

modern AQUARIUM



March 2020
volume XXVI
number 1

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. XXVII, No. 1 March, 2020

ON THE COVER

Our cover photo this month features the cake from our annual December Awards Banquet, which was held on December 4th of last year. To see more photos from the banquet, see "Pictures From Our Holiday Awards Banquet" on page 18.

Photo by Marsha Radebaugh

GREATER CITY AQUARIUM SOCIETY

BOARD MEMBERS

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

MEMBERS AT LARGE

Pete D'Orio.....Walter Gallo
Al Grusell.....Victor Hritz
Jason Kerner.....Leonard Ramroop

COMMITTEE CHAIRS

Bowl Show.....Joseph F. Gurrado
Breeder Award.....Joseph Graffagnino
Early Arrivals.....Al Grusell
Membership.....Marsha Radebaugh
N.E.C. Delegate.....Joe Gurrado
Programs.....
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. 2020 Program Schedule.....	3
President's Message.....	4
Cartoon Caption Contest.....	5
Our Generous Sponsors and Advertisers.....	6
Aquarium Filtration Revisited.....	7
Again and Again by Jules Birnbaum	
The Horseface Loach.....	9
by Mike Hellweg	
G.C.A.S. Bowl Show Rules.....	12
Done With Duckweed?.....	13
by Stephen Sica	
25 Things I Didn't Always Know.....	16
About Taking Care of Tropical Fish MA Classics by Susan Priest	
Pictures From Our Holiday Awards Banquet.....	18
Photos by Joseph F. Gurrado and Marsha Radebaugh	
Fishy Friends' Photos.....	20
Modern Aquarium 2019 Article Index.....	21
G.C.A.S. Prohibited Species List.....	26
G.C.A.S. Member Discounts.....	28
G.C.A.S. Classifieds.....	29
G.C.A.S. Happenings.....	30
The Undergravel Reporter.....	31
Three-D, Or Not Three-D?	
Fin Fun (Puzzle Page).....	32
Under The Rainbow	

From the Editor

by Dan Radebaugh

Welcome back to another year with the Greater City Aquarium Society and **Modern Aquarium**! Those of you who attended our Holiday Awards Banquet will recognize the cake on this month's cover. For more photos from that party check out the Pictures From Our Last Meeting on page 18. We had one of our best crowds ever, and everyone seemed to have a great time!

You'll notice several familiar authors in this issue. Jules Birnbaum contributes one of his thoughtful reviews of current aquarium equipment, in this case a survey of the current status of filtration devices. I find these periodic equipment updates from Jules very useful. My own general view of filtration can become rather static, though I admit that I have replaced a couple of filters that just got too old and tired. These reviews keep me attuned to current developments should I need to update my equipment. Everything, after all, eventually gets old. Editors, for example?

Speaking of editors, I must thank each and all of our copy editors for the wonderful work they do making sure that **Modern Aquarium** comes out issue after issue remarkably free of embarrassing errors. Their names are of course listed in our masthead, but I'll name them for you here as well. They are Al and Sue Priest, Donna Sosna Sica, and Tom Warns. I also make sure that my wife Marsha takes a look at everything I write as well, before passing it on. Thanks, all! We could not do this magazine without you!

We happily welcome back Elliot Oshins following his medical problems last year. Elliot again challenges us to come up with a caption for his fanciful artwork. Do you feel up to the challenge?

Our exchange article this month is by Mike Hellweg, who has been a speaker here at least once before that I recall, and probably more than that. His



subject in this article is the horseface loach, a favorite of mine, though it's been quite a few years since I've kept one.

Reigning Author of the Year Steve Sica, in his article "Done With Duckweed," (page 13) seems to indicate that, after many articles on this plant, he now intends to go cold turkey on the subject. We'll see how that resolution holds up.

From the October, 2003 issue of **Modern Aquarium**, our MA Classics article this month is entitled "25 Things I Didn't Always Know About Taking Care of Tropical Fish," by Susan Priest. It made me smile. I hope it does the same for you.

Following our Fishy Friends' Photos on page 20 you will find the 2019 **Modern Aquarium** index of articles on pages 21-24. These indices are a godsend when you're trying to find an article that you just know you saw but can't think where.

On page 26 you'll see our current list of prohibited species. Please take this list to heart.

"Three-D or Not Three-D?" is the title of The Undergravel Reporter's article this month, and the issue closes as usual with our Fin Fun puzzle, "Under the Rainbow." Have fun!





GCAS Programs

2020

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

March 4	Joseph Ferdenzi <i>Aquascaping</i>
April 1	Peter Izzo <i>TBA</i>
May 6	Lawrence Kent <i>TBA</i>
June 3	Mike Tuccinardi <i>TBA</i>
July 1	<i>TBA</i>
August 5	A Night at the Auction
September 2	<i>TBA</i>
October 7	Larry Johnson <i>TBA</i>
November 4	<i>TBA</i>
December 2	Holiday Party!

