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October 2025
volume XXXII
number 8

Greater City Aquarium Society - New York

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Series III Vol. XXXII, No. 8 October, 2025

ON THE COVER

Our cover photo this month features *Nymphaea wandivisa*, a beautiful aquatic plant, submitted by GCAS Facebook Fishy Friends member Victor Huang. Gorgeous photo, Victor!

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In This Issue

From The Editor.....	2
G.C.A.S. 2025 Program Schedule.....	3
Our Generous Sponsors and Advertisers.....	4
G.C.A.S. 2025 Holiday Awards Banquet!.....	5
Bowl Show Rules.....	6
Fishes In The Ocean.....	7
Big, Bad, and Tiny Too! by Stephen Sica	
September's Cartoon Caption Winner.....	8
October Cartoon Caption Contest..... by Denver Lettman	9
Rusty Wessel.....	10
Fishes On The Web.....	11
Wild Fish Can Recognize Individual Divers!.....	12
Blackworms—Steak For Tropical Fish..... by Jules Birnbaum	13
An Aquarium Journey..... by Jean-Michel Doire	16
<i>Lamprologus meleagris</i> by Robin Shemela	17
<i>Boraras</i> Spp.....	21
The Beautiful Dwarf Rasboras..... by Mike Helweg, CFN	22
G.C.A.S. Happenings.....	25
Who Are We?.....	27
Meet Seongho Wie..... by Marsha Radebaugh	28
Paradise Revisited..... by Alexander A. Priest	30
Spawning A Giant.....	31
The Gulf Killifish: <i>Fundulus grandis grandis</i> by Joe Doyle	32
Pictures From Our Last Meeting..... Photos by Marsha Radebaugh and Jason Kerner	33
G.C.A.S. Member Discounts.....	34
The Amusing Aquarium..... by Bernard Harrigan	
Fishy Friends' Photos.....	
The Undergravel Reporter.....	
Restoration Efforts Show Remarkable Success in Chicago River	
From The Pages Of Yesteryear..... <i>The Aquarium, December, 1946</i> from Joseph Ferdenzi	

From the Editor

by Dan Radebaugh

Well, sometimes things change. There's an expression I'm sure most of you are familiar with, to the effect that "**** happens!" When I ran that by my T'ai Chi teacher many years ago, he was having none of it, and reminded me that the whole point of Taoism was to "stop the ****!"

So what in the world am I talking about? Simply that whether we like it or not, things change. After quite a few years meeting at the Queens Botanical Garden, circumstances brought us to move our meetings to the Alley Pond Environmental Center. And now here we are, happier than clams!

In a somewhat similar vein, we decided that we wanted a website, without



spending lots of money on it. Again, now we do! Not a perfect website, to be sure, but not terrible either. It's current main function is to provide general information about the club and upcoming events, as well as an easy way to refer to past issues of **Modern Aquarium**. At the time, I was able to find a service that was free, and this arrangement lasted for several years.

A few years ago however, that changed and they began to charge for their services. My take on it was/is that the free status was to gather clients and see if they could eventually make money at it. They apparently did, and while up to now the service has been reasonably priced, I recently received a notice of another price hike, which I think calls for a different approach on our end, perhaps including establishing our own server.

I'm getting to be a bit long in the tooth, so I'm suggesting that someone else in the club house and maintain such a server. That should include a secure backup arrangement. Having all our eggs in one basket would not be a sound strategy.

In closing, I should introduce our newest member-author to our readers. Be sure and see "An Aquarium Journey" by Jean-Michel Doire, on page 13!



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

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	The Blue Gularis
October 8	Cichlids with Livebearers
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. Copyright 2025 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>.



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I recently saw a best-selling author on TV talking about how she decides what to write about, and her

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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

FISHES IN THE OCEAN

Big, Bad, and Tiny Too!

Story and Photos by Stephen Sica

The sea is full of mysteries. Just standing in knee deep water, you often see myriad small animals and other life forms floating between your toes and legs. So many common encounters with animals may lead to new and exciting adventures, and if you free your imagination there is no limit, because the mind is limitless.

Let's consider the mystery of the conger eel. How many people know anything about this eel? I sure didn't until recently when I began some general research about saltwater eels for an earlier "Fishes In The Ocean" story.

I did not know that the conger eel family, which includes some of the largest eels, has such an unusual relative. I don't recall seeing a conger eel in the wild but I have seen this fish in public aquariums. Congers are found throughout the oceans, and there are many species. One of the most popular congers is the European conger eel, *Conger conger*. This eel is found in the northeast Atlantic Ocean and Mediterranean Sea. Although they can grow from five to almost ten feet in length and weigh from one hundred and fifty to three hundred and fifty pounds, average specimens are about five feet long and weigh fifty pounds. They are nocturnal feeders and reside in crevices similar to morays and most other eels. Large

specimens can be dangerous to divers with several documented attacks.

They are found in tropical, sub-tropical and temperate waters in the Atlantic, Indian and West Pacific oceans. You can find them along the Atlantic coast of the United States.

With almost two hundred species of conger eels. I was really surprised to discover

that the Conger family also includes the garden eel. Like the much larger congers, there are several species of the significantly smaller garden eels. Garden eels that inhabit Florida, the Caribbean and related waters are formally known

as the Brown garden eel, *Heteroconger longissimus*, but they are commonly referred to as garden eels. They live in colonies with each living in their own burrow. You can find them between twenty to fifty feet

deep on sandy bottoms near shallow coral reefs. Occasionally, I observed colonies in relatively deep water. Some colonies live as deep as one hundred feet. They mostly eat detritus and plankton. A colony avoids predation by dropping down into their

burrows as a diver or large fish approaches. An adult can grow to twenty inches and is thin as a pencil.

Some colonies stretch for dozens of square yards, or as I like to say, as far as the eye



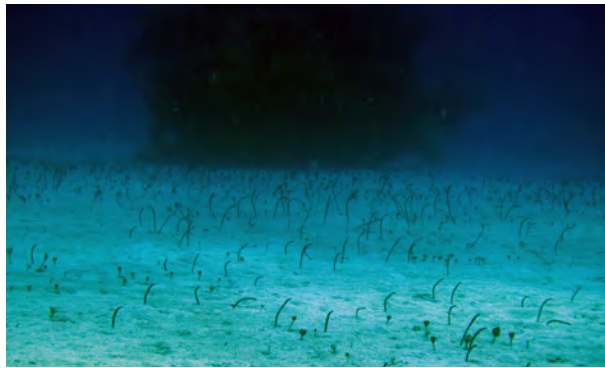
can see. Of course, one hundred foot visibility underwater is outstanding. Sometimes, you can see even farther. Usually, a colony's boundaries are defined when you swim among the eels but I have seen colonies that often disappear into the limit of the water's visibility. It's amusing how they descend into their burrows as you swim over them, only to rise up after you pass by.

