

modern AQUARIUM



May 2022
volume XXIX
number 3

Greater City Aquarium Society - New York

長江水族館

專營各國熱帶觀賞魚和全套優質水族器材



131-08 40th Road, Flushing

Skyview Mall 天景豪苑旁

347.732.0373

monsteraquarium@hotmail.com



歡迎參觀 七天營業

Open 7 Days • 10am-8pm



LIKE AND FOLLOW US ON FACEBOOK

WWW.FACEBOOK.COM/MONSTERAQUARIUMINC

modern AQUARIUM

Series III Vol. XXIX, No. 3 May, 2022

ON THE COVER

Our cover this month shows a colorful group of African cichlids in a tank that really shows them off well! This photo, by Lonnie Goldman, is from our Greater City Fishy Friends Facebook page.

GREATER CITY AQUARIUM SOCIETY

BOARD MEMBERS

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

MEMBERS AT LARGE

Pete D'Orio.....	Al Grusell
Jason Kerner.....	Dan Radebaugh
Marsha Radebaugh.....	Leonard Ramroop

COMMITTEE CHAIRS

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

MODERN AQUARIUM

Editor in Chief.....	Dan Radebaugh
----------------------	---------------

Copy Editors:

Alexander A. Priest.....	Susan Priest
Donna Sosna Sica.....	Thomas Warns

Advertising Manager.....	Robert Kolsky
--------------------------	---------------

In This Issue

From the Editor.....	2
G.C.A.S. 2022 Program Schedule.....	3
President's Message.....	4
Our Generous Sponsors and Advertisers.....	5
Tonight's Speaker: Warren Feuer.....	6
April's Caption Winner.....	6
Cartoon Caption Contest by Denver Lettman.....	7
Pictures From Our Last Meeting Photos by Dan Radebaugh.....	8
My Saltwater Odyssey..... by Patricia Radebaugh.....	9
Modern Aquarium - 100 Issues..... MA Classics by Warren Feuer.....	10
Death Valley Pupfish..... by Phil Nixon.....	13
Wet Leaves Book Review: Theatres of Glass, by Rebecca Stott.....	15
MA Classics by Susan Priest.....	
Thoughts & Opinions on Feeding..... Part 2.....	17
MA Classics by Rosario LaCorte.....	
G.C.A.S. Breeders' Award Entry Form.....	20
Fishy Friends' Photos.....	21
G.C.A.S. Member Discounts.....	22
Member Classifieds.....	23
Modern Aquarium Covers - 2002..... MA Classics.....	24
The Undergravel Reporter..... It's The Law!.....	25
Fin Fun (Puzzle Page)..... Find the <i>Neolamprologus</i>	26

From the Editor

by Dan Radebaugh

I was very heartened to see the large turnout for our meeting last month. It was great to see such an upturn in attendance. We seem, slowly but surely, to be returning to a world of at least some degree of normalcy. Still, don't get cocky! Vaccination, along with common sense, is still the best tool in the box for controlling epidemics.

As I mentioned last month, our Cartoon Caption Contest has returned! This month's cartoon can be found on page 7. Good luck!

This being the 100th anniversary of the founding of the Greater City Aquarium Society, you readers have probably noticed a good amount of historical-minded content in our magazine this year. To me, this is a good thing, as it lets us see for ourselves what we and our club forbears have been up to all these years. On the other hand, we can't live only on past glories, wonderful though they may have been. It's now *our* turn to prove how wonderful we are. Remember—the old coots such as myself will eventually need to sit down and rest. Will the younger generation pick up the torch?

If there is something you think we need to be doing more of (or differently), get involved! Maybe you're right! The more of us there are contributing, the better we'll be! No one expects any of us to take care of everything; that's why we call it a club, not a job. But the club will be best served by the input of many, rather than just a few. Think about it. *Really* join us. You'll be glad you did!

Maybe start by writing an article for this magazine! If you have something that you think you would like to tell us about,

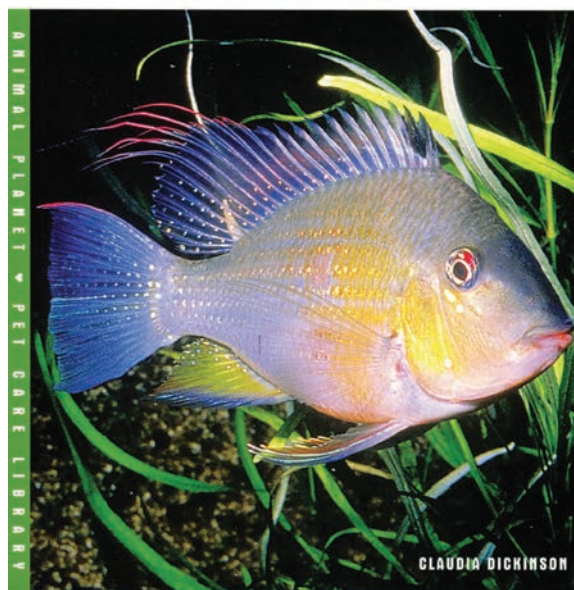


send it to me. Email is a quite acceptable way to get it to me.

Please note that our new Breeders Award entry form is on page 22. You can copy it from **Modern Aquarium**, or you can easily print a copy by downloading it from our Website, Greater City.net. Under the "Contact" tab, you'll see where to click for entry forms, rules, etc.



Aquarium Care of Cichlids



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 Programs

2022

March 2	Scott Dowd <i>Project Piaba</i>
April 6	Rosario LaCorte <i>Images From A Lifetime of Fish Breeding</i>
May 4	Warren Feuer <i>Shell Dwelling Cichlids</i>
June 1	Dr. Enea Parimbelli <i>Voyage in Lake Tanganyika</i>
July 6	Joseph Gurrado <i>Reef Keeping</i>
August 3	A Night at the Auction
September 7	TBA TBD
October 5	TBA TBD
November 2	TBA TBD
December 7	TBA TBD

Articles submitted for consideration in *Modern Aquarium* (ISSN 2150-0940) must be received no later than the 10th day of the month prior to the month of publication. Please email submissions to gcas@earthlink.net, or fax to (347) 379-4984. Copyright 2022 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 (one copy if sent electronically). For online-only publications, copies may be sent via email to gcas@earthlink.net. Any other reproduction or commercial use of the material in this publication is prohibited without prior express written permission.

The Greater City Aquarium Society meets every month except January and February. Members receive notice of meetings in the mail or by email. For more information, contact: Dan Radebaugh at (718) 458-8437, email 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 Horst Gerber

Welcome back to the Greater City Aquarium Society and to this month's issue of **Modern Aquarium**, as we continue to help one another learn more about the fish we are keeping, and what is going on in the aquarium hobby at large. Each month one of our great speakers tells us about what's going on in the hobby, as well as providing us with new information on the fish we are so fond of. We work hard to provide entertaining and useful information about our finny charges.



We appreciate every writer and photographer who helps us learn more about this hobby that we all love. I admit to being blown away by the fact that our club came into being 100 years ago, and so none of the folks who began it are still around. I find it rather humbling that our club has uniquely been holding regular meetings throughout those 100 years!



Newsletter 1922
(my first year!)

