have a one-on-one discussion with Za, and while I regret I do not remember what we talked about, I do remember him emphasizing the importance of feeding one's fish live food. As a result of his deep interest in fish nutrition, Za discovered the role of chitin in the formation of finnage. Chitin can be found in daphnia, brine shrimp, cyclops, saltwater prawns, mysis shrimp and krill.

My meeting with Rosario LaCorte at the North Jersey Workshop, November 20, 1981. At left is Bill Jacobs. Note the ashtray with cigarette butts; how times have changed!

In the early days he was able to collect live food, specifically daphnia and mosquito larvae, in the undeveloped parts of northern New Jersey. The Passaic River, though polluted, was full of daphnia, tubifex worms and fairy shrimp, which supported many fish keepers and breeders. "It was a wonderful time to be in the hobby."

Za felt so strongly about live food that he dug by hand a 15'x 20' pond in his backyard and seeded it with blackworms. The decaying leaves also attracted bloodworms, but the whole effort came to naught when frogs discovered the pond and ate the live food. Among the live food stories in the book is how he solved the mystery of betta deaths, determining the cause to be the feeding of whole tubifex worms to the fish. Chopping the worms cured the problem. Za has shared the "chopping worms" advice in numerous aquarium society presentations.

Za discovered that frozen bloodworms from China caused fish to bloat and die. When he stopped using those bloodworms, the deaths stopped. (Frozen bloodworms are a favorite in my fishroom and have not caused bloat in my fish. Za made seven collecting trips to South America. The book devotes 77 of its 207 pages of text to these trips and is peppered with interesting stories. Not enjoyable was the constant oppressive heat, humidity and mosquitoes experienced in the Amazon and Venezuela. One thing he found out during these trips is that fish with vivid colors in the wild often lose this coloration in aquariums. The package, labeled "Product of Indonesia," states the contents are "highly purified" and "Free from harmful parasites, unwanted bacteria & foul odor.")

This article originally appeared in the February, 2025 issue of Central New York Aquarium Society's ***The Reflector***

Za made seven collecting trips to South America. The book devotes 77 of its 207 pages of text to these trips and is peppered with interesting stories. Not enjoyable was the constant oppressive heat, humidity and mosquitoes experienced in the Amazon and Venezuela. One thing he found out during these trips is that fish with vivid colors in the wild often lose this coloration in aquariums.

He relates the story of a fellow collector who was bitten in the ankle by a piranha. There was not much loss of blood, but the wound was deep and difficult to treat, and it took two weeks before the person was able to get out of bed.

For his second trip to Brazil, Za was the first person to bring back *Cynolebias constanciae*. He financed his third trip to Brazil by selling pairs of *C. constanciae* to members of the American Killifish Association, kicking back $5 of the sale price to the AKA. His article introducing the fish to hobbyists appeared in the July 1980 **Freshwater and Marine Aquarium** magazine.

Not all memories of his collecting trips were pleasant. A competitor of one of Za's collecting companions filed a complaint that the collector assisted Za in taking rare and protected fish out of the country. While a judge dismissed the claim, Za, who had been corresponding with the accuser for years, was very upset: "His betrayal was quite unsettling."

I found Za's story of his move to another house interesting. The old house was too big and expensive to heat. He moved the aquariums a few at a time to the new house. The fishroom of the new house was unheated, but his friend and neighbor George Fear gave him a baseboard heating system that he no longer needed. The new house depended on well water which was acidic with high CO2 and bacteria. Za incurred the death of some valuable fish as a result. Furthermore, the well could not maintain the necessary pressure and flow. In the end, Za paid to have city water piped to his house.

Tony Orso and Za's friend George Fear. George and I exchanged fish through the mail, and I finally got to meet him at his house, where I snapped this photo, on the same trip that I met Rosario.

Look carefully and you'll find loads of interesting tidbits throughout the book. For instance, Za believes that sediment that eventually collects in water heaters can turn the water toxic to fish, so he recommends regular flushing of the hot water tank. He has had great luck with growing philodendron above fish tanks and allowing the roots of the plant to consume nutrients in the water. Za enjoys sketching fish and includes some examples in the book.