Although garden eels live in colonies and can swim freely, they live a mostly solitary life and prefer to bury themselves in the

sand. They reproduce by intertwining their bodies while keeping their tails firmly rooted in their own personal burrow. During the mating season, some eels move their burrows

closer together to facilitate mating. The female releases her fertilized eggs into the water to drift and hatch. The newborn eels establish their own burrows as they mature. Whenever I see a colony of garden

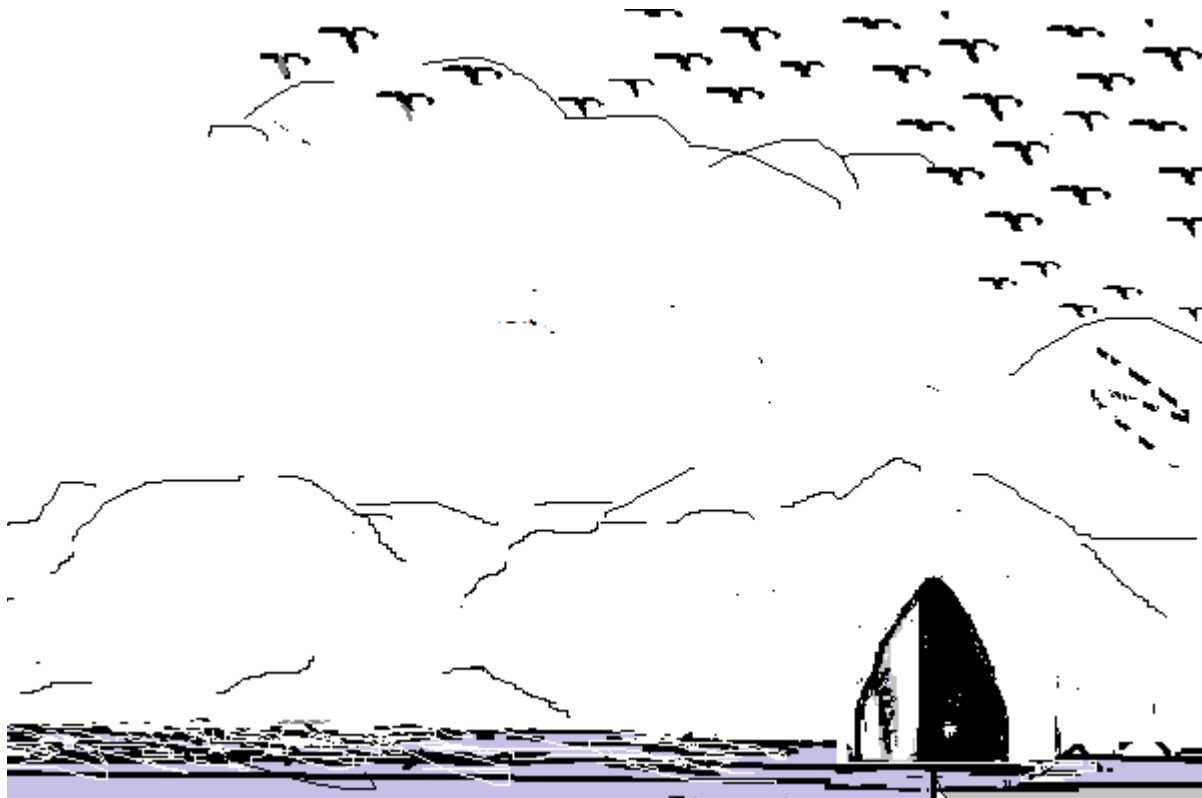
eels, I stop to marvel at the beauty and grace of the natural world.



September's Caption Winner:

If only I could jump as high as Shamu!

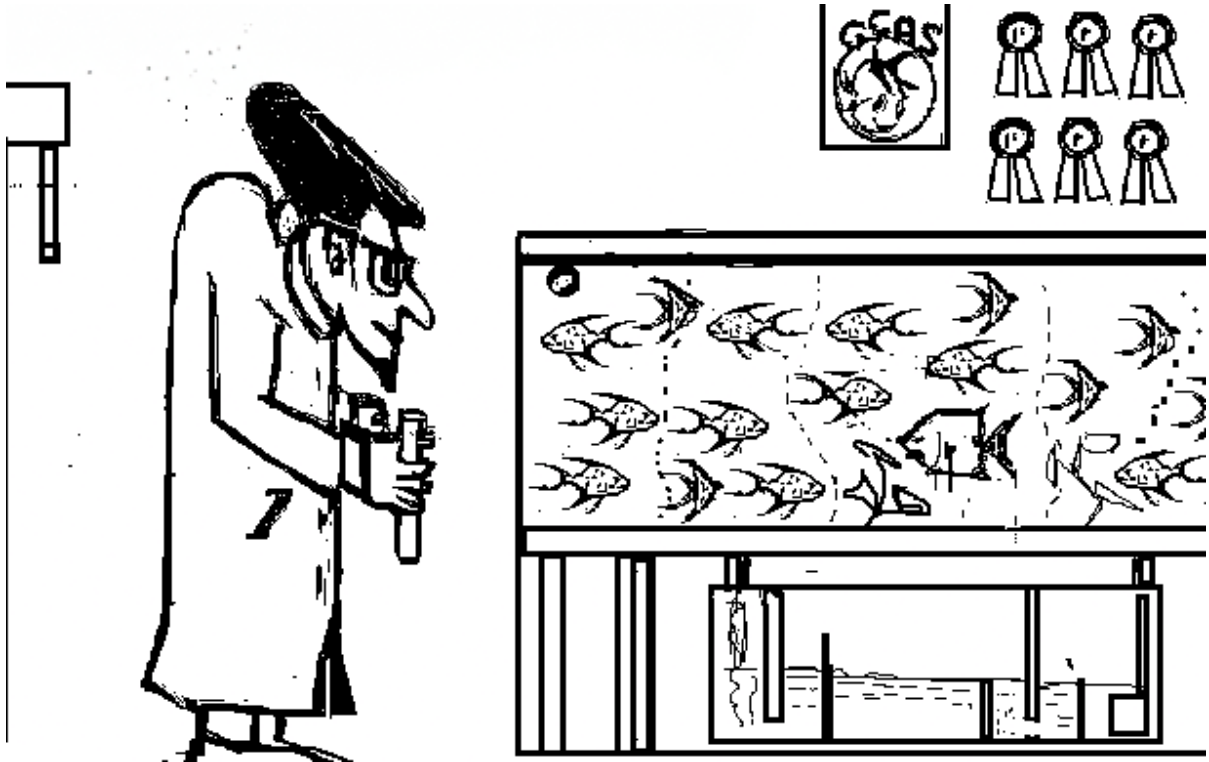
Bill Amely



The Modern Aquarium Cartoon Caption Contest

by Denver Lettman

Modern Aquarium has featured cartoons before, and like we did the last time, you, the members of Greater City, get to choose the winning caption! Just think of a good caption, then mail, email, or phone the Editor with your caption (phone: 347-866-1107, fax: 877-299-0522, email: gcas@earthlink.net). Your caption needs to reach the Editor by the third Wednesday of this month. We'll also hand out copies of this page at the meeting, which you can turn in to Marsha Radebaugh 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:



Rusty Wessel

Rusty maintains over 8,000 gallons of freshwater aquariums in a state of the art fish house constructed specifically for fish. The 90 plus aquariums predominantly contain cichlids and livebearers, which he successfully raises and breeds. Rusty's specialty is Central American fishes. He has taken his hobby to a point where he has successfully collected fish from the countries of Africa, Belize, Costa Rica, Cuba, Guatemala, Honduras, Panama, Mexico, Colombia and Uruguay, from 1983 to the present, for over 150 trips to this date. Considered by many to be the ultimate collector, he has introduced many new species of fish to the aquarium hobby. If it lives in the water, chances are that Rusty has either caught it or been bitten or stung by it. Dr. Robert Rush Miller, emeritus professor of the University of Michigan named a beautiful and elusive cichlid discovered during one of his expeditions to Honduras, after Rusty in the June 1996 edition of **Tropical Fish Hobbyist** magazine, *Theraps wesseli*.