So as President I hope that we can continue to live up to the expectations of our members to continue to provide useful and entertaining information about these creatures that we all love. Every fish (or fishkeeper) has a story. I hope that we will continue to be able to tell those stories through the next hundred years! May the Force be with us!

Horst





GCAS Thanks You!

Our Generous Sponsors and Advertisers

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

Advanced Marine Aquatics

Al's Aquatic Services, Inc.

Aquarium Pharmaceuticals

Aquarium Technology Inc.

Aqueon

Brine Shrimp Direct

Carib Sea

Cobalt Aquatics

Coralife

Ecological Laboratories

Fishworld

Florida Aquatic Nurseries

Franklin Pet Center Inc

Fritz Aquatics

HBH Pet Products

High Quality Exotic Goldfish

Hydor USA

Jehmco

Jungle Bob Enterprises

Jungle Labs

Kent Marine

KHC Aquarium

Kissena Aquarium

Marineland

Microbe Lift

Modern Aquarium

Monster Aquarium, Inc.

Nature's Reef & Reptile

NorthFin Premium Fish Food

Ocean Nutrition America

Oceanic

Omega Sea

Pacific Aquarium, Inc.

Penn-Plax

Pets Warehouse

Pet Resources

Pisces Pro

Red Sea

Rena

Rolf C. Hagen

San Francisco Bay Brand

Seachem

Sera

Spectrum Brands

Your Fish Stuff.com

Zilla

Zoo Med Laboratories Inc.

Tonight's Speaker: May 4, 2022

Warren Feuer

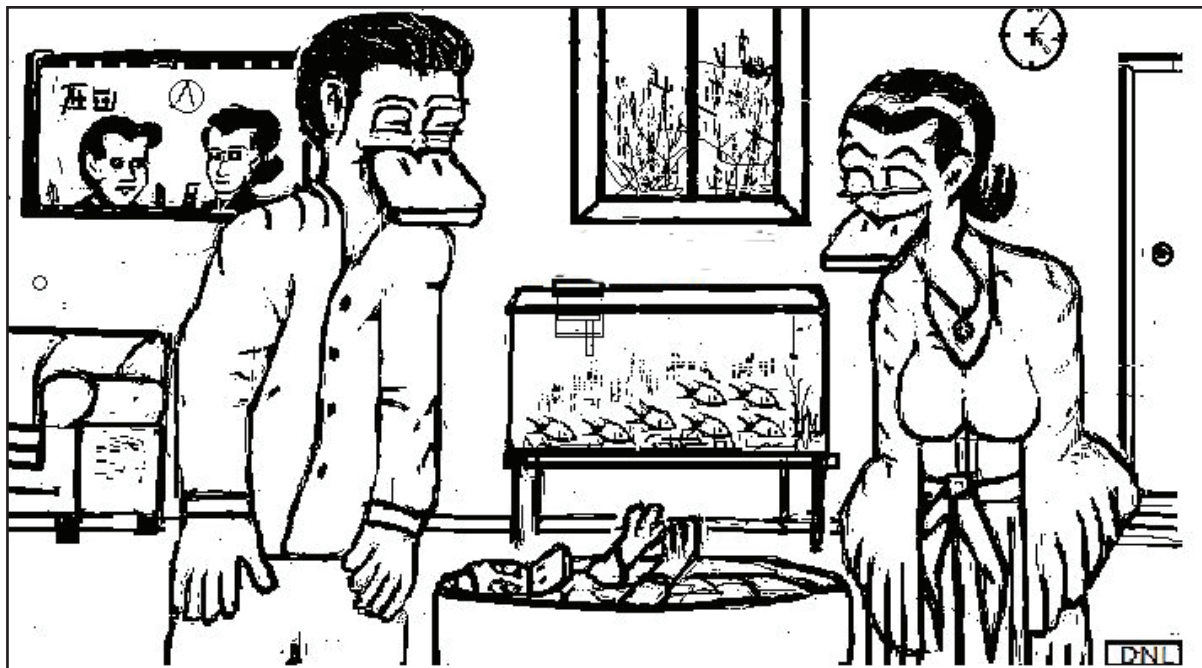
joined Greater City in the early 1990s and rapidly became one of its most active members. In 1994, he was the first Editor of **Modern Aquarium** Series III. Under his guidance, the magazine began years of award-winning endeavors. After serving as Editor, Warren revitalized the Breeders Award Program and served as co-chair and then chair of the program for over a decade.



For all of his many contributions, Warren was elected to Greater City's highest award, the Roll of Honor. In addition, Warren himself has been one of the club's top breeders, specializing in cichlids and catfish. He currently lives in Nassau County with wife Susan, and maintains a large fishroom with both freshwater and marine aquariums.



April's Caption Winner: Bill Amely

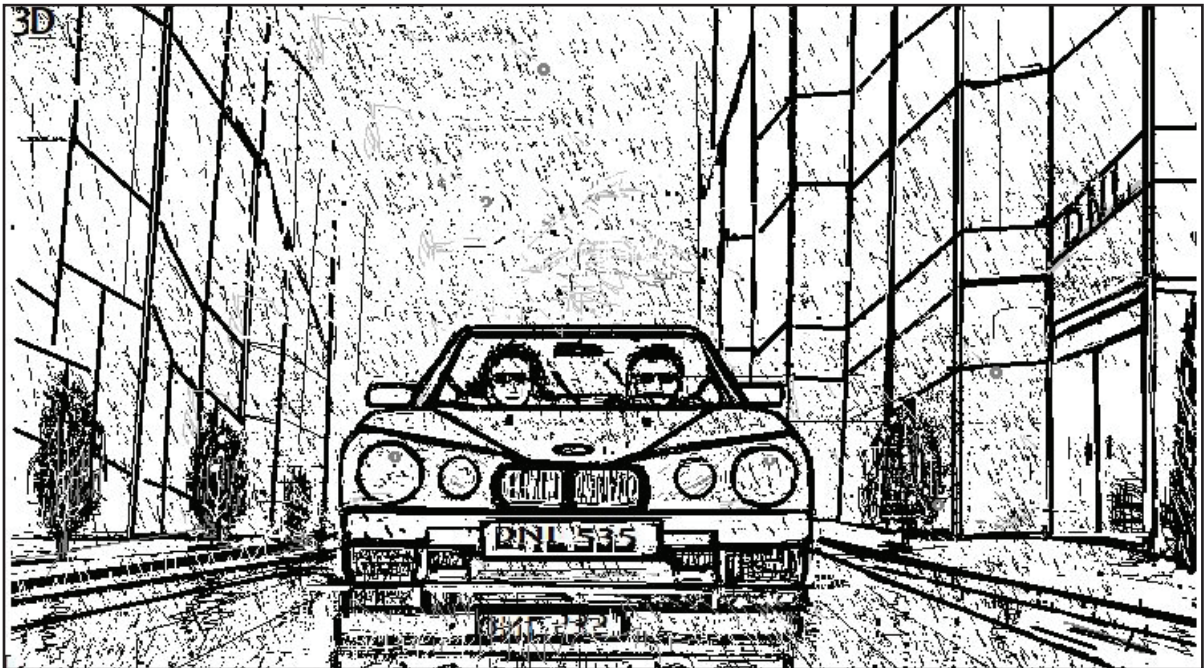


We can tell our child that these masks are our new normal!!