I especially related to RL's many recollections of "the good ole days." We old-timers remember the days when there were numerous local fish stores: "During the 50's and 60's there were many wonderful fish stores in the area, and I devoted Saturdays to visiting stores and wholesale establishments." When he spoke at the Brooklyn Aquarium Society in the early 1970s, "the society always had a wonderful turnout at their monthly meetings, and it wasn't unusual to have more than 150 people in attendance." Wow!

Za started keeping a guestbook for his fishroom in 1962, and at the time of his writing, the book has 532 names of aquarists from all over the world. Throughout the book he talks about aquarists he has met over the years, including Ross Socolof, Paul Spiece of "Guppies to Groupers" fame, George Fear, well-known aquarist and importer from New Jersey; Don Dewey, founder and editor of **Freshwater and Marine Aquarium** magazine, Charlie Grimes, a much-in-demand convention speaker known for his humorous presentations; and Ray "Kingfish" Lucas.

An Aquarist's Journey is not only written in an easily-accessible style, it is also loaded with photos, all from Za's collection: 322 color and 49 black and white (yes, I counted them). The book is fully indexed and includes a list of 54 of Za's articles. I strongly recommend this book and applaud the Greater City Aquarium Society for ensuring that it got written and published!

Who Are We?

by Marsha Radebaugh

In its 100+ years of existence, Greater City Aquarium Society has had a membership of thousands. Each month, with the exception of those during the Pandemic, our meetings have an average of 40 – 60 members and visitors in attendance. We all know who the "stars" are, the officers, presenters, regular runners, etc. are individuals well known to the rest of us. There are those, however, who quietly and consistently attend most if not all meetings. We sit beside each other, sometimes chatting, sometimes not, without any idea who our neighbors are outside of this room. Well, I think it's time we found out. As Membership Chair, I have the opportunity to meet and greet each of you, checking you in and handing you your **Modern Aquarium** issue, your door prize ticket and collecting dues. I know who you are! But do you? So, going forward, as often as I can, I'm going to select a loyal member and introduce him or her to the rest of you in this column.

Meet Ron Webb

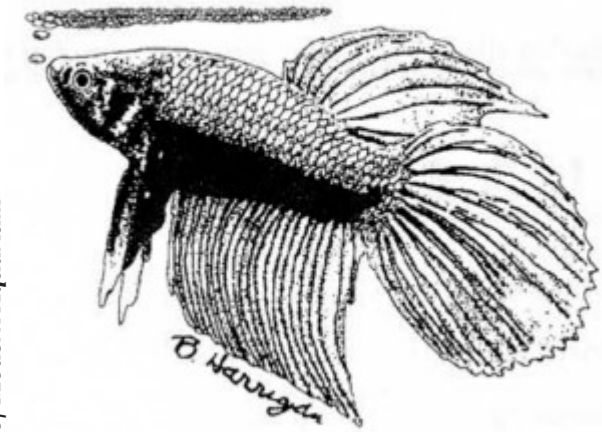
Actually, you may recognize Ron Webb. I know I say in the intro that I would feature members other than "stars" like our regular runners. And Ron is a regular runner. But he's so unassuming and laid back that I feel the need to show you what a steady, loyal, reliable member looks like. Ron is such a steady and reliable guy that he still lives in the same home where he grew up in Rockville Centre, NY, as an adult, marrying Robin and raising his 2 children, Connor and Kyra in the very same home. It was in that home as a boy of about 9 that his older brother Kevin introduced him to the aquarium hobby. When his brother lost interest, Ron kept it going and has been keeping tropical fish ever since; even continuing while away at college by setting up a tank in his dorm room. When he returned to Rockville Centre, married Robin, a 28-year

veteran police officer now retired, Ron was still that single tank kind of guy. But he used to pass a neighbor's home around the corner and admire a beautiful tank on display in the window and wonder about the tank and it's owner. Then one day at a neighborhood celebration, he met him! It was none other than our very own Vice President and auctioneer extraordinaire, Ed Vukich! Ed showed Ron his fish room, expanded Ron's interest in the hobby, and as Ron puts it, "elevated his fish keeping." He also introduced him to Greater City Aquarium Society!