Rusty is as well a prolific author and photographer. His writings or photographs have appeared in a wide distribution of specialized publications, like **Aquarium Fish Magazine**, **Aquarist** and **Pondkeeper**, **Buntbarsche Bulletin**,

Cichlid News, **Ad Konings' Cichlids** yearbooks, **Freshwater and Marine Aquarium** and **Tropical Fish Hobbyist**.

In the organized hobby, Rusty is currently the "Back issue Sales Person" for the American Cichlid Association and a speaker participant for the ACA/Zoo Med Speaker's Program. He is past chair of the ACA board of trustees (1990) and past



convention chair (1992 and 2015). In addition, he is an active solicitor for the "Guy Jordan Endowment Fund" (A fund set up under the ACA to grant endowments for cichlid research).

Rusty also chaired the American Livebearer Convention in 2018 with the highest profit on record for this event. On the local

level, he is currently treasurer for the Louisville Tropical Fish Fanciers. Rusty has been awarded with the greatest honor the American Cichlid Association gives to its distinguished members, the ACA fellowship in 1997.

Rusty has lectured and judged numerous fish shows throughout the United States, including the annual "Florida Tropical Fish Farmers" show and several ACA conventions. Recently he chaired the Triple Crown convention in Louisville, KY, combining 4 of the large national clubs, and that show proved to be the largest regular convention in the history of the ACA!



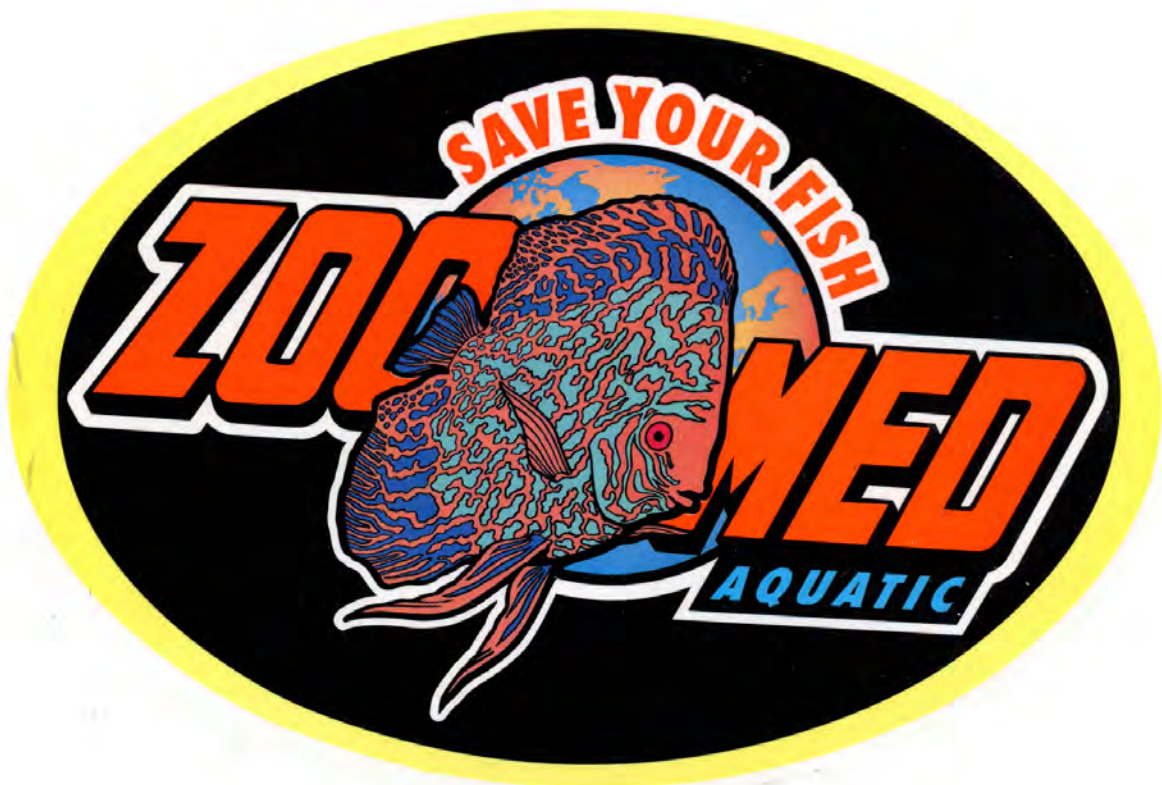
FISHES ON THE WEB: Wild Fish Can Recognize Individual Divers!

Fish used visual differences between divers to recognize the person who rewarded them!

<https://www.youtube.com/watch?v=ycr48YILPx8>



For years, scientific divers at a research station in the Mediterranean Sea had a problem: at some point in every field season, local fish would follow them and steal food intended as experimental rewards. Intriguingly, these wild fish appeared to recognize the specific diver who had previously carried food, choosing to follow only them while ignoring other divers. To find out if that was true, a team conducted a series of experiments while wearing a range of diving gear, finding that fish in the wild can discriminate among humans based on external visual cues!



Blackworms — Steak for Tropical Fish

by Jules Birnbaum

I have been feeding my tropical fish Black Worms for several years. I will try to explain what they are all about and why my fish go crazy for them.

The technical name is *Lumbriculus variegatus* or California Black Worm. The worms are found in North America, Europe and Australia. The worm lives in shallow water marshes, ponds and swamps. It feeds on microorganisms. Their maximum length is almost 10 cm. What we usually see is a size of less than 1 inch. They are sometimes mistaken for tubifex worms.



photo from Alex Ayala

It is interesting to note that this worm has the ability to regenerate into an individual worm when separated from the rest of the animals. Black Worms are high in protein, but require care to avoid introducing disease or polluting your tank. When received, my worms are thoroughly rinsed, and I place them in a flat container about 12" X 8", giving them space to spread out. I keep this container in the slop sink in our utility room. I rinse the container several times a day with cold water. The

worms are more active when rinsed with very cold water. If they are not given room they will try to go up the sides of their container and the water will look very bloody from some worms dying.



photo by Jules Birnbaum

When maintained properly they can live in their container for several months. Your fish have a pin head for a brain, yet when the worms enter the tank water, they go crazy for them! I feed all my fish flake food. Black Worms are a treat, fed to my fish about three times a week, and very sparingly. I chop the worms up for my larger fry with a razor blade.

You might find Black Worms for sale at several local pet shops and online. Live Black Worms are the best food I have found for my tropical fish. They are the steak of all fish foods!