The Modern Aquarium Cartoon Caption Contest

*Modern Aquarium has featured cartoon contests before, and they're back! 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 may turn in to Marsha or Dan before leaving. Winning captions will earn ten points in our Author Awards program, qualifying you for participation in our special "Authors Only" raffle at our Holiday Party and Banquet. Put on your thinking caps!*



Your Caption:

Your Name:

Pictures From Our Last Meeting

Photos by Dan Radebaugh



Bill Amely,



Buzz Buzzetti



and

Mario Bengcion

receiving their bowl show ribbons from Bowl Show Chair Joe Gurrado.



Lots of auction action!



My Saltwater Odyssey

Story and Photos by Patricia Radebaugh

How did I get started with fishkeeping? I don't know what to say other than that I bought an aquarium for my elderly stepfather's entertainment when he was diagnosed with kidney failure and had to begin a strict schedule of dialysis, which he continued with for five years until his death in 2004. He would return home from his trips to the medical center in a very weakened state, and would enjoy sitting in front of the aquarium watching the fish.

After George had passed away I was spending a lot of time taking care of my nieces Skyler and Addison, and they started naming all the fish, so it was hard for me to think of getting rid of the aquarium.

What began with having someone come in and set everything up, bringing in the water and servicing the tank graduated to me going out to purchase the premixed water and doing my own water changes, and then to investing in an RO system and doing

everything myself. The tank is original, with some silicone repairs through the years. I've had a variety of saltwater fish through the years but have kept it simple.

I have three fish right now, plus the cleaner shrimp. These have been the most hardy, and are compatible. My grandniece Addison has taken an interest from a very young age, and has named the Clown 'Nemo,' the Coral Beauty 'Beauty' and the blue one 'Jerry,' as in "Ben and Jerry," who were a pair for a long time. Ben was a green chromis of about the same size as Jerry, and lived a very long life. Now if one bites the dust in these three staples, it's easy for me to run out and buy a replacement, with Addison none the wiser.

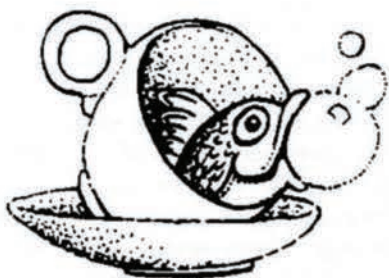
The tank is 36" x 17.5" with height of 21". I'd say between 60-65 gallons. There is a sump, with the main pump underneath and two small auxiliary pumps above. With the original equipment I had all manner of problems with the pumps heating the water too much, but the newer pumps seem to work more efficiently and cooler. I've also changed the lights from fluorescent to LED, which don't heat up the tank as much.

Nowadays I enjoy naming the fish as much as my grand-nieces do, and 20 plus years later I can't envision not having them here to enjoy.



This one should carry a sign: "Will Dance for Food!"





Modern Aquarium – 100 issues A guest editorial

I would like to start by thanking the Editorial staff of Modern Aquarium for providing space for this guest editorial. Congratulations to all for reaching a laudable milestone – 100 issues! Back when MA had its humble beginnings, 100 issues seemed a distant pipedream. I should know, I was there. It was my honor and pleasure to serve as MA's first editor. From its inception in the fall of 1993, through the first issue in January of 1994 and until June of 1998, my name appeared under the Editor's Desk column in each issue, as well as on the mast head.

The early days were incredible. There was a frenzy of activity, much of which was centered around the design and definition of the magazine. Like any endeavor, each participant had their own ideas and experiences to bring to the table. There were five of us: Joe Ferdenzi, President of GCAS and Executive Editor, Alexander Priest, computer fanatic and Assistant Editor, Stephan Zander, Attorney-at-Law and Art Director (whose previous profession had been in the magazine industry and who was gifted with an incredible eye for design and detail), Mark Soberman salesman and hobbyist *extra ordinaire*, the new magazine's Advertising Manager, and yours truly, a jack of all trades, master of none, who had been the last editor of the Network, GCAS' humble club publication. I started as a contributing author and came to a meeting one month, was handed a box and told I was now the Editor.

We started meeting in the Fall of 1993 at Joe's behest to see if we could resurrect Modern Aquarium, GCAS' publication that had been in existence twice before (hence the "Series III" that appears in each issue). Joe felt that with the cast that had been assembled, MA was once again ready to come to life. We spent most of that season working in "stealth mode," revealing as little as possible, acting like giddy school children with a secret. Somehow, even from the start we knew we had a sensation on our hands. Steph's design direction was amazing. He created a clean,

sleek look for the new magazine that was unlike anything being produced by the aquarium clubs in the hobby then (or for that matter, now). We decided on a stark, white cover, with the title of the magazine, the month and issue number and a color photograph. The first issue, in January 1994, had a female *Cichlasoma haitiensis* in full brood dress, coal black against a terra cotta clay pot. That first issue contained 12 pages, including several hand-drawn illustrations that Stephan had custom created for a particular article. The buzz at the meeting when MA was introduced to the club made it all worthwhile. The workload for each issue was incredible. I myself stayed up late night after night worrying over the details. Al and Steph spent countless hours working on the magazine and meeting to work out details.

But, nothing could prepare us for the reaction of Greater City and the other aquarium societies as the magazine began to circulate. Modern Aquarium was a sensation from the start, taking quite a few of our sister clubs aback after their assumptions that GCAS was some simple, local New York club. GCAS members lined up at each meeting to get their copy of the magazine.

I would be remiss if I did not acknowledge Bernie Harrigan's incredible contribution to the magazine. Bernie owned a printing business in Brooklyn, and selflessly and incredibly generously provided us with the services of his shop at a minimal cost. Bernie insisted he was charging us his cost for his services, but I am sure that Modern Aquarium was produced by Bernie each month at a considerable loss to his business. Unfortunately, Bernie is no longer living in the New York City area, but he remains a regular contributor to Modern Aquarium. He was a cherished and key part of the success of the magazine in its early years. On a personal note, Bernie and I spent quite a bit of time together working on the production of the magazine and became close friends.

After a rocky start, we settled into a rhythm of sorts. Like any new endeavor, the editorial staff had to face challenges on fronts such as cost issues, design and direction differences among the team and some political sniping aimed at discrediting Modern Aquarium. Gee, I felt like I was back at work with all the pressure and in-fighting. Through it all, we kept the ship afloat and produced issue after issue. It was soon to get easier though, as we began to receive numerable hobby publication awards and kudos from our fellow societies as the magazine was reviewed. Obtaining sufficient material in the form of articles for each issue was always a problem. We would meet each month (often 2 or 3 times!) to review the stock of articles we had and figure out the

content of each issue. Each article in the magazine was proofread time and again. When necessary, we worked with the authors to fine-tune their writing, not always with the desired result or response, but we did our best.

My personal rewards were tremendous. The recognition and respect I got was so overwhelming that it kept me going. I had two of my articles published in Aquarium Fish Magazine, and was profiled in the Daily News. And, to boot, I actually learned how to write. One of my functions at my current job is to write memos and documents, including some for the Senior Management of my company. I get many compliments on my writing, and I have been told I have a real gift. In my heart I know that, although I may have had the potential, working on Modern Aquarium made me the writer I am today.