You can guess the rest. That was about 10 years ago, and Ron has graduated to 13 tanks, keeping Koi Angels, assorted guppies, red cherry, blue dream, and orange sunkist shrimp, assorted mollies, green, albino, and black cories, as well as breeding groups of super red *Ancistrus*. His home office now doubles as his fish room. He also maintains 4 outside 40 and 20 gallon tubs with white clouds, rainbows, catfish, and water lilies. Like so many of our members, Ron also belongs to the Nassau County and the Long Island Aquarium Societies. Ron says, "fish, and fish keeping is sort of what I do." He also enjoys fishing, doing so in a local pond in waders March through November. Of course that's not all he does. He's been in sales his entire working life, starting with a paper route at age 10 and working for Pitney Bowes since 1993. But it looks like retirement might not be that far off for Ron, and we know what he'll be spending a lot of time doing. That's right – fishing! – in more ways than one!

The following pages from page 20 to page 20 originally appeared in the April, 2006 issue of ***Modern Aquarium***

THE EDITOR'S BABBLENEST



by ALEXANDER A. PRIEST

This month, we have two new authors: Sharon Barnett and Dan Radebaugh! Dan also provided us with the cover photo for this issue. Please let them know how much you enjoyed reading their articles, and that you appreciate the support they have shown for Greater City by contributing to its publication, Modern Aquarium.

And, thanks to Dan, Modern Aquarium has its first cover photo and feature article on American native fish. So, in keeping with this idea, Joe Ferdenzi and I have each written a short article on natives we have kept (and, in my case, am currently keeping).

APRIL 2006
volume XIII
number 2

Natives, Anyone?

by DAN RADEBAUGH

My first experience keeping fish was with *Gambusia*. I was nine or ten, and we lived on a lake north of Tampa, so collecting them was simple. Keeping them alive in glass jars proved less so, but the seed was sown. I tried *Gambusia* again a few years later - then keeping fish in an actual fish tank (and an outdoor pond) — this time my goldfish & tropicals got their fins shredded by these small but aggressive natives, so the *Gambusia* got returned to the swamp from whence they came.

These days I'm more interested in larger fish than *Gambusia*, but the idea of natives still appeals to me, so I've put together a small collection of natives, both wild-caught and hatchery-bought. My current native residents are three yellow perch, four pumpkinseeds, two warmouths, and a spotted sunfish (*Lepomis punctatus*), as well as a longnose gar.

There are a lot of reasons people don't keep native fish. They are generally perceived as being rather drab, many require living food, most prefer cooler water than we are used to providing, or than indeed was possible in the old days of incandescent lamps. Then there is the matter of acquiring them. There is little or no uniformity among the states as to the laws for collecting, buying and selling, or even possessing native fishes. While many of these laws make some sense when placed in local historical context, just as many are illogical, arbitrary, or just plain silly. Add to this the issues of acquiring the needed licenses, possibly further endangering threatened species, private property ("What are you doing with that net in my creek?"), and it becomes apparent that you need to do some homework before you sally forth to collect your natives. In fact, to those of us living in cities like New York, the whole idea of sallying forth into the wilderness when there are perfectly good pet shops within walking distance can seem more than a little masochistic. Besides, what about that drab thing? Well, let's talk!

First, about the drab thing. There are hundreds of North American fish potentially suitable for aquariums. Many are strikingly colorful! Who knew? Very few aquarist books even mention them. Ironically, many of our North American fishes have become rather popular among European aquarists. Between all the minnows, darters, shiners, catfish, and sunfish, there are plenty of natives to suit nearly any color preference or tank size. Fortunately, there are now some field guides and other books that show decent color plates of a wide range of North American native fishes.

Often the choice of substrate and lighting make a surprising difference in how your fish display. For my fish, a switch to a lighter gravel and stronger lighting was a revelation!

Water Conditions:

Many natives occur over a wide geographical and climatic range, and with some exceptions are not too picky about pH, hardness, etc. Salmonids, such as trout, are very difficult (and in many states illegal) to keep in aquaria. They require pristine water, usually too cool for average aquarists to maintain. The Southeastern brook trout, for example, will not survive sustained temperatures of over 68 degrees Fahrenheit. I have not heard of largemouth or smallmouth bass being successfully kept in home aquaria over a long term. In general, for the fish I will mention below, the trade-off seems to be that they will grow more quickly in warmer water, but not live as long as they would in cooler water. All of these fish seem to need cool water, followed by a rise in temperature, as a spawning trigger. With the advent of more reasonably priced large tanks, and now, thanks largely to saltwater enthusiasts, affordable chillers, there is probably reason to believe that aquarium spawning of many of these species is possible.