Articles submitted for consideration in *Modern Aquarium* (ISSN 2150-0940) must be received no later than the 10th day of the month prior to the month of publication. Please email submissions to gcas@earthlink.net, or fax to (877) 299-0522. Copyright 2020 by the Greater City Aquarium Society Inc., a not-for-profit New York State corporation. All rights reserved. Not-for-profit aquarium societies are hereby granted permission to reproduce articles and illustrations from this publication, **unless the article indicates that the copyrights have been retained by the author**, and provided reprints indicate source, and that two copies of the publication are sent to the Exchange Editor of this magazine. For online-only publications, copies may be sent via email to gcas@earthlink.net. Any other reproduction or commercial use of the material in this publication is prohibited without prior express written permission.

The Greater City Aquarium Society meets every month except January and February. Members receive notice of meetings in the mail or by email. For more information, contact: Dan Radebaugh at (718) 458-8437, email gcas@earthlink.net, or fax at (877) 299-0522. 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

A few of you noticed that I was unable to attend the last five meetings of 2019. This was due to a sciatic nerve problem which kept me in severe pain. Probably a few of you were aware that I was threatened with impeachment if I failed to show up at the Christmas party. Well, thanks to a few pills I was able to make the Christmas party, and the Senate (our Board) voted that missing a few meetings was insufficient grounds for impeachment. (Whew!)

I did make it to the Christmas party, so you can quit worrying about me being impeached. Besides, who else would do this job? I don't even get golfing privileges, much less a driver and an armed escort!

As to my sciatica, I was doing well, but then I went to a fish club meeting. So let me explain how my setback was the fishes' fault. The meeting ended at about eleven PM, and in the pouring rain I rushed out to my car, which was parked on an incline. I slipped on the wet pavement, and in the struggle to regain my balance I aggravated the sciatica, and had to spend the next four days in bed. I am still not fully recovered, but I am at a point where I can live with it, and hope to fully recover without surgery. But enough about pain and suffering. Let's talk about 2020 and better things to come!

As we advance and grow as aquarists, the changes in us are wonderful and exciting. For members of a club like Greater City, going from knowing nothing to knowing rather a lot seems almost effortless! Not only do we learn from the monthly presentations by our expert speakers and from the articles we read in **Modern Aquarium**, but in this club we have many members who have accumulated a great deal of knowledge about the finer points of fishkeeping. So don't be shy. If you need a little advice on some aspect of this hobby that you'd like to know more about, just ask another member. Even if that person doesn't know the answer he or she can probably point you or introduce you to someone here who does!

It's also important to give back. If someone asks a question on a subject you know a lot about, help them out! That's why we're all here! This is where I have something to ask of *all* our members. There are jobs here at GCAS that need members to do them! You'll find them listed on the masthead (page 1) of **Modern Aquarium**, in the blue box on the left side of the page. Please take a look on that page, and you'll see that a few of those jobs don't have names beside them. These need to be filled. If you'd like to be more involved in the workings of our club, talk to me or to one of the other folks listed there. We can *always* use more help. In addition to the titles you see there, we're also considering adding the position of Sergeant-at-Arms. This person would primarily be responsible for helping keep order, so that our meetings can move along more smoothly. If you're interested in helping the club out, we *do* need you, so please talk to me.

A subject we discussed with all of you at our meeting back in November is our membership dues. For as long as I can remember our dues, whether individual or family, have been \$20 per year. These dues help us pay for things like our meeting space here at the Queens Botanical Garden, your monthly copy of our award-winning magazine, **Modern Aquarium**, our snacks and refreshments, the fees and expenses for our speakers, maintaining our Website, and whatever other costs that may come along. As I'm certain you know, nothing is getting cheaper, and our Board has determined that this year we should raise our annual membership dues to \$30. If my arithmetic is correct, that works out to an increase of one dollar more per meeting.

Good wishes for what I hope will be a prosperous, fun, and successful year for each of you and your families!

Horst



The Modern Aquarium Cartoon Caption Contest

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



Your Caption:

Your Name:



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.

Aquarium Pharmaceuticals

Aquarium Technology Inc.

Aqueon

Brine Shrimp Direct

Carib Sea

Cobalt Aquatics

Coralife

Ecological Laboratories

Florida Aquatic Nurseries

Fritz Aquatics

HBH Pet Products

Hydor USA

Jehmco

Jungle Labs

Kent Marine

Marineland

Microbe Lift

Monster Aquarium, Inc.

NorthFin Premium Fish Food

Ocean Nutrition America

Oceanic

Omega Sea

Penn-Plax

Pet Resources

Pisces Pro

Red Sea

Rena

Rolf C. Hagen

San Francisco Bay Brand

Seachem

Sera

Spectrum Brands

Zilla

Zoo Med Laboratories Inc.

Your Fish Stuff.com

AQUARIUM FILTRATION REVISITED AGAIN AND AGAIN

Story and Photos by Jules Birnbaum

Anything worth learning is worth repeating. Ask any professional athlete. Thus I am going to repeat some things you already know, though maybe in a different light.