The years passed, the awards kept rolling in, the platitudes and plaques piled up. I got tremendous satisfaction from watching Al bloom as Assistant Editor, to the point where he basically ran the entire show. Our meetings became more like a monthly gathering of friends, eagerly awaiting a look at Sue Priest's latest Jell-O® flavor (you definitely had to be there!). Stephan Zander resigned from the magazine, and we were exceptionally fortunate enough to have Jason Kerner step in and take his place. Not a step was missed, and Al and Jason have added their computer savvy into the mix.

As the 20th century began to wind down, so did my enthusiasm and drive. Unfortunately, I

was going through some pretty serious health problems, and I would like to think that also led to my malaise. There really weren't any more challenges for me with the magazine, and Al and Jason were doing almost all of the work. I would go to editorial meetings and basically sit there and do nothing. I had also started a new job that was extremely challenging and time demanding. It was time for me to go. I hung on until the last issue of the 1997 – 1998 season (June 1998) and then published my final editor's column. I stayed on the editorial staff for a short while as Technical Editor, but that was really more an honorarium than anything else. It was over for me.

I am happy to report that the magazine has thrived in my absence. Al Priest has done a spectacular job of running the magazine with everyone's help. There have been new additions to the editorial staff and many new contributors. The issues have more and more pages each month. The magazine seems to be on auto pilot (although I know how much work is involved in creating it).

So, fellow readers, as you peruse this 100th issue, make sure you take time to appreciate what it represents and don't forget to congratulate the editorial staff. And, of course, contribute. I can't say how rewarding it is to write for Modern Aquarium. Just writing this brings back a flood of wonderful memories and great moments shared with dear friends.

Warren Feuer



An Aquarist's Journey

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

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

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



Keystone Clash

September 23-25, 2022

www.keystoneclash.com



Jim
Cumming



Greg
Steeves



Thomas
Keegan



Joe
Gargas



Presented By



All Species Fish Show With Over 30 Classes
Including Hybrids, Plants, & Photography

Bigger Vendor Room

Bigger Hospitality Suite

Sunday Auction

World Class Speakers

Aquascaping Competition

Give A Kid A Tank Event

Saltwater & Freshwater

Raffles

A weekend long fish show event co-hosted by the Cichlid
Club of York & the Aquarium Club of Lancaster County

www.keystoneclash.com

Death Valley Pupfish

by Phil Nixon

Killifish are known for having unusual life cycles and living in unusual situations. Some of the most unusual of these are the pupfish species in the Mojave Desert. Many of the pupfish in the genus *Cyprinodon* live in southwestern North America, primarily in the deserts of Mexico and the southwestern U.S.

Pupfish species in the Death Valley area of southern California and western Nevada are thought to have derived from a single species in prehistoric Lake Manly. This was a large, glacial lake that existed 185 to 125 thousand years ago. It covered 620 square miles, being slightly smaller than Florida's Lake Okeechobee.

Climate change caused Lake Manly to evaporate away into several smaller, separate lakes. This also gradually increased the salinity. Eventually, these lakes disappeared into the scattered springs, seeps, and creeks where pupfish exist today.

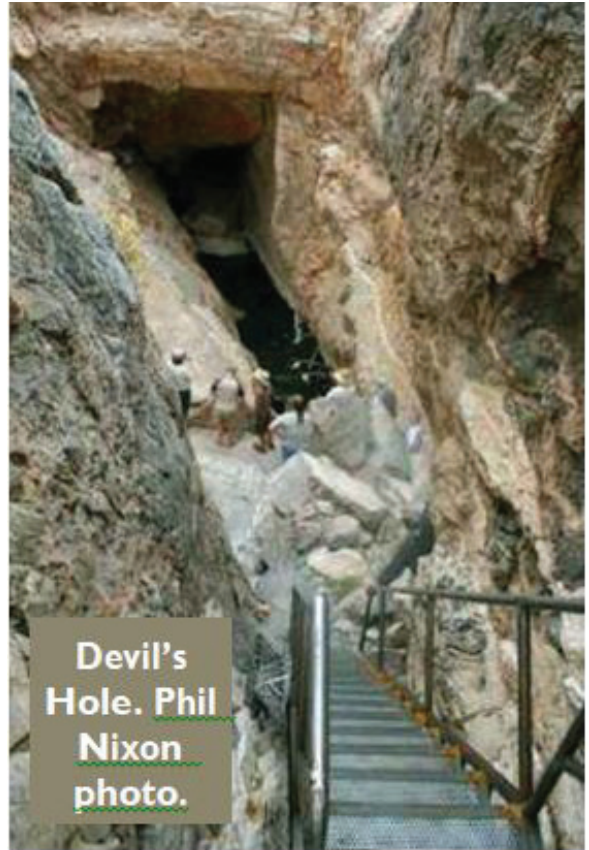


Devil's Hole Pupfish. National Park Service photo.

Numerous pupfish species and subspecies developed from the original species as the water bodies became distinct from each other. Interest in farming the desert in the first half of the 20th century further impacted the Death Valley pupfish species. Artesian springs containing pupfish were completely capped off with irrigation piping to provide water for farmland.

One Ash Meadows pupfish, the Devil's Hole pupfish, *Cyprinodon diabolis*, lives in 93 degrees F water in the upper 80 feet of a 400-foot-deep aquifer. The opening to the surface is about 6 by 18 feet. It is considered to be the smallest range in area of any vertebrate. It is also considered to be the world's rarest fish with recent numbers ranging from 35 to 200 individuals.

Instruments are located at the opening to monitor the water level and other conditions. Small platforms have also been installed for workers to stand on



while taking scientific data without disturbing the surrounding hillside. The area is fenced in, but allows visitors to see the opening from a distance.

The pupfish apparently rely on a limestone shelf about 6.5 by 13 feet that receives enough light for diatoms, a type of algae, to grow as their food source. This shelf also appears to be their only spawning location. Too much of a drop in the aquifer will cause this shelf to be above the water, likely eliminating the pupfish's only food source and spawning location.

Debris from the surrounding hillsides wash and blow into Devil's Hole with much of it accumulating on this shelf. There has been concern that the debris might cover and kill the provides nutrients for the algae.

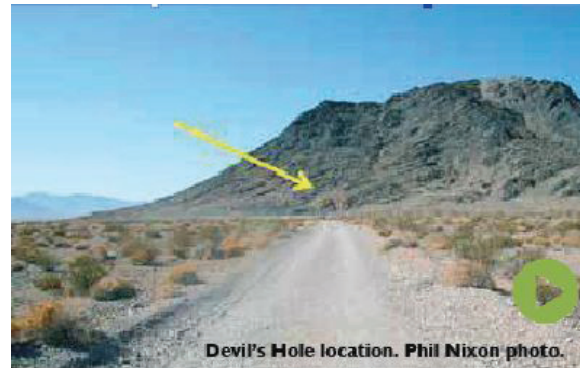
Scientists have wondered whether it would help the pupfish if they periodically cleaned the shelf, but that could reduce the algae too much for the pupfish to survive.