Temperament

For tropicals common to the hobby, there is usually pretty good available information regarding diet, temperament, and spawning. This kind of information is less readily available for natives, especially as regards keeping them in aquaria. There are a few books and web sites that summarize how some of the more well-studied species behave and spawn in the wild, but not much data is available on how most of our natives behave in glass cages. I'll confine my remarks to the few that I have some experience with.

Yellow Perch (*Perca flavescens*):

In his excellent book, American Aquarium Fishes, Robert J. Goldstein dismisses yellow perch as being unsuitable for aquaria. I would really like

to ask him why. I've had my three for a year now, and they've been model citizens. They're easy to feed, not aggressive, and entertaining to watch. They like to hang out together, and show schooling tendencies, so having three allows them to do so. For a while I kept them with some cichlids, and they adopted the *Jurupari* as their leader. Their diet in the wild is opportunistic — insects, crustaceans, and small fish. Mine are hatchery-born, so flakes and now pellets are readily taken. I supplement with minnows, mealworms, crickets, earthworms, freeze-dried krill, etc. Despite being rather shy, they can be boisterous feeders. In the wild they spawn in the spring, and are egg-scatterers, providing no care to the eggs or fry. I have not heard of any home aquarium spawning, nor have I seen any spawning behavior in mine. Probably there is a rising water temperature cue, and my unheated indoor tank stays in the upper 70s through the winter. Size is usually from 8-12", and mine are in that range. They are altogether delightful fish, though sometimes a bit skittish.

Sunfish:

There are many sunfish species, and they generally fill the ecological niche occupied by cichlids in the Southern Hemisphere. In North America they include Crappie, Bluegill, Largemouth and Smallmouth Bass, as well as many lesser known and/or smaller species.

Pumpkinseeds (*Lepomis gibbosus*):

One of the most common and best known species — truly beautiful fish when given adequate lighting. They are active, a bit scrappy with one another, and brave, but not aggressive in the way we think of with cichlids. They're colony-nest builders, clearing a hollow in the substrate using a sweeping movement of their caudal fin, which the male will then defend. Mine have not spawned, but one of the males did build and defend a nest, though he couldn't seem to interest a partner. As with the perch, there is probably a water temperature cue in the spring. Not fussy eaters.

Warmouth (*Chaenobryttus gulosus*):

They have an interesting, coppery color, are more laid-back than the pumpkinseeds, and more piscivorus, though they appreciate veggies — peas, cauliflower, chopped spinach, etc. — from time to time. Both pellets and flakes are readily taken. Ambush predators — they like to hang out around driftwood or other decorations. They're very aware of the space outside the tank. They will come to the glass to meet and greet, but remain somewhat shy. Warmouths' behavior will seem more familiar to cichlid veterans, as compared with that of pumpkinseeds — rather more solitary — conspecific dominance is an issue. They will mix it up with cichlids of a similar body shape.

Spotted Sunfish (*Lepomis punctatus*):

A surprise on all counts. I acquired mine by accident. Initially totally silver, it has developed the signature spots and dark ventral fins as it has grown. It has shown some aggression with certain other fish — the warmouths for example — mostly over who gets a preferred spot. Like the others, it appreciates veggies from time to time.

Shortnose Gar (*Lepisosteidae platostomus*):

This is an "I think." I bought it as *L. plastostomus*, but store ID's are not always to be trusted. A gar expert of online acquaintance finds the photos to be more suggestive of *L. osseus*. Peaceful, but when hungry it will try to eat what it thinks will fit in its mouth. It took a long time to convert this fish to eating pellets. These guys require a large tank, as they can eventually grow to over three feet. Mine is about half of that length right now. Use some care with tankmates. Gars look quite fierce, but are defenseless against fish like large, aggressive cichlids.

All of these fish, separately and collectively, have been a pleasure to keep and observe. While these particular fish require large tanks for long-term care, there are smaller and more colorful species that would be just as rewarding to keep as any tropical. And just as with tropicals, plenty of our native species are suffering from habitat destruction, and are in need of help.