An Aquarium Journey

by Jean-Michel Doire

Part one: Decisions

So many choices! First I had to decide on a size. After purchasing our condo at Saddle Lakes, we had to decide how we were going to furnish it. The first room was the living room, the largest room. The first choice was a fireplace on the long wall. We don't have a chimney, so it would have to be a "fake" electric fireplace. On second thought, since we would be in Saddle Lakes mostly in the warm summer time, I didn't see much of a necessity for a fireplace. As an alternative, I suggested an aquarium as a nice piece of furniture.

My first choice was a 75 gallon, but when I looked at that big wall, it seemed that a 75 gallon tank was too small, so I started looking into 100-125 gallon tanks. The local pet store had some 'cheap' 125 gallon tanks. No big problem with the tanks themselves, however a different story for the stand. These stands, made of MDF wood, didn't inspire me, first because water and MDF don't do well together. Plus the look was hardly enticing for a central piece of furniture.

I had to also decide whether I wanted the tank to be glass or acrylic. At the GCAS meeting, I asked Joe Ferdenzi, and he definitely suggested I go for glass. My 55 gallon tank in Queens is acrylic, and I have no big complaint about it, except that over time I can see the sides of the tank 'curving' and I know that won't happen with glass. The concern about glass is weight, but I finally listened to Joe and decided for glass.

Another big decision was Sump or Canister filter. I never had an aquarium with a sump and was ready to experience it. I know the pros and cons, but I think for a 'big' aquarium (i.e. more than 75 gallons) a sump seems more appropriate.

So I started researching online for a 100-150 gallon glass aquarium, with a sump and nice looking stand. After hours of research, I set my mind on a 145 gallon glass aquarium sold with a sump by a company in Washington state named Aquadream USA.

I was looking for a 'high' aquarium because

I have in mind to populate it with either Altum Angelfish or Scalare Angelfish, and the 145 gallon tank was exactly what I was looking for. The website is easy to navigate, and my order shipped by the end of June. However there was a little glitch with delivery due to poor customer service, and the tank only arrived mid July.

The delivery truck left 2 big crates containing pre-built components, for a total weight of more than 400 lbs on the curb. I was lucky to have workers in our basement at the time of delivery, so they helped setting up the aquarium in the living room (4 strong men necessary!). Everything arrived in good condition. Photos on the next page show the lighting system I installed and a view of the sump system. So starting mid

July, the next phase can begin: the setup.

Part two: Setup

Once the tank was placed on the stand, I could now establish connections between the tank and the sump. Setting up an AquaDream aquarium involves several steps, including plumbing the filtration system, installing the pump and filter media, and adding the lights. The process typically includes assembling the pump and connecting it to the intake and outlet hoses, securing the hoses with clamps. This was very easy to understand and to set up. Now that all plumbing is done, I started working on lighting.

The aquarium came with two 36" LED lights that were supposed to be installed with suction cups on the top lids. I didn't like that option because I would have had to remove these lights every time I need to work / clean inside the tank. So I investigated other options, and decided that pendant lights would be a much better option. However, after some research, I couldn't find the perfect light, too small, too expensive, not practical... So I went for 3 custom made pendants with plug-in socket E27, recessed ceiling fixtures and 100w led Ecosmart bulbs.

With 2 brackets on the wall and some cable management, that should provide a good lighting





for low light plants. Below, the lighting system installed, and view of the sump system (from the website). All *Pterophyllum* species originate in the Amazon Basin, Orinoco Basin and various rivers in the Guiana Shield in tropical South America. So I needed to replicate these condition in the aquarium.

After some research, I knew I wanted a 3D background, to hide the overflow and to get a better feel of Amazonian underwater landscape. Several companies offered 3D background, and one had great reviews and had the exact background I was looking for. I ordered the E 11 - Slim Amazonian Background from Aquadecor, because it didn't have to be silicon glued on the tank (it is maintained with strong magnets), and it is very flexible and easy to install. The background came within 2 weeks and instantly gave that "Amazonian" look I was striving for. I added a big spider wood from SR Aquaristik. For the substrate, I hesitated between sand and small gravel, and finally went for 60 lbs of white sand from our local pet store and added some rocks.

Now all is set, I am ready for the first tank fill up, going slowly and slightly nervous about any leak. But everything went well, and once completed I let the pump run for 24 hours for a good rinse. I think the rinse is necessary to get rid of dust and chemicals from the manufacturing process.

The next day, I emptied the whole system, aquarium and sump, and refilled with fresh water. Now that everything is looking good, I can start the cycling. Starting a new aquarium with new filtration would take weeks for cycling, but using a 'dirty' filter media from my other aquarium will reduce time to a couple of days. Soon it will be time for the exciting part—adding plants and fish!

Part 3: Adding plants and fish

One last step before adding plants and fish is testing the water chemistry. After a couple of



days, the pH is 7.5, a little high but OK. I added some alder cones and Indian almond leaves in the filter to try to lower it. The water turned slightly brown due to the tannin, giving a better of the Amazon River. I also tested the KH and GH. The KH (carbonate hardness) gave 4° and the GH (general hardness) was 5° which was good for most tropical fish.

Plants need light and nutrients in the water. The 3 pendant lamps bring approximately 4200 lumens. For the size of the aquarium, that is considered a 'low light' aquarium, so I have to choose plants accordingly. The most popular and 'easy' low light plants are 'Java Fern' and 'Anubias'. I glued (with superglue) 10 Java ferns on small rocks, and did the same thing with the 4 Anubias I had.

I had in my 55 gallon tank some Vallisneria and Hornwort, so I added these. The more plants the better, as they compete with algae. For nutrients, I added some 'Easy Green' fertilizer. I got most of my plants from the GCAS auction,

and I will try to get more in order to avoid an algae bloom. I am counting on the Hornwort help for that.

In my opinion, plants are harder to maintain than fish. Most common fish can adapt to any water and light, plants are a different story. Finding the balance between plants and algae is always a challenge, especially in a new tank.



As for the fish, I decided to start with five “Giant Danios” from the nearby pet store. I consider them as 'test' fish. These Danios will often swim in shoals, their peaceful nature makes them suitable tankmates, and they are hardy and not restrictive.

The lights are on timer for now from 9:30AM to 7:30PM. I also have on a second timer, a 'night' blue light. I am working on a more sophisticated lighting system, with dimmers to mimic sunrise and sunset, but it's not ready yet. Maybe that will be the subject of another article.

Now there will a month wait before adding some more 'interesting' fish, and more expensive too. I am very interested in the Manacapuru Redback Angelfish at the moment. I'll try to get some by the end of September. The first two weeks are the most critical, but everything went well, and after another visit to the pet store, I added two juvenile Golden Gouramis.



The
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If you like history, and you like pets, then this is the place for you. Dedicated to the history of aquarium & pet keeping. The Museum of Aquarium & Pet History includes a huge depository of over 3,000 items all focused on the pet industry. From antique fish bowls, aquariums and cages, to foods, medications, books and advertising signs, we've got it all! To learn more about this amazing collection of historical pet artifacts, please visit our website:

moaph.org

<https://moaph.org/>

Lamprologus Meleagris

by Robin Shemela

The *Lamprologus meleagris* or “pearly ocellatus” is a very attractive shell dweller originating from the coastal waters of Lake Tanganyika. It inhabits sandy parts of the shoreline where the substrate is littered with empty snail shells. I don’t see them offered very often at auctions but was able to find a bag of 5 at the Neo swap in June of this year (2021) for \$17.00 per fish.