I'm not a scientist. Or am I? I have experimented a lot in my 70+ years as an aquarist. I have a fishroom with thirty tanks of various sizes, the largest of which are three 55 gallons, down to a 2.5 gallon. I have four additional tanks in an upstairs den.

Before I go any further let me say, "whatever works for you," a phrase I often use when talking to other aquarists. Filtration for me does not begin with a filter. Most of us overpay for our aquarium filters. It's like buying a car. You don't need a Ferrari to get from point A to point B when a Chevy will do just as well. Anything worth learning is worth repeating, so let me repeat what you have heard, and seen, over and over.

I once heard Joe Ferdenzi say that if a piece of equipment has more than three parts he does not want it in his fishroom. Complicated filters eventually become a pain to maintain. I have two like that still in operation.

All filtration begins, at least for me, not with the filter, but with water changes. In fact in many cases, if you do enough regular water changes you don't even need a filter. Look on the Internet to see how they keep and breed discus in the Far East. There is a Texas university doing cancer research with swordtails in tanks that use no mechanical filtration. I have eight adult discus raised from quarter-size in a 29 gallon tank. I do a 90% water change once a week for this tank. There are two Swiss Tropicals sponge filters in

the tank, which I rinse about twice a year. The ideal filtration for those discus or my wild angels would be a daily water change, but this won't happen in my fishroom. I do my water changes (most are 60% of the water in each tank) every Monday, a process which takes about two and a half hours.

Many years ago authors wrote about the "balanced aquarium." Such a tank had the proper amount of fish, plants, lighting, water, and no filter. I had such a tank at one time, but it was tough to keep in balance, so I eventually added a filter and water changes.

I've used a number of different filters in my two fishrooms. There are canisters, such as the Eheim Pro, the hang-on Marineland Emperor, the in-tank Marineland Magnum,

as well as large round box filters and sponge filters. Which of these is the best? Each manufacturer will of course say their filter is the best available. Let's look at each one.

The Eheim Pro canister filter (below) has a high price (\$250 to \$350), which is a factor, and the filter does have more than three parts. To some of us it is complicated, and it is heavy. Eheim recommends servicing four times a year, and there is also the cost of replacement media. It certainly does the job very well. While there are many copies, I feel that Eheim is the Ferrari of the field. Just as with wrist watches, there are many copies that look great on the outside.

The Marineland Emperor and Penguin (at left) are hang-on filters and cost from \$25 to \$50. I just saw a video of their new Emperor Pro 450, which looks like a winner. There was no price posted as of the writing this article. There are a number of manufacturers that have similar hang-on filters. Like computer printers with their ink or toner, the true cost is in the filter pads. I make my own permanent pads with Swiss Tropical sponge material cut to size. This filter is very easy to maintain, but like the Eheim canisters, each has its



own power cord. Thus if you run each tank with one of these filters the electric cost is going to be higher than a setup with a central power source, such as box or sponge filters.

Internal power filters are a choice to save space. Marineland Magnum (cost \$41) is one such that uses a permanent micron cartridge, is powerful, and is easy to take apart to remove the cartridge for cleaning. I use this filter only for polishing the water. It is excellent for directing the heavy flow to get the dirt moving, which is absorbed into the micron cartridge. If it ever needs to be replaced, this cartridge costs \$8. With its powerful pump, this filter is also good for loosening and removing dirt from heavily planted tanks, or those with lots of rocks and caves.

Next we have the box filters. These are the least expensive to purchase. The large round ones I have (at right) cost \$8 each and can be purchased from JEHMCO. You need a central power source, since these run by the use of air. JEHMCO has a large selection of quality fishroom pumps at a cost of \$100 to \$500. Box filters need media such as crushed lava rock to colonize bacteria, and filter floss to catch the dirt. The box filter, or variations of it, are the basic filters I used as a 13-year-old more than 70 years ago. This filter has few parts, and is not difficult to maintain. About twice a year the floss must be rinsed or (as I do) replaced. This filter has no parts that wear out, but the floss must be rinsed or replaced when filthy. The box filter is still my second choice for most tanks of 20 gallons or less. Joe Gargas (AquaResearch Center) has a variation called the Rocket Filter, but it costs much more and is not quite as easy to work with as the large round box filter. There are lots of guys and gals out there trying to reinvent the wheel. I like to look into some of these to see if they will work for me (most don't). If you have not used a box filter I recommend you try one. They do the job, and have for a hundred years.

Last on our list is the sponge filter. It is the lowest in cost (about \$6), needs the least maintenance, and has the fewest parts. This filter is composed of a sponge with an attached base, and a lift tube where the air line enters and the water exits. How simple can we

get? This is why almost every fishroom I've visited uses sponge filters with one central air pump.

There are a number of different manufacturers, but the one with the best long lasting sponges and the best lift tubes is Swiss Tropicals. They are a little more expensive (\$12 to \$18). Also in the class of sponge filters is the Matten filter, which is a sponge that covers the whole end wall of the tank, with a lift tube transferring water from behind the sponge back into the main part of the tank. This forces tank water through the sponge. The purpose of this design is to have a large area of sponge for colonizing bacteria. The cost for a 20 gallon tank Matten filter is \$24. I've used them with great success, but when they have to

be cleaned there is a big mess when taking the sponge out to be rinsed, which for me was once a year.