The shelf is now known to be periodically cleaned by earthquakes as far away as Japan, Indonesia, and Chile. These earth movements cause the water in Devil's Hole to slosh, creating waves that clean the shelf. A recent earthquake in Alaska caused sloshing

Reprinted from *Cafe In Seine Menu*, March 2018 -- A publication of the Champaign Area Fish Exchange; Champaign, IL

in Devil's Hole recorded on video by scientists there at the time.

An article and video of the earthquake-induced "sloshing" are located at <https://www.smithsonianmag.com/smart-news/endangereddesert-pupfish-spawn-wake-alaskan-earthquake-180967961/>.



Ash Meadows Armagosa Pupfish.



Photo by Phil Nixon.

ASSOCIATED PUPFISH SPECIES in these springs went extinct. Use of groundwater for Las Vegas and other cities continues to threaten these fish. There is also a renewed interest in irrigated farming in this area.

In Ash Meadows, several of these artesian springs were restored by removing the irrigation piping and recreating the original spring basins. Pupfish survived in and near some of these springs and in others, appropriate pupfish species were reintroduced. Ash Meadows is a disjunct portion of Death Valley National Park in Nevada about 120 miles northwest of Las Vegas.

Other species of pupfish occur in the main portion of the national park in nearby California.



GCAS and *Modern Aquarium* are mentioned in this preview from Amazonas:

<https://youtu.be/3r6tqJpVO9Q>

WET LEAVES



a Series On Books For The Hobbyist
by **SUSAN PRIEST**

Do you know what a madrepora is? I didn't until I read this book. There is a drawing of one in the two lower left "sections" of the accompanying cover illustration. A madrepora is a type of coral. The word madrepora means "mother of rock." They are "island builders," architects of the continents of coral reefs which took billions of years to form. (That last statement is a clue to the controversy which lies ahead.)

This book is not quite a biography, is descriptive of history without being a treatise on the subject, and is replete with both religious and evolutionary approaches to the topic of reproduction (gasp!), which was not a topic to be discussed in polite society of the nineteenth century. I would have to describe it as a narrative which doesn't lend itself to my usual approach, so I find myself scratching my head as I ask myself where to begin.

I think that I must focus as concisely as I can on our heroine. Her name is Anna Constantia Thynne. As a very young girl she was adopted by an aunt, thereby becoming the only child of a very wealthy couple. She grew up with access to voluminous libraries within her own home(s), as well as microscopes, telescopes, and any thing else, scientific or otherwise, which she might fancy. She married the Reverend Lord John Thynne in

**Theatres of Glass: The Woman
Who Brought the Sea to the City**
By Rebecca Stott
Short Books, 2003

1824, one month prior to her eighteenth birthday, and she was to become the mother of ten children.

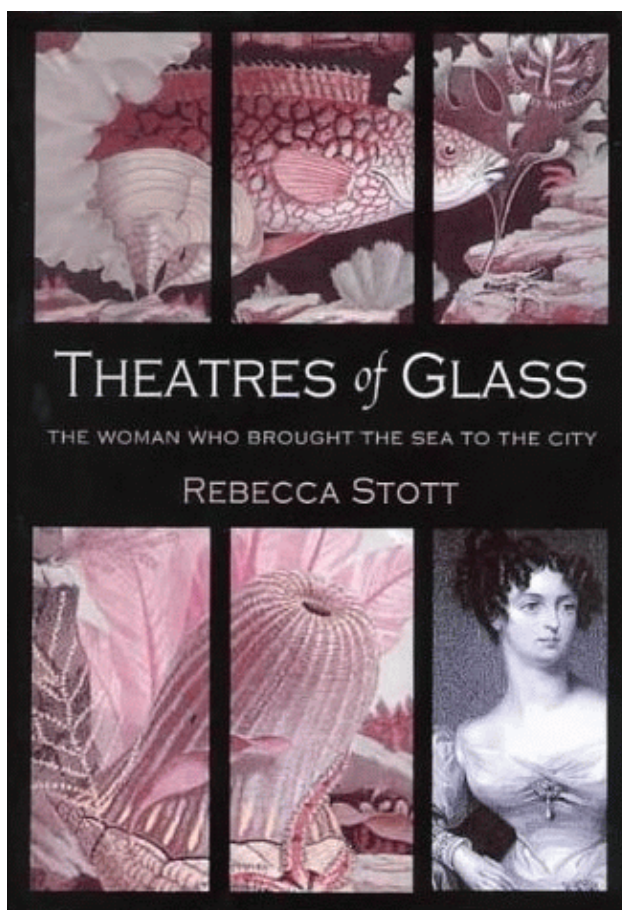
We will now fast-forward, bypassing the many formative events and relationships in her life which nurtured her voracious curiosity, to the year 1847. Anna had developed a thorough knowledge of, and an intense interest in natural history. In addition to visiting fields and meadows, she often took her children on "collecting trips" to the nearby seashore. Among the rock pools they found many living specimens, including those of madrepores, the fossils of which she had in a glass display case in her home. She never imagined that they would be soft, with blindly probing tentacles

and tiny red mouths. When her children asked such questions as "can it feel," and "what did God make it for," she wasn't sure how to answer their queries about a "natural theology" which gives testimony to the wonder of God's divine

order. Was it possible to reconcile the story told by fossil records with the story told by the Bible? (The "nuralists" of today are still asking this question.)

Anna and her children took thirty of the madrepores home, along with some seawater.

They were "displayed in pie dishes on the drawing room floor." When she wanted to transport them to her home in London, she "carefully sewed each one onto a sea sponge with a needle and thread." Anna fed her madrepores cut-up shrimp. She moved them into glass tanks, and did daily water changes with fresh seawater. When this became cumbersome, her household staff took on the task of aerating the "used" water by passing it back and forth between containers in the sunlight. Eventually she discovered that the addition of living seaweed to the tanks



Reprinted from *Modern Aquarium*, Series III Vol XVI, December 2009

meant that she didn't need to aerate the water as often. By processes of trial and error, Anna not only kept her madrepores alive, but was able to observe their asexual reproduction.

I must utilize a few quotes at this point. "While others were drying and pinning their specimens for display cases, Anna's [specimens] were alive in their own environment." "Marine invertebrates, with their budding and splitting, provide opportunity to determine nature's laws of reproduction." "It was difficult to maintain the supposed superiority of male sexual vitality when some organisms seemed to be able to dispense with males altogether."

By the spring of 1849, Anna had established the first self-sustaining, balanced marine aquarium in London. This era was a hotbed of naturalist activity. Dozens of luminaries were publishing accounts of their achievements, and

many were making claims to being "first" in the marine arena, but none of their documentation can place them before Anna Thynne and her madrepores. Anna's notes were published under the title "On The Increase Of Madrepores," in the **Annals and Magazine of Natural History** in 1859, which is the same year that Charles Darwin published **On the Origin of the Species**.

The story of Anna Thynne takes place in a time of enlightenment, a crossroad in history, and a scientific as well as religious environment. Most importantly, it is the story of remarkable woman with immeasurable curiosity and vision who has forever influenced our understanding of the natural world. Our author, Rebecca Stott, has done a much better job of telling Anna's tale than I have of reviewing her book. Nevertheless, I hope I have aroused your interest in this multifaceted story.