This beautiful little cichlid is a very attractive addition to any fish room that has a tank set up for shell dwellers. They are surprisingly feisty for their size and full of personality, which makes them an interesting species to observe. With their chocolate brown and cream color, iridescent pearly dots and blue gill plates, I think they are very pretty and also very underrated! Since the males mature at 2½” and the females around 2”, another advantage is that they don’t require a huge tank. I put five in my 20G long tank, but after a few months I sold what appeared to be a pair. Other than size, males can be distinguished by their darker color, and they also get a purple blush on their bellies.

Because they love to dig, I set up their tank with 2” of sand, 10 escargot shells from Amazon, two sponge filters and a heater. I keep the temperature at 79° and do a 50% water change every other week. After years of gravitating towards the softwater fishes that required R/O water, another advantage to housing this species is that I can use my well water which has a PH of 7.8-8.0 and a TDS of 150.

I fed my trio frozen blood worms, daphnia, mosquito larvae, BBS, grindals and some pellets and flakes. They are not picky eaters. Spawning took place about 6 weeks after I brought them home but was a very secretive event. I did not know they had spawned until I saw small fry rushing out of the shell for the BBS that I fed the adults each day. What I did notice was the female closely

guarding her shell, and once the fry emerged the male joined her as caretaker. At that point the parents dug a small pit outside the shell for the fry to take cover in. I’ve removed and successfully raised around 70 fry, but have noticed that any fry left in the tank with the adults will disappear 7-10 days after they’ve left the shell. I suspect that either the female is eating them or she is driving them away from the shell so that she can spawn again, or the third fish in the tank is eating them.

The fry that I removed are easy to raise on BBS, grindals and flakes and grow at a moderate rate as long as they are fed 3 times a day and have frequent water changes. In the fry tank water changes are done every three days. This fish was originally thought to be a morph of *Lamprologus ocellatus*, but has now been described as a distinct species and may be seen under the name *Lamprologus stappersi*. There is some debate as to the actual scientific name for this species. It seems that this fish was discovered in 1927 by a South African doctor who collected the fish and died in WWI. The fish was then named *L. stappersi* but was poorly described. Buscher re-described this species in 1991 and there is no doubt *L. meleagris* and *L. stappersi* are the same fish.



All in all this would be a great fish for anyone who has smaller tanks and wants to raise cichlids, or someone like myself who is enamored with little fish that make their home and spawn in shells!





by Mike Hellweg, CFN

Update to "The Exclamation Point Rasbora" originally published July 2004

Miniature fish in planted nano tanks are all the rage right now, and miniature Cyprinids are in high demand. The Rasbora group Boraras is a small group of six identified species of very tiny fish scattered over Southeast Asia from Vietnam to Thailand and down into the islands of Borneo and Sumatra. None of them are over 1-1/4" in length at maximum size, and actually most are well under an inch when full grown. They all are colorful and interesting in their own right, with bright colors and fascinating behavior, and they are incredibly popular in the hobby right now.

Mike Hellweg is a MASI Fellow, master breeder, and expert horticulturalist. Visit the [Darter Archives](#) to access more than 100 MINIFINS articles covering a wide variety of aquarium fish.

The males of most species feature bright red or neon orange colors. They are peaceful and make excellent members of a very small fish community tank, though while a small group will do well in a community in one of the popular nano tanks, they will actually

do better in a large group of a dozen to 20 individuals in a single species tank of 15 to 20 gallons.

Over the past 20 years or so, I have had the good fortune of being able to work with all six known species, and even more so, have had all six species cooperate with my wishes and spawn prolifically for me. In all cases, this is how I did it, starting with the exclamation point rasbora, *Boraras urophthalmoides*. Once I hit the right formula with them, the rest of the species were pretty easy.

The Boraras Tank

I keep them all in species tanks since they are so tiny. I've not kept them with any other species of fish or with shrimp, but I do have snails in most of my tanks to help control uneaten food. My tank of choice is a fully planted 20 high or 20 long with about 30 - 40 *Crypt. wendtii* in a pot in the center, and a couple of pieces of driftwood with Java Moss and *Anubias barteri nana* attached to it. I add several handfuls of crushed, dried leaves (usually oak) which I boil and let cool so that they sink to the bottom. I believe this

This article originally appeared in the August 2025 issue of The Missouri Aquarium Society's *The Darter*.

is the secret to success! More in a bit. I feed them daily with live baby brine shrimp, and alternate a second feeding with micro worms, Grindal worms, Hikari Micro Pellets, finely ground flakes, frozen or rehydrated freeze dried Cyclops, and similar tiny foods.

I use sponge filters in all of my tanks, either Hydro sponges or Hamburg Mattenfilters. I keep the room temperature in my fishroom about 76 degrees for most of the year, though it does fluctuate a bit, getting warmer in the winter and cooler in the summer. Tank temperatures without heaters remain in the low - mid 70's, and the lights are on for 12 hours a day, on a timer.

COMPANION PLANTING

Cryptocoryne spp. (right) are often found in the wild with *Boraras*, and can be an easy plant for the *Boraras* tank.



I give their tanks regular water changes of about 30 - 50% every 7-10 days. While *Boraras* species all come from areas of blackwater, my pH is 7.2 - 7.4 coming out of the tap, and settles down to about 6.4 to 6.8 after a day or so. I've had all six species spawn prolifically and over multiple generations without doing anything special to the water. For most of the year, the total hardness is about 125 ppm, mostly from carbonates, but in late summer it drifts downward and carbonate hardness all but disappears. That is when the most fry show up. Even so, in the rest of the year a few new fry are always in the tanks.

The adults of all species seem to prefer to school in mid water, with a single dominant male controlling about a quarter of the tank by himself. He dances and displays for the females and for other males, likely asserting his dominance, showing the females he is a strong candidate for father of their fry, and probably releasing pheromones in the water to let them know he's ready to

spawn. This is a daily behavior, and it seems once they've settled in and reached maturity, mating is a nearly daily occurrence. Females, subdominant males and juveniles all loosely school together (actually, it's usually more of hanging out together than a tight school). Juveniles start joining the school when they're about three eighths of an inch long, and are not bothered by the adults. The adults spawn in the plants, with the dominant male sometimes coaxing the female over the Java moss, other times with him coaxing her upside down under crypt leaves or into the crypt thicket. They do a side by side quiver, sometimes a barrel roll, sometimes not. They spawn nearly every day, in the morning.

The Key to Success

The juveniles spend their first month or so in the plants near the bottom, probably feeding on the microfauna on the plants, and the bacterial slime that builds up on the driftwood and the decaying leaf litter. That seems to be the key to getting them started in life. I've tried spawning the adults in a tank by themselves like you would with most other egg scatterers, but the fry do not do well and I've never been able to get them up large enough to eat live baby brine shrimp. On the other hand, when I've added a piece of "old" slimy driftwood with Java Moss attached to the tank, the fry disappear into the Java Moss on the driftwood for about 10 days, then emerge as juveniles. Even more so since I started using leaf litter about 20 years ago.