To clean a sponge filter you should not squeeze the sponge, because that eventually damages the sponge material. Squeezing is one reason my wife changes her kitchen sponges so often. I simply hit the sponge on my slop sink while rinsing it with aged water. Some aquarists even use water right out of the faucet, since you probably won't be able to remove all the nitrifying bacteria. I should mention Angels Plus also has a very fine sponge filter for \$9.

Their lift tube is much simpler, because the air line fits easily into a hole in the lift tube. Air lines, after being in water for some time, become hard and difficult to reattach should they separate from a SwissTropicals Jetlifter. In my opinion Swiss Tropicals' sponge material is the best available. The Jetlifter oxygenates the water while creating a good water flow in the tank. It has little holes in the bottom of the lifter that help oxygenate the rising water. Of course these little holes can clog and have to be cleaned occasionally. Air and water carry dust and sediment, so you have to pay attention to your air flow. I feel water circulation is an important part of a good filtration system.

In this article I have not discussed central filter systems for multi tank set ups. This is a topic for another discussion. I hope this article will help in your selection of a filter system that will work for you.



The Horseface Loach

by Mike Hellweg, CFN
(Certifiable Fish Nut)



The Horse's head?

Reprinted from *The Darter* – September/October, 2019 - Volume 45, Number 5; The Missouri Aquarium Society

Loaches are popular aquarium residents that most aquarists keep at one point or another. Some are gregarious and spend a lot of time out in the open, others are aggressive or solitary, and yet others spend their time simply hiding until the lights go out. Then there are some true oddballs that actually spend their time buried in the substrate with only their eyes showing. They have long snouts with the eyes placed high up on the back of the head just in front of the gills, giving their head the overall appearance of a horse's head, hence their common name, allegedly first applied by the Pan Am pilot who introduced them to the hobby.

In their native lands of Southeast Asia they are known by many names, such as “sand fish,” or *pla sai*, in Thai. There they are considered a food fish, and eaten deep fried, seasoned with turmeric and garlic. Here in the USA I've seen them sold in happier situations as aquatic pets in fish stores with names such as banana loaches, horseface loaches, horse head loaches, long nose loaches, sand loaches, and moose face loaches.

There is a bit of confusion in the trade as to which species are actually being imported. There are currently seven species recognized in the genus *Acanthopsis*, with likely a few more to be described. While hobby literature usually references only one species, *A. Choirorhynchus*—with several different species pictured in different literature all given the same name—it is obvious that different species have been available from time to time, as sometimes they have a long thin body with a long, narrow snout, and

at other times they have a shorter snout and shorter, thicker body.

Husbandry is the same for all, so for this article we'll just consider all as “Horseface Loaches” and go from there. All species are reported to reach about 5 to 9 inches in the wild, and usually top out at about 4 to 6 inches or less in our aquaria, although I have seen a couple of 8-inch specimens in fish shows around the country.

The horseface loach's unique head is not just for show. It has a practical purpose. When startled they are actually able to burrow through the substrate so quickly that it appears they are “swimming” through it! Their narrow, tapering snout and narrow cylindrical body makes this easy. In addition, their eyes are covered with a retractable thin membrane that protects them while the fish is sand swimming.

When they rest they often position themselves just under the surface of the substrate with only their eyes protruding. The gill openings are right behind the eyes, so they can breathe easily when resting in this manner without exposing themselves to predators. Most of the scientific literature reports that they only engage in this behavior when “startled by a predator” (or, I guess, a scientist with a net), but after years of keeping dozens of specimens of likely three or four species, I can say that at least with my specimens it is a common behavior even when “predators” are not present.

Their bodies are a sandy tan to silvery color with brownish or black blotches, dots, or partial bars often forming a thin dark line along the lateral line,

depending on the species. The bellies are usually whitish and the fins are usually clear. This coloring helps camouflage them against the sand substrate.

Smith reports eight distinct patterns based on their collection location in Thailand alone, but notes that even more are recorded in the literature. These could be distinct species, or just locality variants of a single species. The scientific literature is mostly silent on this. The combination of sand swimming, body structure and cryptic coloration all allows them to hunt for food while avoiding predators that otherwise might be able to see them easily in the clear streams they prefer.



Their mouths are right at the front, surrounded by three pairs of barbels. They have one tiny pair above the upper lip, one pair on underside at the side of the mouth, and one pair on the “chin” below the mouth. These barbels are covered in taste buds, and in addition their lips are covered by sensory organs called *papillae* that serve to help locate food. These structures help them to find food without actually having to see it.

If they have a fine substrate like sand, they will pump the sand through their mouths and out their gills almost looking like little puffs of sandy smoke. As the sand passes through they swallow the tiniest particles of detritus that they can use as food. With larger gravel, this behavior is not often observed in aquaria.