100% Premium Ingredients In Every Pellet

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



MADE IN CANADA

THOUGHTS & OPINIONS ON FEEDING

Part Two — ROSARIO S. LACORTE

Another food which the author collected in abundance, but for only short periods during the spring, is Cyclops. In early spring they appeared earlier than Daphnia in the ponds in which collections were made and had a rich green appearance due to their feeding on algae. This gave them a high nutritional value and added intense color to several varieties of characins which were being fed. Feedings were concentrated on young adults which were approximately 3/4".

Those Cyclops which are naturally reproducing in aquaria are not particularly appealing to many fish. There is no question that wild stocks of crustaceans are preferred over cultured or those that may be collected during cold months when sunlight is at its lowest. The reason for this, in my opinion, is the types of food that are available to these small creatures and this has a direct impact on the taste

they impart to the fish ingesting them. It appears that those crustaceans that feed on algae are more desirable to the fish than those which may feed on bacterial blooms.

I'm certain that some of you who may have cultured Daphnia on yeast have noticed that often times all Daphnia are not consumed and may be found swimming in the aquarium a few days later. Yeast does impart a bitter taste to Daphnia and may be the cause of some fishes refusal to consume them with as much vigor as those which are collected in natural ponds containing blooms of algae. Algae is rich in carotenoids and these are converted to Vitamin A, which is an important ingredient for the development and general health of fishes.

There is another tool which I usually

present in some of my programs; and that is a hand-held cheese grater which can be purchased in kitchen utensil sections of stores. These tools are a must for the home aquarist. All sorts of frozen foods can be ground into flake form and fed to your fish. Beef heart preparation, shrimp, clam, squid, marine fish of different types, scallop, imitation crab, etc. are but a few.

Beef heart is a good source of the B vitamin complex. But when I first prepare this

food all veins, fats and valves are cut away, leaving cubes of solid meat. This is then run through a meat grinder resulting in a finished product like that of hamburger meat. I do not cook the meat over a light flame to coagulate the blood because heat can destroy the B vitamins or decrease its potency. Many years ago a well known manufacturer of flake foods gave a program outlining the manufacturing of flake foods. He went on to explain

how the food was liquefied and then applied to rotating drums, which are separated by a .010 space. The drums are rotated in opposite directions to each other and heated at a high temperature in order for the liquefied mixture to come off the drums in large dried sections for packaging.

After the program I mentioned the fact that I was quite aware of the destruction of vitamins in this heat process. He answered that as the flake sheets are passed through the dried state vitamins are added by misting. If you still prefer to heat the beef heart you can add your own multi-vitamin to the food. There are a number of ingredients that can be added to the beef base foods such as cocktail shrimp, cooked carrots, etc. As far as greens are concerned, I



Rosario and Jean LaCorte

Reprinted from *Modern Aquarium* – Series III, Vol. II, No. 4 April, 1995



A peek at the Wizard's Workshop

use parsley which is a rich source of vitamins A and C. All of these should be liquefied in a blender and added to the beef heart. Knox gelatin is added to bind the near-liquid mix to reduce polluting the aquarium water. Gerber's baby food is then added to bind the entire mixture into a paste-like substance. The mixture is then placed in a plastic bag or bags and patted into a 3/4" thickness, closed on one end with a rubber band; then placed in the freezer. When frozen, you can easily break desired pieces to fit into the cheese grater, when you wish to feed. While the mixture is in the frozen state, you can also grind it into a suitable size for your growing fish as well as adults. This will give you another food source besides chopped tubifex or *Artemia*.

There are many aquarists who I have met over the years who have simply used only beef heart as a food source and as the bulk of the nutritional regimen. Their fish have appeared large with poor color and finnage, as well as having a bloated appearance. If this has been your course of action, I would recommend adding other ingredients to enhance the nutritional benefit of this food.

Another food I use as a periodical treat is fish roe we collected from several species of marine fish such as cod, bluefish, mackerel, etc. These eggs, which are a rich orange color, are a rich source of protein and carotenes. Here again the roe is frozen while remaining an egg sac, and when you intend to feed it simply break off a desired amount and thaw in water. After thawing, place the roe in a net with openings of

1/16 to 1/8 inches and using a hose nozzle direct a stream of pressured water to force the entire egg contents to separate from the veins and the sac, leaving pure eggs in the collecting bucket. These are then placed in a fine net and rinsed again and upon completion of cleaning, they can then be fed from a bucket using a baster to distribute food. You will find that fish will gorge themselves on this food. Perhaps 85% of the fishes I maintain will consume this excellent food. There are always some fish that are choosy about their food, but you can soon learn which foods a particular species prefers.

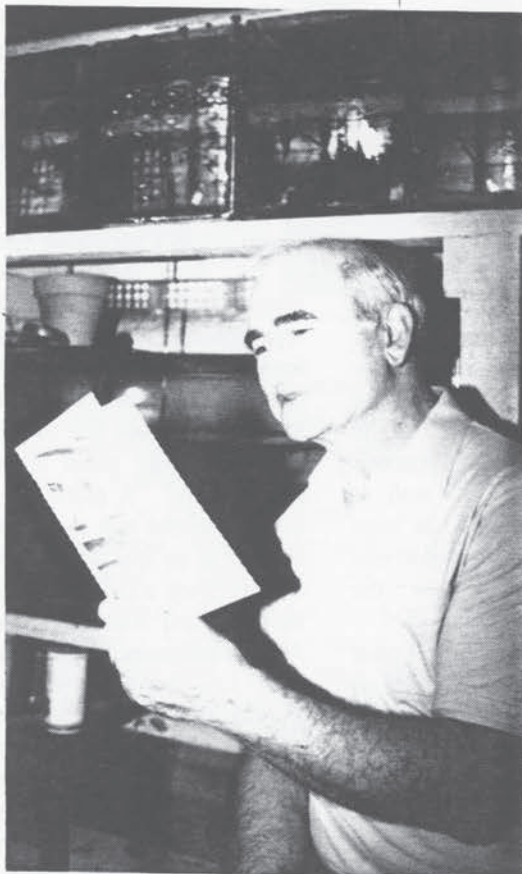
Also, there are several types of worms which can be cultured at home. I only culture 2 types: white worms and earthworms. If you have a cool area of the basement white worms can be cultured in a Styrofoam box using a 50/50 mix of peat moss and potting soil. This is then inoculated after water is added to moisten the soil mixture. A piece of glass is then placed over the entire mix to use as a moisture retainer as well as an area for the worms to accumulate. Simply place a moistened slice of bread beneath the glass and wait for the worms to propagate. After a sufficient amount have reproduced, they then can be cleaned and fed accordingly. Earthworms are another excellent source of an extremely potent food that is very easily cultivated and free of diseases. You also gain savings in a monetary sense by growing your worms. Again, a Styrofoam fish box is used, filling 1/2 of the container with a 50/50 peat moss and potting soil mix as a culture medium.

Professional worm farmers shred cardboard and paper as a food source which is O.K. for them as it is an inexpensive food and quite abundant.