I believe the fry feed on the bacterial growth or maybe even some type of fungus that grows on driftwood and leaf litter (that slimy coating of biofilm) for the first few days, then feed on the microfauna on the plants. This would be similar to what they would encounter as first foods in the leaf litter in the wild. I don't know for sure if that is the reason, but it really works!

I see fry swimming in the plants near the bottom for a while, then they join the adult school when they are about three eighths inch

long. In a species tank, there is a constant flow of new juveniles, but rarely more than a dozen or two at any one time. I've read that the females only lay an egg or two a few times a week, so perhaps this is the reason why.

The first *Boraras* I worked with was the Exclamation Point Rasbora or Sparrow Rasbora, *Boraras urophthalmoides* (16 mm). It is one of the smallest members of the genus. There appear to be several populations of *B. urophthalmoides*, some are more colorful, some less so. But all have the telltale "exclamation point" along the lateral line.

B. brigittae, the Chili, Mosquito or Red Rasbora (18 mm), is a VERY different fish than *B. urophthalmoides*; there is no way of confusing even the females. *B. brigittae* are larger (relatively speaking!) at just under an inch. The *B. brigittae* have a solid black stripe down the lateral line, over which is a bright red/orange colored stripe, while the uros have a green or gold stripe running over the black lateral stripe, depending on the population. The line ends in a separate black dot at the base of the caudal fin in both species, but in *B. urophthalmoides* it's round, while in *B. brigittae* it is wedge shaped. Also, *B. brigittae* have bright red fins outlined in black in the males, and females have pale pink/orange fins.



The neon orange Dwarf Rasborah (B. merah)

In *B. merah*, the Neon Orange Dwarf Rasbora (16 mm), as you might guess, the males show an intense orange color around a large spot. They are often shipped with wild caught *B. brigittae*, though occasional



Chili Rasborah (B. brigittae)



In a pinch, B. urophthalmoides can be used at the end of a sentence to add enthusiasm or prove you aren't a heartless sociopath.

shipments of *B. merah* alone appear in the trade from time to time.

B. micros, the Dwarf Thai Rasbora (13mm). Sexually active males are lemon yellow with three small grayish spots.

B. naevus, the Strawberry Rasbora (12mm), are the most recently described species. They have a slate red color with a large black blotch on their flanks.

With bright color, interesting behavior, undemanding care, and the fact they do very well in nano planted tanks, there is no reason not to try the various *Boraras* species. And

if you're going to do that, why not give them a tank of their own? And as always, don't forget to just sit and watch your fish. After

all, isn't that why you got into this wonderful hobby in the first place?





GCAS Happenings

September Updates

A WARM WELCOME BACK TO RENEWING GCAS MEMBERS ARTIE MAYER AND KEN IP!

Septembers Bowl Show Winners:

1ST PLACE JOE FERDENZI - HARLEQUIN RASBORA
2ND PLACE RICHIE WAIZMANN - BETTA SPLENDENS
3RD PLACE HARRY FAUSTMANN - GLOWFISH TETRA

UNOFFICIAL 2025 BOWL SHOW TOTALS TO DATE:

JOHN BUZZETTI	5	MARK SOBERMAN	5	HARRY FAUSTMANN	13
JOSEPH FERDENZI	19	RICHIE WAIZMANN	21		

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

GREATER CITY AQUARIUM SOCIETY

Next Meeting: November 5, 2025

Speaker Subject: TBA

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 University - 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/>



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)



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 Seungho Wie



In this column last month we profiled one of our oldest members. This month I have the pleasure of introducing you to our youngest! Seungho Wie emigrated to the United States from Seoul, South Korea with his family at the tender age of 5. Within a couple of years he was fluent in English and, as many youngsters, spending a lot of time exploring the internet and watching videos. There, at the age of 8 or 9, the videos that piqued his interest most were of tropical fish and tropical fish keepers. So many aquarists are introduced to the hobby by family members! Seungho discovered it on his own. And now, at the ripe old age of 13 he’s a full-fledged member of the community! And we’re so very, very happy to have him! It was online that he one day saw of video of a meeting of the Greater City Aquarium Society and thought that it would be a great



place to get the supplies he'd need and learn more about the hobby. Too young to drive, he enlisted his dad's services to drive him to our very first meeting at Alley Pond Environmental Center...an auspicious beginning for all of us. He was only 12 then! And he's been to almost every meeting since. Dad is a dedicated and willing chauffeur.

After just one year in the hobby, Seungho is keeping and breeding guppies, dwarf neon rainbows, Corys, and *Limia Islai*. He has a 10-gallon breeding tank, two 5-gallon tanks, and two grow-out tanks, 1 and 2 gallons respectively. Right now, in the 10-gallon he has 2 pairs of guppies with fry, and Corys. One 5-gallon tank holds a trio of dwarf neon rainbows and the other holds a school of *Limia Islai*. All of the tanks are planted he says, to help maintain the water quality as his school schedule limits his time available for water changes. That's right, of course, at 13 he's still in school. He's in the eighth grade and attends school near his home in Oakland Gardens, Queens. At this time the tanks are all in the living room. He shares a bedroom with his younger brother who "hates" the smell of tanks and fish food, so the living room is a compromise. Seungho is campaigning for his father to let him buy a rack to keep them on as a better setup. I sense a fish room in his future. As a beginner, he told me he started out with a lone Betta in a tank to which he added three Panda Corys. All three Corys were dead "at the fins" of the Betta by morning. Lesson learned.

Don't think he spends all his time between studies and fishkeeping. This well-rounded youngster also goes fishing, plays flute in the school band, plays basketball, and believe it or not, is studying for his SHSAT! His favorite subject in school is Math, "because it's so easy"...What!!??? He likes to go fishing off the piers at Jones Beach and Captree where he says he catches a variety of fish including Flounder, Seabass, and Porgies. Here again, his Dad provides the transportation, though he's not a fellow fisherman. Thank goodness he finds the time and wherewithal to come to our meetings. We really need young, enthusiastic members like Seungho!



modern AQUARIUM



November 2009
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Paradise Revisited

Macropodus erythropterus - the Red Back Paradisefish

by ALEXANDER A PRIEST



Macropodus erythropterus

Photo by Al Priest

It is generally accepted that the *Macropodus opercularis*, or paradisefish, was the first tropical fish to be kept as a pet in Europe and in the Western Hemisphere, having first been imported from Asia into Europe around 1869 and into the United States in 1878.¹ For many years, the genus *Macropodus* was believed to consist of three species: *Macropodus opercularis* (the common paradisefish seen in many pet stores and often sold as either the blue or red, and sometimes turquoise paradisefish, depending on the shade and intensity of color of their vertical body stripes), *Macropodus ocellatus*, or roundtailed paradisefish (once known as *Macropodus chinensis*), and *Macropodus concolor*, the black paradisefish (now called *Macropodus spechti*).

In a paper published in 2002, Dr. Jörg Freyhof, of Berlin Germany's Leibniz-Institute of Freshwater Ecology and Inland Fisheries, and Dr. Fabian Herder, Curator of Ichthyology at Zoologisches Forschungsmuseum Alexander

Koenig in Bonn, Germany, identified two new species in the genus *Macropodus*: *Macropodus hongkongensis* from Hong Kong, and *Macropodus erythropterus* from the coastal catchments of the Vietnamese Rivers Quang Tri, Cam Lo and Giang. The rest of this article is about *Macropodus erythropterus*, also known by the common name of red back paradisefish.