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Swamp Thing

The Okefenokee Pygmy Sunfish (*Elassoma okefenokee*)

by ALEXANDER A. PRIEST

The Okefenokee Swamp is the largest freshwater swamp in North America. The Swamp is a relatively shallow 400,000 acre (1600 km²) peat-filled marsh straddling the Georgia-Florida border. It is home to a diverse collection of animals, including bears, deer, alligators, and over two dozen species of snakes.

At one time what is now the Okefenokee Swamp was part of the ocean. A sandbar developed and cut this area off from the rest of the ocean, creating a pool of water. As it collected rainwater and runoff water, it eventually became a freshwater pool. Over the years, leaves, dead plants, and other organic debris fell into the water. These built up, decayed, and formed layers of peat. In places, the peat layer is five to ten feet deep. While you can walk on the peat, it sometimes shakes because of the water beneath it. In fact, the Okefenokee Swamp gets its name from Native American words meaning "Land of the Trembling Earth." The peat has turned the water in the Swamp a very dark brown color, and has added tannic acid to it, lowering its pH. In short, this is not the sort of ecosystem that you might normally expect to find suitable livestock in for the home aquarium.

Elassoma okefenokee
(Approximately actual size)

Yet, as its name implies, the Okefenokee Pygmy Sunfish (*Elassoma okefenokee*) are found (among other locations) in the Okefenokee Swamp. These fish occur from the Altamaha River in Georgia, south to the St. Johns and Hillsborough rivers in Florida, and west to the Choctawhatchee River in Florida and Georgia. They inhabit shallow, heavily vegetated areas in slow-moving streams and swamps over sand or soft mud substrates. The Genus *Elassoma* (dwarf sunfish) consists of six members (although there may be two distinct species of *Elassoma okefenokee*), all of which are endemic to the southeastern United States. The genus name comes from the Greek words *elasson* (smaller) and *soma* (body), referring to the fishes' small size, as compared to members of the family Centrarchidae (the "true" sunfishes).

The Okefenokee Pygmy Sunfish is both a fishkeeper's delight, and a major challenge. They are very small, with a total adult length of 1.34 inches (3.4 cm), and require live food. I keep several containers of microworms and daphnia going all the time. The adults will eat very small (or chopped) blackworms, as well as mosquito larvae, brine shrimp, and tubifex worms.

For spawning, a male slowly approaches a female and uses fin and body movement to "point" to the plant he previously selected as a spawning site. (Occasionally, the male will nip the female in the process.) If the female follows him into the selected plant, his body becomes more brightly colored, and he quivers while gently nipping at the female's genital papilla, nudging her abdomen on each side.

While this is happening, the female selects the best location in the plant for her eggs. The male places himself next to the female. Her eggs (about 20 to 25), and his milt, are expelled into the plant. The male then chases the female away and guards the spawning site for about three days, after which the eggs hatch. Once the eggs hatch, there is no parental care (on the other hand, the adults do not eat the fry, either). Fry require green water, paramecium, and similar micro-foods, and can start taking newly hatched brine shrimp after about two weeks.

Elassoma okefenokee need a well planted tank (I suggest hornwort), filtration with slow water movement (sponge or box filters), and soft (dH about 5) acidic (pH about 6) water. If you use a box filter, peat can be added as a filter medium, but I've had no problems using blackwater extract instead. These are basically "coldwater fish," tolerating temperatures as low as 39°F (4° C), but able to withstand as high as 86°F (30°C).

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Gilbert, Carter R., Family Elassomatidae, Florida Museum of Natural History, University of Florida, Gainesville, Florida

Mettee, Maurice F. and Scharpf, Christopher, Reproductive Behavior, Embryology, and Larval Development of Four Species of Pygmy Sunfish, American Currents. Winter (Feb.) 1998

Gambusia affinis: The "Mosquito Fish"

by JOSEPH FERDENZI

Many people have often heard me say in a parody of Will Roger's famous saying that he "never met a man he didn't like," that I have never met a fish I didn't like. Well, it's a bit of an exaggeration, because while it is true, there are some fish that I do not find to be enjoyable as aquarium residents.