For the aquarist I would suggest feeding worms a diet which I'm certain enhances their taste for the fish. All types of organic plant debris can be used: apple and pear cores and skins; rotting bananas; coffee grinds; potatoes; cornmeal; etc. One food that I use with excellent results is the pulp of carrots when using a juicer to extract carrot juice. The pulp is placed beneath the soil mix where worms will feed on it. You will find a population explosion with this food. I'm able to collect a great many worms of varying sizes to use as a food. I believe this food makes the worm more tender and appealing to the fish.

Of course, worms are rinsed in a net to rid the soil from their outer body. They are then placed on a pine board and cut with a knife or razor blade to desired size. These are then rinsed and fed. These worms are one of the best foods you can apply if you want high fertility in your fishes. To start your culture you can collect your own worms from compost piles or

Rosario Lacorte reading a May, 1969 issue of Modern Aquarium with his picture on it.



leaf mulch. I have collected my own stock from leaf mulch. These chopped worms are excellent for cichlids and larger types of cyprinodonts, i.e. Blue Gularis, etc.

In the last few years black worms, shipped from California, have been available in many parts of the country. They are active and are easier to care for than tubifex. These too can be cut to small sections with the vegetable cutter and fed accordingly. About 3 years ago I put about 20-40 of these worms into my Daphnia pond which is located in the back of my home. The pond is situated in a natural wooded area which allows some sunlight to penetrate, especially during the morning hours. A certain amount of leaves are allowed to decay in the pond, which provides food for the Daphnia, chironomids and black worms. During the month of August when temperatures are usually high the oxygen level naturally decreases, forcing the worms to seek higher elevation to reach the oxygen along the shore line. There they accumulate in large numbers and can easily be picked up by hand and placed in a bucket. It has not been uncommon to collect almost a pint of solid worms.

On the edge of my property, a clear spring fed brook runs at a nice pace and contains 4 species of fish. The predominant is the eastern black nose dace. In the late spring, spawning commences and it is evident that the predominant food are chironomids. Around the rocks are hordes of mature green chironomids. During this time I can collect large numbers of these worms by picking up rocks and placing them in a bucket of water and brushing the chironomids off with a 1 inch paint brush. These are cleaned again after a collection is made using a fine net, such as that which is used for newly hatched brine shrimp. These are excellent food for some of those particular fish who are a bit fussy and somewhat frugal in egg delivery.

These are just some of the ingredients I have used in the feeding of my fish. If you find that your fish just don't compare to some specimens which you have observed in shows, or perhaps have noticed in wild importations, then you may assume that your approach to nutrition will have to improve. I might add in conclusion that there are also many good flake foods on the market and these should also be used in conjunction with other types of food.

Photos by Stephan Zander





GCAS Breeder's Award Entry Form



Name of Breeder _____

Fish Name (Latin) _____

Common Name (if any) _____

Date Spawned _____

Is Fish in CARES Program? _____

Date Free Swimming _____

Date Presented at Meeting _____

Photo? _____ Video? _____

At Least 6 60-Day Fry in Auction? _____

BAP Chair Signature _____

Program Use Only

Points for species + CARES = Total Points

Certificate # : _____

This form is available on website: https://0201.nccdn.net/1_2/000/000/0b2/0cb/gcas-bap-entry-form-2022.pdf

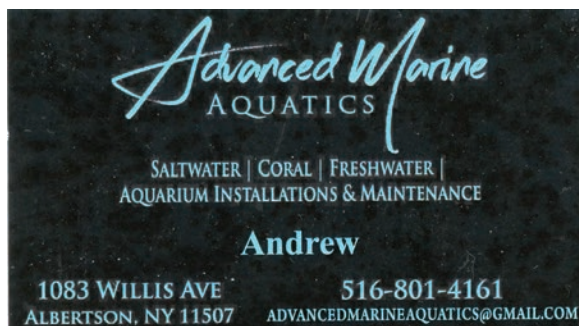
Fishy Friends' Photos

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!



GCAS Member Discounts at Local Fish Shops



10% Discount on everything.



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



10% Discount on everything.



10% Discount on everything.



10% Discount on everything.



10% Discount on fish.



10% Discount on everything.



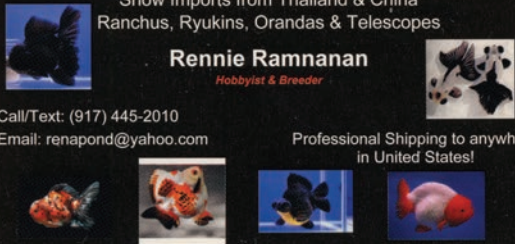
10% Discount on everything except 'on sale' items.

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

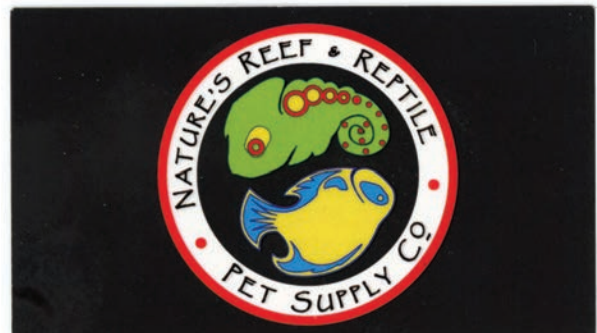
Rennie Ramnanan
Hobbyist & Breeder

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

Professional Shipping to anywhere
 in United States!



10% Discount on everything.



FISHWORLD
 USA
QUALITY AND SERVICE

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

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



10% Discount on everything.

917-300-2293

124-11 Jamaica Ave
 Richmond Hill, NY 11418

naturesreefandreptile.com

Mon-Sun
 10 am - 8 pm

natureecandreprs
 nature_reef_reptile



10% Discount on everything.

JUNGLE BOB ENTERPRISES, INC.

JUNGLE-BOB Reptiles
JUNGLE-BOB Aquatics

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

Manufacturer of Quality Reptile & Aquarium Supplies



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

AL'S AQUATIC SERVICES INC
 ALSAQUATICSERVICES@OUTLOOK.COM

AL TURRISI
 516.633.8806
 CONTRACTOR
 POND DESIGN & INSTALLATION

SALT & FRESH WATER AQUARIUM SYSTEMS
 REEF TANK SYSTEMS




Member Classifieds

FOR SALE:

Eheim Cannister Filters -- Used but still in good shape: 2213, 2250
 Email Dan R (danrad545@earthlink.net)