As indicated previously, *Macropodus erythropterus* is one of the two newest members of the genus *Macropodus*, having been imported into Europe in 2000 by Drs. Freyhof and Herder. I obtained my group at a Greater City Aquarium Society auction (just one additional benefit of attending aquarium society meetings).

The body shape of *Macropodus erythropterus* closely resembles that of the common pet store variety paradisefish, *Macropodus opercularis*. *M. erythropterus* has a slightly more pointy head, no (or very faint) opercular spot, and no prominent vertical stripes. Its body is reddish in color, with a

This article originally appeared in the November, 2009 issue of *Modern Aquarium*

more intense red color along the back (thus, the common name of red back paradisefish).

This species shares many characteristics with *M. opercularis*, including adaptability to almost any water conditions, and aggression. Like *M. opercularis*, the red back paradisefish is not a candidate for a peaceful community aquarium. Males are aggressive and territorial, and will attack almost any other fish of similar or smaller size. While they are native to soft, slightly acidic water, they readily adapt to most water parameters (although wild caught specimens are best kept in soft, acidic water if you want them to breed). They can tolerate a very wide temperature range, but *Macropodus erythropterus* is best kept at 75° F or less.

These are very easy fish to keep and breed in the home aquarium, requiring very little beyond food and clean water. Caves, driftwood, and plants are recommended, especially if you keep more than one adult male in a tank. As noted previously, males are territorial and will fight unless they can each stake out a distinct territory. If you expect them to breed, floating plants (or other floating objects) should be placed in the tank to serve as anchors for bubble-nests.

Be careful, especially at feeding time, as they are such enthusiastic eaters that they are likely to jump to try to get to the food faster. A very snug lid, with all openings sealed, should always be in place.

Males are larger than females, have longer fins, and are more colorful. Adult females are wider, have shorter fins, and are less colorful (they can appear to be almost white when ready to breed). Just like the other members of the *Macropodus* genus, *Macropodus erythropterus* is a surface bubble-nester. That means a male will build a nest of bubbles at the surface of the water (usually under a leaf, but in an aquarium a floating piece of plastic will serve as a suitable substitute). He will then try to entice a female to his nest and if she is receptive, they will embrace. Hundreds of eggs can be produced at one spawning.

While they will eat almost anything, *Macropodus erythropterus* is primarily a carnivore, and live or frozen food is recommended, especially if you want the fish to spawn. They readily breed in captivity, and their spawning process is typical of other bubble-nesting anabantoids (such as *Betta splendens*). The male wraps his body around the female, causing the expulsion of eggs from the female. The male then takes the eggs and places them into his floating bubble-nest.

He will guard the eggs until they hatch and the fry are free-swimming (usually within three days), after which he should be removed.

Just as with *Betta splendens*, the female should be removed as soon as the spawning embrace produces no more eggs, as she (and any other fish who might be in the vicinity) will be attacked by the male once he starts guarding his nest. Once the fry are free swimming, the male provides no additional parental care.

Some sources claim that *Macropodus erythropterus* appreciates some water current³ but I question that, and have found that they do quite well with minimal water movement. In my opinion, any significant current would disrupt their nests, since they are surface bubble-nesters.



References

¹

http://en.wikipedia.org/wiki/Freshwater_aquarium

² Freyhof, Jorg and Fabian Herder 2002 Review of the paradise fishes of the genus *Macropodus* in Vietnam, with description of two new species from Vietnam and southern China (Perciformes: Osphronemidae). *Ichthyological Exploration of Freshwaters* volume 13, no. 2, pp 147-167.

³

http://aquaworld.netfirms.com/Labyrinthfish/Macropodus/Macropodus_erythropterus.htm

Spawning A Giant

The Gulf Killifish

Fundulus grandis grandis

by Joe Doyle

One evening I had a knock at the door. Fish friends from the north had stopped by to see what new fish I was working with. I was handed a bag of fish as my guests entered. I was told that they were collected in a ditch behind a new housing area planned north of Tampa, Florida.

Fundulus grandis grandis was the species, also known as the Gulf Killie, a big killifish. They were about 3 and a half inches in length, about half grown. Two females and a male. I was told they were probably big enough to spawn, hadn't seen



Photo credit: Noel Barkhead

any signs. I set up the trio in a ten-gallon fish tank, sponge filter, floating mop, and a tablespoon of baking soda per five gallons to make the water harder. No heater was added, since it was summer, and I secured a tight-fitting lid. Being wild fish used to living outside, I really wasn't sure how they would react to aquarium life. They ended up constantly trying to jump out, even with the lid on the tank. I fed the group frozen blood worms, frozen mysis shrimp, frozen adult brine shrimp, spirulina flakes, liver flakes, tetramin flakes, blackworm pellets. Everything I tried they ate voraciously.

I found one egg in the mop after a week, which I moved to a deli cup full of water from my parent's tank. Second week no eggs. I thought I'd try a different setup with the mop, and tie the mop with rubber bands in three spots evenly spaced throughout the tank. I found 12 eggs after one week. As

time went on, the largest batch of eggs laid in the mop measured 35. Eggs took a good month to hatch. I tried incubating eggs on damp coconut fiber, which didn't work out too well. The best hatch was achieved with wet incubation. In their natural habitat, the water in the ditch would drop in the evening and rise again in the morning following the cycle of high tide and low tide, exposing the eggs every day to the elements and re-

wetting. I wasn't quite sure how to recreate this scenario. The eggs were extremely resilient and tough. I kept fungused eggs out of the container as bad

eggs turned solid white. Let some batches sit for up to five days without water changes just before hatching. Had no effect -- all the eggs hatched. Very prolific fish!

The fry were fed microworm size food for the first week, then offered BBS. The fry grew fast! Raised multiple batches together for up to a month. The fry were a tan sand color, and blended in to match the background. They reached 3/4" in a month, and an inch and a quarter in two months. Very hardy little fry! I passed on the adults to another breeder.

The maximum size of the fish is about seven inches. I saw a full size seven-inch live specimen at the American Killifish Association in Denver. They were so big! I had to get rid of my trio before they got that big!



This article originally appeared in the August, 2023 issue of *The Youngstown Aquarist*.

Pictures From Our Last Meeting

Photos by Marsha Radebaugh & Jason Kerner



Dan Puleo, judge, with bowl show winners: 1st place Joe Ferdenzi, 2nd place Richie Waizman, and 3rd place Harry Faustmann



Bowl Show Entries



Auction goodies waiting to receive new homes!



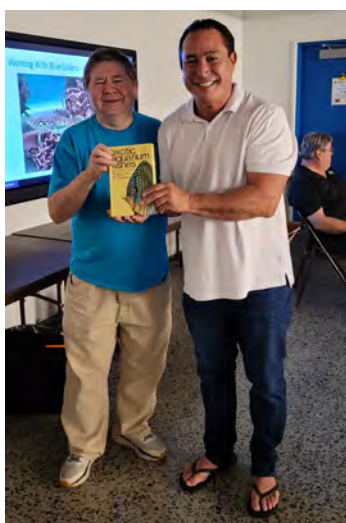
Basil Holobus, speaking on the Blue Gularis, to a very appreciative audience!