Their preferred foods are detritus, worms, insect larvae, and small crustaceans. In the aquarium they will take flakes, all types of sinking foods like pellets and frozen foods (brine shrimp, mysis, and bloodworms are favorites), but they should be offered a treat of live white worms, black worms, or tubifex worms on a regular basis. They will also scour the substrate for every bit of missed food, so even tiny crumbs won’t escape them.

They are reported from the Irrawaddy River drainage in Burma in the north throughout Thailand, Laos, Cambodia and Vietnam to the Malaysian islands of Sumatra and Borneo in the south. In the wild they are most often found in clear flowing streams and rivers that have a sandy substrate, though they are reported from the muddy Mekong as well. This wide distribution

means they are able to adapt to many differing water parameters, so pH and hardness are not as important as clean, flowing water. They prefer temperatures in the mid to upper 70s Fahrenheit.

A river tank would be an ideal habitat for them. A long, low tank would be perfect. Consider something like a 33 gallon extra long (48 x 12 x 12) as the perfect tank. Instead of setting up the filter on the back as one would normally do, add the filter to one end with the current directed across the length of the tank.

Some people even make a special filter for stream fish with a power head at one end and a sponge filter at the other connected with a length of PVC pipe

under the gravel that works incredibly well in a tank like this, creating a directional current and filtering the water at the same time.

Cover the bottom with an inch or so of sand or fine round gravel. You can add a few plants, but the horse face loach’s unique sand swimming behavior will likely root up these plants fairly quickly unless they are well established before the fish are added. It might be best to stick to plants like Java moss, Java fern, and Anubias that, can be attached to driftwood or rocks.

Make sure there is plenty of room for the fish to burrow. Choose peaceful tankmates that will stay up in the water column. Giant danios, zebra danios, and similar riverine fish would be ideal as they stay up near the surface and love the water movement in a tank like this.

Like most loaches, horseface loaches are social fish and prefer to be in large groups. Instead of purchasing a single specimen, or two or three fish as most fish keepers do, consider purchasing a group of six to twelve fish, especially if you are using a larger tank. Males can be a bit scrappy, and though they might do some serious damage if there are only a couple fish, little harm is done if there is a big enough group.

I can find no accounts in any literature of either captive or wild spawning. I would be willing to





bet that the main reason for this is that not enough aquarists keep a group of these interesting fish for a long enough time in a tank without competition.

They are easy to sex when mature. Males have enlarged pectoral fins that have thicker first rays than those of females. Gravid females are unmistakable, as when full of eggs they are bulging. All of the literature reports that they reach sexual maturity at just over two inches, but this is based on a single specimen of a ripe female collected from central Thailand in 1927. She was only about 6 cm long. So whether that is applicable to one species or the entire group is open to debate.

If they are like other Cobitids, it is likely that they are egg scatterers, with pairs swimming side by side, possibly with the males using their enlarged pectoral fins to grasp the females' pectoral, holding the pair together in the current and ensuring fertilization of the maximum number of eggs. They likely lay a large number of eggs over a rocky bottom and count on the current to disperse them far and wide in hopes

that at least a few young will survive to maturity. Some Cobitids lay eggs that float for a while before sinking, while most lay eggs that sink immediately, but I find no references to which type the horseface loaches might produce.

The horseface loach has something to offer all aquarists from beginner through intermediate to advanced. It makes an interesting addition to a community tank, where it will often be observed just peeking from the gravel, and it is also an interesting challenge to the advanced aquarist looking for something truly unusual. And for the breeder looking for the ultimate challenge? Well, how about a fish whose spawning has never been recorded either in nature or the aquarium? How can you beat that?



References:

- Smith, Hugh M.; The Freshwater fishes of Siam, or Thailand; Smithsonian Institution, TFH Publications, Jersey City, NJ; 1965 reprint
- Rainboth, Walter J.; Fishes of the Cambodian Mekong; Food and Agriculture Organization of the United Nations, Rome, Italy 1996
- Breder, Dr. Charles M. and Rosen, Dr. Donn Eric; Modes of Reproduction in Fishes; TFH Publications, Jersey City, NJ; 1966





BOWL SHOW RULES

There is a Bowl Show at every GCAS meeting, except our Night at the Auction meeting (August) and our Holiday Party and Awards Banquet meeting (December). These 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 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.
- The current Bowl Show Coordinator is Leonard Ramroop, who usually also serves as judge (although guest speakers are often asked to do the judging honors).
- 2.5 gallon containers are available for use (brought to the meetings by the Bowl Show Coordinator), but entrants are responsible for providing enough (and suitable) water for their fish.
- For a fish too large (or too small) for those containers, entrants must supply a suitable container, which must be clear on at least three sides.
- Only one fish per container (i.e., no “pairs”).
- No plants, ornaments, or equipment (filters, airstone, 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

Done With Duckweed?

Story and Photos by Stephen Sica



Cordelia rediscovers Turtle Pond in Alley Pond Park in eastern Queens, NY. We ventured right up to the bank and verified that the entire surface of the pond was completely covered in duckweed.