Gambusia affinis

In this article, I intend to write about one such fish. This, in itself, is a bit of a first because most hobbyists do not write about fish that they do not like to keep in their aquariums, and I am no exception. This article is, therefore, a rarity.

My subject is a very small fish. Females rarely exceed one and one half inches, and males are even smaller. They are Poeciliids, and would generally remind you of a colorless guppy, if with a slightly more elongated body. So, what does such a fish have going for it, at least as far as humans are concerned?

The answer is: mosquito control. You see, they are not called "Mosquito Fish" because they resemble a mosquito, or behave like a mosquito. No, they are called "Mosquito Fish" because they have a prodigious appetite for mosquitos. Well, at least they are reported to have this voraciousness. Frankly, that quality may be overrated in that I have encountered few fish which do not relish mosquito larvae. Most livebearers and killies will feast on them to the point of having exploding bellies — so will danios, barbs, and gouramies. So, what is so special about the Mosquito Fish?

I'll give them this: they are tough sons-of-*!?!. They can be found in tropical and sub-tropical climates all over the world, in freshwater to practically marine water, in all kinds of puddles, ponds, and pools. They are survivors. Most other fish are more delicate. Plus, Mosquito Fish are quite prolific. They have been introduced all over the world, although their native range was originally here in North America.

So, what is the problem? Here is what my experience with them in an aquarium has taught me: they are vicious and they are extreme cannibals. They are definitely <u>not</u> candidates for the community aquarium, unless your tank is populated with larger piscivorus predators where the Mosquito Fish become part of the food chain.

Even if you keep Mosquito Fish by themselves, you will have problems. If you do not keep them in a large aquarium (30 gallons or more) with many, many hiding places for the fry, you will never have any population growth. In smaller aquariums, the dominant fish will harass all other adults into oblivion, and the fry will be eaten until you are down to one fish.

Mosquito Fish belong in the great outdoors, in larger bodies of water than we can usually provide in our homes. Hey, maybe that's their master plan. "Plain, colorless fish that are nasty to boot will not appeal to humans, and they won't keep us in those awful glass cages" — what a thought!

Wet Leaves

A Series of Books for the Hobbyist

Aquarium Fish Reproduction

by Diana Walstad

Author's Introduction

This book is not the usual compilation of reproductive modes of various fish taxa, with a brief summary summary for each. And unlike many aquarium books, it is not targeted for beginners operating at a middle-school level. Rather it is written at the advanced high school or college level. It delves into scientific studies on behaviour, inbreeding, outbreeding, and evolution, often—but not always—using the guppy.

Much has been discovered about fish reproduction since the 1870s, hobbyists should be prepared for some challenging reading, especially in chapters VI ('Cryptic Female Choice') and VII ('Evolution'). Earlier chapters build the ground work for these two advanced chapters. Chapters on inbreeding, outcrossing, and evolution would apply to all fish types. Final two chapters are more traditional, describing classical genetics, common breeding practices, and just basic tips on keeping and breeding guppies and other livebearers.

New scientific methods such as genotyping and artificial insemination of sperm mixes have pried open many secrets of fish reproduction. Offspring paternity can now be determined accurately, thereby revealing subtle fertilization biases against inbreeding, hybridization, etc. Behavioral studies reveal that individual fish will often copy the mate choice of another individual, especially one that has "influencer" status. I trust that all fish species, upon closer examination, will reveal their special secrets and peculiarities.

The book also introduces scientific thinking to readers that are not scientists. Rather than merely spoon feed experimental conclusions to readers, I describe how investigators set up and conducted their experiments and how they analyzed their results. These career professionals have accumulated deep knowledge and experience, but their work has not filtered down to aquarium hobbyists. This book brings some of their work to light.

To make the science understandable, I have eliminated as much scientific jargon as possible. I have unified multiple terms that often say the same thing. I have boiled down and tried to make sense of stupifying statistical data without losing a study's main points. My intent is to introduce fish lovers to some important *21st century* concepts in fish reproduction.

The more we learn about the genetics and the behavioral aspects of fish reproduction, the better we will be as fish breeders. Along the journey, I have included my own experiences breeding guppies that may prove useful to hobbyists. Hopefully, this book will increase reader satisfaction in keeping and breeding aquatium fish.