Aquarium Rocks -- Photos available. Contact CaseySoloff@gmail.com

Modern Aquarium Covers

2002

modern
AQUARIUM



JANUARY 2002
volume IX
number 1

modern
AQUARIUM



FEBRUARY 2002
volume IX
number 2

modern
AQUARIUM



MARCH 2002
volume IX
number 3

modern
AQUARIUM



APRIL 2002
volume IX
number 4

modern
AQUARIUM



MAY 2002
volume IX
number 5

modern
AQUARIUM



JUNE 2002
volume IX
number 6

modern
AQUARIUM



SEPTEMBER 2002
volume IX
number 7

modern
AQUARIUM



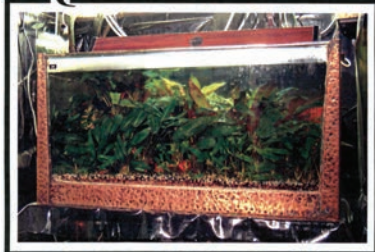
OCTOBER 2002
volume IX
number 8

modern
AQUARIUM



NOVEMBER 2002
volume IX
number 9

modern
AQUARIUM



DECEMBER 2002
volume IX
number 10

January 2002	<i>Neolamprologus multifasciatus</i>	by Alexander A. Priest
February 2002	<i>Trichogaster leerii</i> (Pearl Gourami)	by Alexander A. Priest
March 2002	<i>Melanotaenia boesemani</i>	by Jason Kerner
April 2002	<i>Nandopsis octofasciatus</i>	by Joseph Ferdenzi
May 2002	<i>Tanichthys albonubes</i>	by Alexander A. Priest
June 2002	<i>Pelvicachromis pulcher</i>	by Alexander A. Priest
September 2002	Discus	by Alexander A. Priest
October 2002	<i>Trichogaster trichopterus</i>	by Alexander A. Priest
November 2002	<i>Ciprichromis leptosoma</i>	by Joseph Lozito
December 2002	Antique Aquarium	by Alexander A. Priest



It's The Law!

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.

The newsletter of the New York Nassau County Bar Association had, in the April 2022 issue¹, the following:

When in New York—No Selfies with Tigers

As of late, there has apparently been a trend on dating sites of men posing with fish in their profile pictures. Perhaps this trend began because they could no longer pose with tigers or other large cats. New Yorkers found in violation of the law that makes posing for photos while “hugging, patting, or otherwise touching tigers” could face a fine of up to \$500.

The sport fishing website fishingblueprint.com has a list of Crazy Fishing Laws², as follows:

- You cannot shoot at any type of game when in a moving vehicle in California. UNLESS you're shooting at a whale.
- Camel-back fishing is completely illegal in Idaho.
- You cannot go fishing in your favorite pajamas in Chicago.

- You can't carry your fishing tackle into a Muncie, Indiana cemetery.
- In California, unless your target is the Moby Dick whale, it's against the law to shoot at any kind of game.
- You can't bare-handed grab any fish in Kansas or Indiana.
- Kentucky won't allow you to use your bow and arrow to snag fish.
- Don't chase fish in Louisiana city parks.
- Married women in Montana cannot fish by themselves on Sundays.
- You cannot legally go whaling in Ohio, Oklahoma, Nebraska, or Utah.
- You cannot share alcoholic beverages with fish in Ohio.
- You cannot travel by bus with fish in a water filled bowl fish in Oklahoma.
- It's against the law to use corn as bait for fishing in Oregon.
- Tell the fish in Pennsylvania that they must bite your hook. It's illegal to catch them any other way.
- Speaking of Pennsylvania, it's illegal to lasso a fish – sorry buckaroo.
- You cannot use a lasso to rope a fish into your boat in Tennessee.
- New Jersey men must put down their knitting needles during fishing season.

The silliest non-fish law I found:
a maximum

\$1000 fine and/or six months in jail for use, possession, sale or distribution of Silly String in H o l l y w o o d , California from 12:01 a.m. on

October 31 to 12:00 p.m. on November 1.³



References:

- 1 <https://www.nassaubar.org/nassau-lawyer/>
- 2 <https://fishingblueprint.com/funny-fishing-rules-laws-and-regulations/>
- 3 <https://www.lapdonline.org/newsroom/silly-string-banned-in-hollywood-this-halloween/>



Fin Fun



Find the *Neolamprologus*

The genus *Neolamprologus* includes many species. See if you can find all of those hidden in the puzzle below,



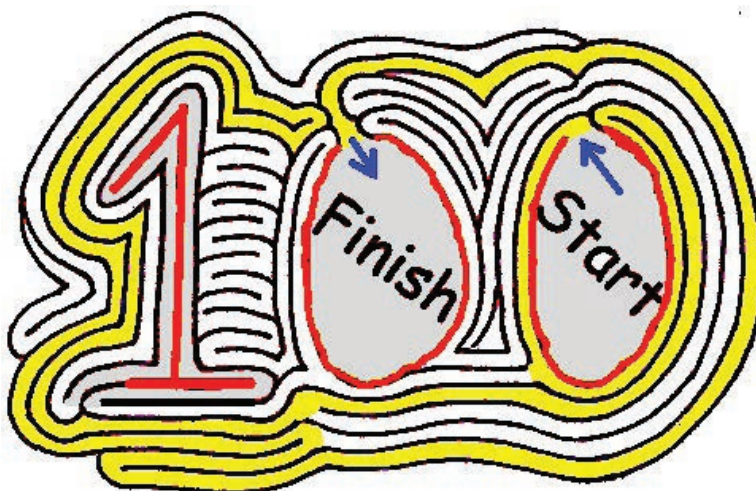
BIFASCIATUS
BOULENGERI
BREVIS
BRICHARDI
CALLIPTERUS

CALLIURUS
CALVUS
COMPRESSICEPS
ELONGATUS
FASCIATUS

HECQUI
KUNGWEENSIS
MEELI
MULTIFASCIATUS
ORNATIPPINNIS

PULCHER
SEXFASCIATUS
SIGNATUS
SIMILIS
VARIOSTIGMA

Solution to our last puzzle: *One Hundred Years!*





MODERN AQUARIUM

Tel: 917-231-5956

1 Comac Loop, Unit 8
Ronkonkoma, NY 11779

www.ModernAquarium.com



SHOP NOW
AND TAKE

20% OFF

ON YOUR FIRST ORDER
OF PLANTS, DRIFTWOOD,
ROCKS AND BOTANICALS.

COUPON CODE

AQ20M



LIVE AQUARIUM PLANTS

- BEAUTIFUL LIVE
AQUARIUM PLANTS
DELIVERED TO YOUR
DOOR
- HAND PICKED AND
INSPECTED
- HEALTHY ARRIVAL
GUARANTEE



DRIFTWOOD

- SHOW QUALITY
DRIFTWOOD FOR
YOUR TANK
- TIGER WOOD
- SPIDER WOOD
- RAINFOREST WOOD
- DRAGON WOOD
- PAPUA WOOD
- MANZANITA WOOD



AQUASCAPING ROCK

- EXOTIC AND UNIQUE
ROCKS FOR YOUR
HARDSCAPE
- JAPANESE OHKO
DRAGON ROCK
- BLUE SEIRYU ROCK
- RED PAGODA ROCK
- BLUE PETRIFIED WOOD
- RIVER ROCK
- EXOTIC GREEN ROCK



BOTANICALS

- RECREATE NATURAL
BIOTOPES WITH
BOTANICALS
- CATAPA GUAVA, JACKFRUIT
LEAVES
- DREGEA, STERCULIA,
CARINIANA PODS
- BIRCH, ALDER AND
INDIAN CONES
- CURLS AND STEMS
- BARK



WE ALSO OFFER

CO2 EQUIPMENT • PLANT FERTILIZERS • FILTRATION • WATER CARE • AQUARIUM
EQUIPMENT • FISH MEDICINE • FISH FOOD • ALGAE-EATING SNAILS • AQUARIUMS
3D AQUARIUM BACKGROUNDS • POND PLANTS • LIGHTING

www.ModernAquarium.com



100th Anniversary!
1922-2022