The date was June 18, 2019. I had tossed two small pieces of leafy romaine lettuce onto the surface of my duckweed laden 20 gallon tall aquarium a few days earlier. On this rainy Tuesday afternoon I decided to scoop up any remaining residue. When I removed the acrylic cover I noticed that the water surface was only half covered by duckweed. I immediately put two and two together and came up with three for the answer. It was amazing, or should I emulate our great president (I think that you know the one I mean. Hint: he has a fifty word English vocabulary), and describe it as awesome and fantastic! The romaine lettuce had displaced the duckweed. I had recently written an article for **Modern Aquarium** describing how duckweed and other substances were being tested as a source of food to help feed our burgeoning world population. Duckweed grows very rapidly and can inundate lakes and other bodies of water.

I had just discovered the antidote, or if I might state for the record, I uncovered a “duckweed control agent.” I immediately went on the internet to research the amount of prize money a Nobel winner receives. Unfortunately, my enthusiasm was both naïve and short-lived, as I made another discovery that evening. One of the T5 bulbs on my compact twin fluorescent

light fixture had burned out. I did notice that the light had become dimmer a few days earlier, but I thought it was because the duckweed had grown so much that it was obliterating the penetration of light through the water column. Believe me when I say that this event was a singular disappointment! What would a brilliant mind, such as Stephen Hawking, have said about my stupidity? It was only a burned out light bulb that caused all of my precious duckweed to vanish! Oh, the pain!



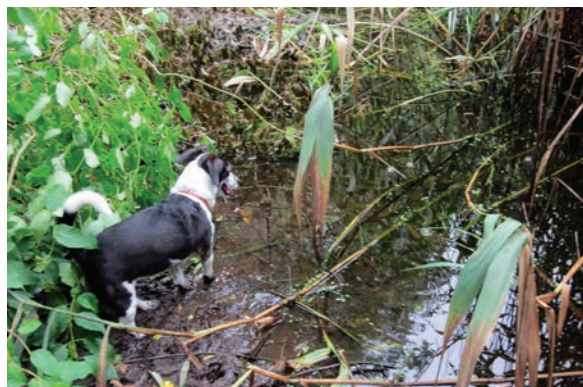
Not to be outdone, Cordelia heads for “deep water” by walking along fallen logs on the banks of Turtle Pond. I decided to appoint her my official duckweed taster even though she'd rather chase squirrels.



Look at all that duckweed! It's so green that I just can't help thinking of dollar bills.



All of this duckweed was making me greedy. I began formulating a plan to train Cordelia to be a watchdog to frighten away any potential duckweed rustlers. Does she look tough enough?



Little Alley Pond is another pond that is close to our home. It had overflowed its banks so we finally were able to encourage Cordelia to venture into its muddy waters close to shore. The heavy spring rains caused a huge increase in the bullfrog population which helped inspire Cordelia's hunting instincts.



A bullfrog hides from Cordelia in the shallows. Don't worry; they are too fast for her to catch. Besides, we don't really encourage any cruelty to any animal. In the United States, this frog is formally named the American bullfrog, *Lithobates catesbeianus*.

Since half of the duckweed on the surface had disappeared, I decided to make a bold move and remove the remainder. I took a small, finely meshed dip net and scooped up duckweed on several occasions that evening. The next day I again scooped up as much as I could, and finally completed the task. By the second evening, the aquarium was free of duckweed. I checked the surface of my aquarium a few days later to confirm that there was no more duckweed. On the evening of July 4, 2019 Donna hosted a dinner party. One of our guests, Jean-Michel, a fellow aquarist, noticed that the twenty gallon aquarium in the den was duckweed free. I told him that I had recently scooped it all out, but I did not tell him something new that I had just learned that very morning that was somewhat ironic.

During our early morning walk in Alley Pond Park we permitted Cordelia to walk us to a fairly remote pond that we hadn't visited in several weeks. This pond is small, with a watery isthmus that connects it to an even smaller pond. These ponds are replenished only by rainwater. The trail circumnavigates the small body of water. We had been visiting it occasionally until the very hot weather arrived. Anyway, when we came upon it I noticed that the entire surface was covered with duckweed! I don't think that duckweed

grew in it in past years. Shades of Charleston, I thought to myself! I walked to the bank to verify that it was indeed duckweed. What a discovery! Here was all the duckweed that I could ever want less than a mile from my home.

Then I suddenly remembered that I had just sworn off duckweed. What should I do? Here was a potential fortune right before my eyes. I might be able to sell it at Greater City auctions. Maybe I could turn the table and sell a dollar's worth to Ed Vukich. That would really make me feel good, to know that I wasn't the only chump! Even better, maybe I could export it to The Netherlands or to China in lieu of Iowa soybeans? Maybe I could mix it with bagels or mashed potatoes, or both? Do you think that it would be appetizing as a soufflé? I think that it might look good in foil envelopes with a big "Just add water!" label. Can you suggest a slogan or offer a good idea to me? All of these stable ideas kept falling into or maybe out of my head. Am I permitted to renege on my vow of no more duckweed? I'm not even sure that I made a vow, or I'll just change my mind! Better yet, I'll just lie about it! I want to be a flip-flopper! I can just emulate our current great political leaders. Maybe I still do love duckweed. I'm just not sure anymore.