Diana Walstad, a long-time aquarest, trained as a microbiologist. She did medical and biological research at the University of North Carolina (Chapel Hill) and the National Institute of Environmental Health Science. She is also the author of Ecology of the Planted Aquarium (2023).

Koi, Watercolor

by Donna Ansari

Vinny Kreyling 1940-2025

Vincent P. "Vinny", 84, of Miller Place, NY, passed peacefully on April 9, 2025. Beloved husband of Jeanette, loving father of Vincent (Falane), James (Jennifer) and David (Tina). Adored grandfather to Ryan, Lucas, Victoria, Vincent, Lindsey, J.D. and Samantha. Cherished great-grandfather of Theo and Ben. Avid aquarium hobbyist for over 60 years, President of the Long Island Aquarium Society for 10 years and treasurer of L. I. Reef Association for 20 years. Shown here with with wife Jeanette.

Vinny's presence at aquarium events was always notable. For one thing of course, he was very tall, so you had no trouble spotting him. The other thing is that he seemed to have a smile on his face all the time. He gave you the sense that he was happy to see you. For me personally that meant that at every meeting started with a warm bear hug. And since his lovely wife Jeanette was always by his side, that meant another warm hug from her. Did I always feel special in their company? You bet I did!

Vinny's main interest in the aquarium world was reef tanks. Over the years, Vinny kept some very large and beautiful reef aquariums. But that didn't stop him from attending events where the primary focus was on freshwater aquariums.

The two comments you would hear the most from fellow hobbyists was that Vinny constantly showed joy in his interactions and that he was a true gentleman. Yes, there is no doubt we have lost a wonderful man and that we will greatly miss him. Jeanette and his entire family have our deepest sympathy.

Pictures From Our Last Meeting

Photos by Jason Kerner (below) and Marsha Radebaugh (facing page)

Full house once again!

The Auction is in full swing!

Cordelia is underwhelmed

Jason Kerner guarding the bowl show table

Returning member Joe Franke with his daughter Katherine

New(ish) member Frank Laudato

Bill Amely presents 1st place bowl show ribbon (Blue Gularis) to John "Buzz" Buzzetti

Bill Amely presents 2nd place bowl show ribbon (*Nothobranchius Rachovi*) to Harry Faustmann

Bill Amely presents the 3rd place ribbons for both March and April bowl shows to Joe Ferdenzi

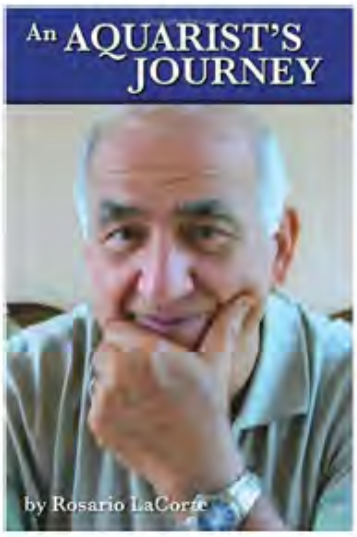
Joe Ferdenzi presents Gilberto Soriano with his door prize

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



GCAS Member Discounts
at Local Fish Shops

10% Discount on everything.

10% Discount on everything.

10% Discount on everything.

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

10% Discount on fish.

10% Discount on everything.

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

GCAS Happenings

May

A warm welcome back to renewing GCAS member Lita Goldberg, and welcome to our new members Paul Halvatzis, Christos Tsavtarides, Jaime Febus, and Seungho Wie!

April's Bowl Show Winners:

1st Place John "Buzz Buzzetti - Orange Australe
2nd PlaceHarry Faustmann - Nothobeanchiius
3rd PlaceFlorence Gomesi - Fire Tail Guppy

Unofficial 2025 Bowl Show totals to date:

Mark Soberman 3 Harry Faustmann 4 Joseph Ferdenzi 4

Here are some aquarium societies in the Metropolitan New York area:

GREATER CITY AQUARIUM SOCIETY
Next Meeting: June 4, 2025
Speaker Subject: Guppies

GCAS Usually Meets the first Wednesday of the month at 7:30pm, at the Alley Pond Environmental Center 22465 76th Ave, Oakland Gardens, NY 11364
Contact: Joseph Ferdenzi (516) 484-0944
E-mail: GCAS@Earthlink.net
Website: http://www.greatercity.net