Auctioneer Ed Vukich and his crew of runners



Welcome new members John Martin (left) and James Stekol



Door Prize Winners Bismarck Vanegas and Donna Ansari



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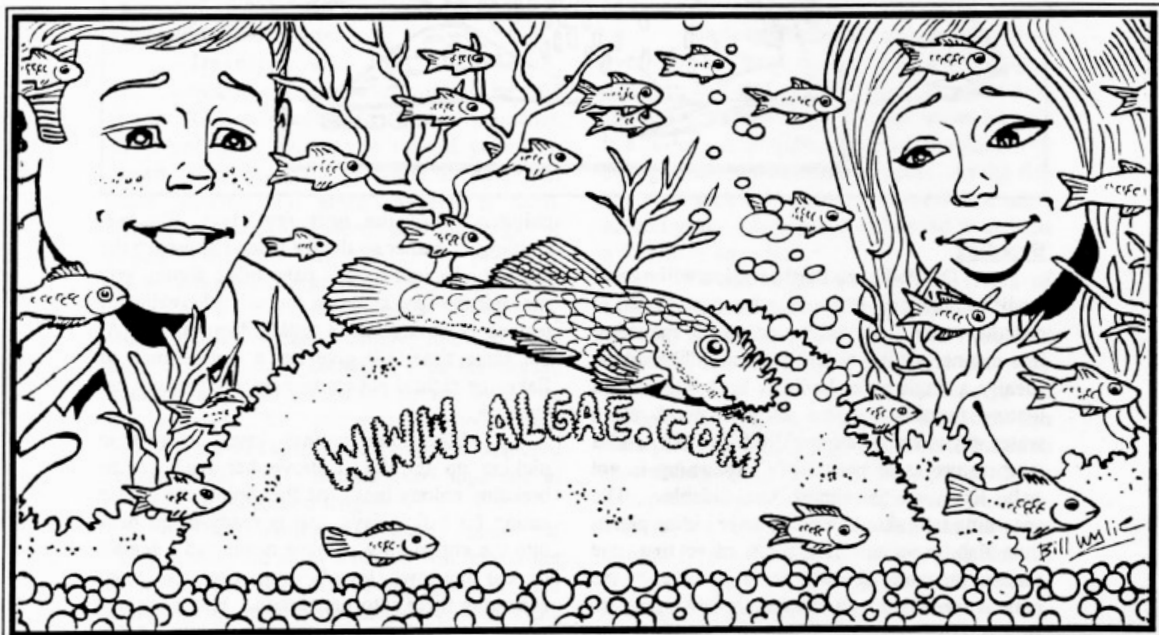

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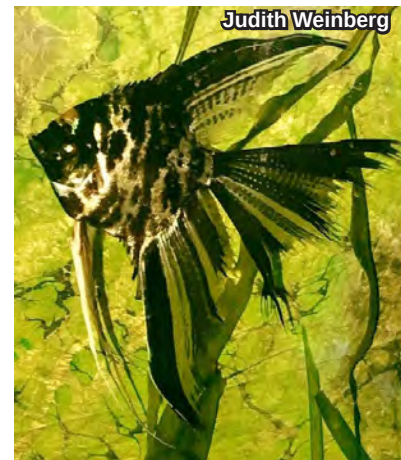
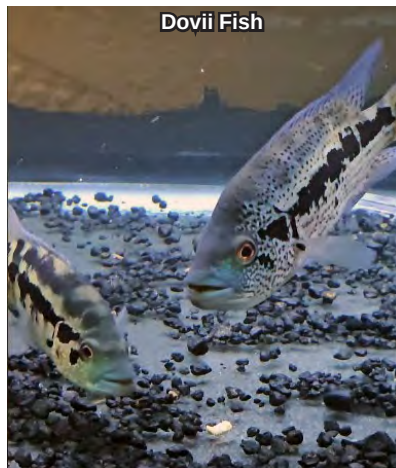
"Look Charlie, everyone has a web site these days."

by Bernard Harrigan

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!



Restoration Efforts Show Remarkable Success in Chicago River

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 Chicago River, once known as a symbol of failed urban planning, may be a poster child for the tantalizing possibility of sustained environmental restoration efforts.

The Chicago River is famous for turning green every year on Saint Patrick's Day, but it also has a long and well-documented history of incredible pollution. The Chicago River used to flow into Lake Michigan, where the rapidly growing city of Chicago sourced its drinking water in the 1800s. Unfortunately, the Chicago River functioned largely as a sewer for the citizens of Chicago, who were essentially poisoning their own drinking water. Public health officials complained that the contaminated water from the Chicago River that reached Lake Michigan caused typhoid fever and similar public health problems.

By 1900, an ambitious plan to reverse the flow of the Chicago River using a series of dams at various locations was completed, which helped preserve the drinking water in Lake Michigan. Unfortunately, the city continued to dump its industrial and residential waste into the "stinking river," and into the 1980s it was still normal to see visibly dirty river water filled with garbage. It was not until Chicago Mayor Richard Daley began an extensive cleaning and restoration in the 1990s that the Chicago River began to noticeably improve.

Those efforts have continued in recent years, and they appear to have borne fruit.

A research paper published in the Journal of Great Lakes Research used light traps at 10 different locations along the Chicago River between 2020 and 2022, and found evidence of 24 different species of fish that reproduced in the Chicago River. The species observed to be reproducing in the river included several that are considered particularly vulnerable to pollution, including the brook silverside and the mimic shiner.

The researchers believe that the Chicago River is demonstrating improved water quality and flow, improved submerged vegetation, and suitable vegetation. The South Branch in particular has a higher number of fish species considered vulnerable to pollution, suggesting that it has cleaner water and more favorable conditions than the North Branch of the river.



A view of the Chicago River from the South Branch, looking toward the main stem (right) and the North Branch (upper left) at Wolf Point in 2009

Researchers hope to use these findings to determine how fish spawning can be supported in urban environments. For instance, unused barge slips may serve as important nursery habitats for young fish. The work is also encouraging, as it shows that determined conservation and restoration efforts can eventually yield fruit, even in the most challenging conditions.



Sources:

[Larval fish community of the urbanized Chicago River - ScienceDirect](#)

[Shedd Aquarium study on fish reproduction in Chicago River indicates continuing recovery from pollution - CBS Chicago](#)

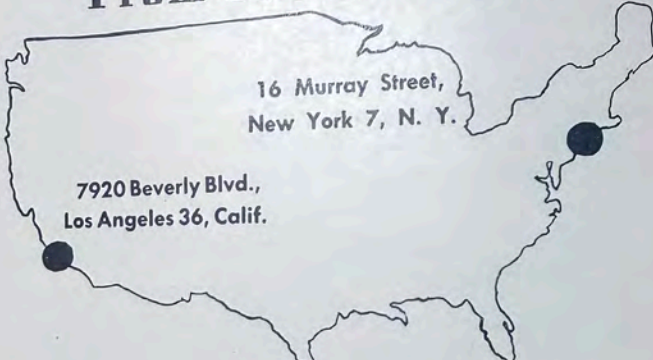
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December 1946

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