When I woke up the next morning I began to wonder if I had been dreaming, so I went to check my camera for documentary evidence. I found nothing. Then it occurred to me that when I discovered my local mother-lode of duckweed I had not had my camera with me. I guess that I really had been dreaming all of this. I told Donna that on the next cool day I would like to walk to the pond again and take a few pictures. She agreed because she enjoys walking our dog all about the universe.

A few days later, the three of us walked into Alley Pond Park and followed the trail to the duckweed pond. For the record, its official name is Turtle Pond. The Red Trail circumnavigates almost the whole pond. I furnish this information in case you either do not believe me, or you want to verify for yourself. Remember, I have first claim to the duckweed. Since it's on New York City property and probably actually

owned by the City, I suggest that you visit the pond on moonless nights. Be on the lookout for raccoons.

Since the year 2015, this is my fifth article (or story, as I like to say) about duckweed. I am fairly certain, although I will not fully commit, that this is the final chapter about my adventures with the stuff. On the other hand, if any of my faithful readers, such as Editor in Chief Dan, and Copy Editors Al, Donna, Sue and Tom, or anyone else who may read this, want to submit some new and exciting information about duckweed, please submit it in care of Dan—not me.

I would like to thank Ed V. I probably owe all my duckweed celebrity to him alone. So, as I take my leave from duckweed (for now?), always remember that when it comes to duckweed be true to yourself, have a good night, and above all, good luck.



While many interesting creatures reside in Alley Pond Park, Donna and I both agree that the ruby-throated hummingbird, *Archilochus colubris*, is the epitome of a wildlife sighting. In late summer and early autumn, groves of orange jewelweed, a favorite nectar bearing flower of the hummingbird, take over specific areas in the park. If you are lucky enough to be in the right place at the right time, you may see one. Photos are only possible if this tiny bird either perches on a branch or hovers at a flower. This is the only hummingbird common in New York City and State. When food sources die, this insect-sized bird migrates to the southern United States and Mexico. About three inches in length, they can fly 1,200 miles on their journey. This female is one of my first decent hummingbird photos, taken in September of 2019.

25 THINGS I DIDN'T ALWAYS KNOW ABOUT TAKING CARE OF TROPICAL FISH

by SUSAN PRIEST

1) I didn't always know by looking at a fish if it was a freshwater fish or a saltwater fish. This is not to say that I could describe in words how to tell the difference!

2) I didn't always know that there are lots of different kinds of fresh water. (Examples: acidic vs. alkaline, hard vs. soft, tannic vs. clear, etc.)

3) I didn't always know that the worst place to keep a goldfish is in a bowl. They grow to be quite large, they have high oxygen requirements, and they put out large quantities of waste. House them in a large tank with excellent filtration.

4) I didn't always know that the best thing about an aquarium club isn't the speaker.

5) I didn't always know that mechanical filtration had anything to do with noodles.

6) I didn't always know that chemical filtration had anything to do with charcoal.

7) I didn't always know that biological filtration had anything to do with sponges.

8) I didn't always know that aquatic plants can absorb nutrients from the water through the surface of their leaves, and not just through their roots.

9) I didn't always know that some fish will not readily accept the presence of another fish of their own species; the stronger one may pummel the weaker ones to the point of death. However, these same fish are likely to happily co-exist with fish of other species. (An example: the Red Tailed Black Shark, *Epalzeorhynchus bicolor*.)

10) I didn't always know that aeration benefits the fishes by increasing the surface area of the water, as water becomes oxygenated by its contact with the air, and not with the bubbles.

11) I didn't always know that the best thing about an aquarium club is not the raffle.

12) I didn't always know that a whale is not a fish.

13) I didn't always know that a seahorse is a fish.

14) I didn't always know that there are at least 25 reasons why you should never release a tank-bred fish into a local body of water. Here are but a few examples: they may become predators, thereby threatening fragile life forms with extinction, or, conversely, be predated upon, thus causing their early demise; they may introduce pathogens to which local wildlife has no immunity, or, conversely, they may become exposed to pathogens to which they have no immunity; their impact on the food chain is much more likely to be negative rather than neutral or positive. ETC . . .

15) I didn't always know that the purpose of "dither" fishes is to send the message to the other residents of the tank that there are no predators around, and that they are safe to swim about rather than hide.

16) I didn't always know that the best thing about an aquarium club isn't the bowl show.

17) I didn't always know that there are some fish which don't have scales. (An example: any of the many species of *Corydoras* catfishes.)

18) I didn't always know that only two and one half percent of the water on the planet earth is freshwater. All living things have to share it; we must safeguard it as the valuable treasure that it is.

19) I didn't always know that there are some fish which breathe air.