BROOKLYN AQUARIUM SOCIETY
Meets the 2nd Friday of the month (except July and August) at 7:30pm: New York Aquarium - Education Hall, Brooklyn, NY 11229
Call: BAS Events Hotline: (718) 837-4455
Website: http://www.brooklynaquariumsociety.org

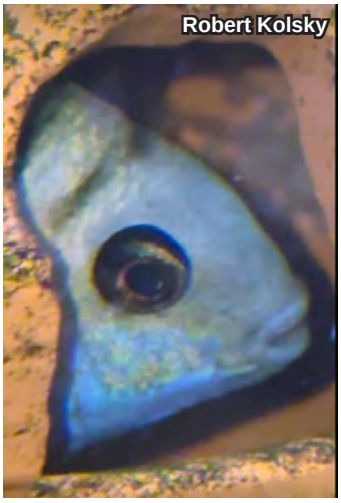
LONG ISLAND AQUARIUM SOCIETY
Meets: 2nd Fridays (except July and August) 8:00pm. Meetings are held at AMVETS Post 48, 660 Hawkins Avenue, Ronkoncoma, NY 11779
Website: https://ncasweb.thechinesequest.com/

NASSAU COUNTY AQUARIUM SOCIETY
Meets: 2nd Tuesday of the month (except July and August) at 7:30 PM. Meetings are held at:
Molloy Univerrsity - 1000 Hempstead Ave, Rockville Center, NY, Barbara H. Hagan Center for Nursing, Room 239
Contact: Mike Foran (516) 798-6766
Website: https://www.nassaucountyaquariumsociety.org/

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!



Even Urban Areas Can Harbor "Brilliant" New Species of Freshwater Fish!

A series by the Undergravel Reporter

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

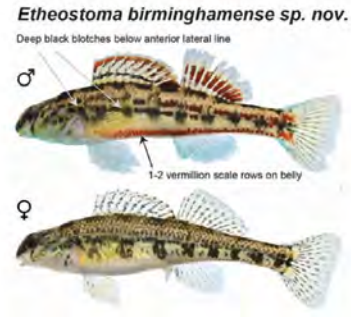
Regular readers of the Undergravel Reporter are certainly aware that researchers are regularly identifying new species of aquatic life in previously unexplored regions in the Amazon rainforest or the muddy deltas of Southeast Asia. But this month, we're learning that even relatively urbanized parts of this country remain inadequately explored.

According to a study published last month in the journal **Biology Letters**, Yale researchers have identified two new species of small, colorful freshwater fish inside the Mobile River system in Central Alabama, and within the greater Birmingham metropolitan area. Both fish have speckled bodies with bright red underbellies and bright colored accents on their dorsal fins. The fish have been named the Gurley darter and the Birmingham darter and inhabit geographically limited ranges within the streams and creeks of the Mobile River drainage basin. The Birmingham darter, in fact, has been found in just two small creeks.

Perhaps we shouldn't be surprised by the new finds—the region is a freshwater biodiversity hotspot with the most species-rich freshwater ecosystem outside of the tropics. The lead researcher on the paper was Chase D. Brownstein, a graduate student in ecology and evolutionary biology in Yale's Graduate School of Arts and Sciences. Mr. Brownstein described this ecosystem as "our Amazon."

His team used a combination of genomic sequencing along with an analysis of physical features to confirm that the new species of darters were indeed distinct species from the numerous other darters that inhabit the small creeks and streams within the Mobile River ecosystem. The use of a single short-form but data rich study, rather than the traditional long format scientific article, may transform the process for identifying new species. The genomic sequencing allowed researchers to confirm that several species of darter that were once lumped together as the Warrior darter were in fact genetically distinct microendemic species, and to do so with considerably less time and effort than was previously required.

The Yale team's research was motivated by a desire to protect critical endangered species at risk of extinction. As Yale Professor Thomas J. Near stated, "we can't protect threatened species if we haven't named and described them." The Birmingham darter and the Gurley darter are both at risk of extinction due to water pollution, agricultural runoff, sedimentation, and habitat destruction. Due (in part) to the fact that they were only recently identified, neither is protected under the Endangered Species Act.



Sources:

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