20) I didn't always know that there are some aquatic snails which breathe air.

21) I didn't always know that the best thing about an aquarium club isn't the auction.

22) I didn't always know that some fish will lay on their sides and "play dead." (An example: the Clown Loach, *Botia macracanthus*.)

23) I didn't always know that a blood worm is not a worm, but rather the larvae of an aquatic gnat.

24) I didn't always know that the best thing about an aquarium club are the *smiles!*

25) I didn't always know that fish can fall in love.



Pictures From

Photos by Joseph F. Gurrado



Everyone gets seated and chats while the food is brought out.



Marsha Radebaugh accepting her Gene Baiocco Aquarist of the Year Award from past President Joseph Ferdenzi and current President Horst Gerber.



Joe and Horst present Al Grusell with his plaque representing the Joseph Ferdenzi Roll of Honor Award. Jason Kerner was unfortunately out of town, and will receive his plaque when he returns.



Joe Graffagnino accepts his Don Sanford Breeder of the Year award.



The 2019 Champion Walter Hubel award goes to Richard Waizman.



Jules Birnbaum accepts his new Breeder Award Program title of Advanced Breeder.

Our Holiday Awards Banquet

and Marsha Radebaugh



Tom and Rebecca Warns with young Kenneth Leo Warns.



Jason and Annie Irizzary enjoying the meal and the company.



Author of the Year Steve Sica with his lovely wife, proofreader extraordinaire Donna.



The Walgren family seems to be enjoying the evening.



Al and Fran Grusell



Jeff Bollbach and Jules Birnbaum discuss articles of impeachment for Horst.



Some of the auction items to the left; some of the raffle prizes on the right.



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!



Joseph Gurrado



Gilberto Soriano



Dan Radebaugh



John Sciacca



Lonnie Goldman



Victor Huang



2019 Modern Aquarium Article Index

Month/Pg

AQUARIUM HOBBY HISTORY

- “A Brief History of the World (of Ancient Roman Fishkeeping)” by Thomas Warns 04/09
“How WWII Contributed to the Golden Decade of the Aquarium Hobby” by Alan Mark Fletcher..06/24
“Pioneering Aquarist: The Legacy of William Holbein” by Joseph Ferdenzi..... 09/07

ART

- Tai Chi Fish – drawing by Lauren Ramroop 12/23

CARTOON CAPTION CONTEST

- March Cartoon, by Elliot Oshins..... 03/06
April Cartoon, by Elliot Oshins..... 04/06
May Cartoon, by Elliot Oshins..... 05/06
June Cartoon, by Elliot Oshins..... 06/06
July Cartoon, by Elliot Oshins..... 07/06
August Cartoon, by Elliot Oshins..... 08/06
November Cartoon, by Denver Lettman11/05

CARTOON CAPTION WINNERS

- December 2018 Winner: Alexander A. Priest..... 03/05
March Winner: Susan Priest 05/05
April Winner: Marsha Radebaugh..... 05/05
May Winner: Carlotti de Jaeger..... 06/05
June Winner: Joseph Ferdenzi 07/05
July Winner: Ron Webb..... 08/05
August Winner: Warren Feuer 09/05
November Winner: Bill Amely 12/05

CATFISH

- “Journey to the South” by Dan Radebaugh..... 04/15
“Talking (Doradidae)” by Derek Tustin 06/21

CHARACINS

- “The HY511 Tetra, Hyphessobrycon Species” by Don Kinyon..... 04/13
“The Cardinal Tetra Story” by Alan Mark Fletcher..... 05/21
“The Ember Tetra” by Stephen Sica.....08/11

CICHLIDS

- “*Parachromis loisellei*” by Paul Loiselle 03/16
“Dwarf Jumbo” by Jim Kinniston 05/19
“My 70-Year Search for the Perfect Tropical Aquarium Fish” by Jules Birnbaum 06/17
“Cichlids From Lake Nicaragua” by Mike Liu 07/13
“It Takes A Village” by Jules Birnbaum11/15
“Back to Tanganyika” by Warren Feuer 12/07
“Extraordinary Example of Intelligence and Play Behavior in Cichlids” by Robert Price.....12/11

CONVENTIONS

- “The GCAS at the 44th NEC” by Jules Birnbaum..... 05/15
“Scenes from the Aquatic Experience 2019” by Joseph Ferdenzi.....11/16
“GCAS At The Keystone Clash” by Tom Keegan 10/14

COVER PHOTOGRAPHS

<i>Diodon hystrix</i> – photo by Stephen Sica	03/C1
<i>Heros efasciatus</i> – photo by Dan Radebaugh.....	04/C1
<i>Pterygoplichthys gibbiceps</i> – photo by Dan Radebaugh.....	05/C1
Corals – photo by Joseph Gurrado	06/C1
Duckweed – photo by Stephen Sica	07/C1
Tetras – photo by Stephen Sica.....	08/C1
<i>Pomacanthus paru</i> – photo by Stephen Sica.....	09/C1
Subway Fish Mural – photo by Dan Radebaugh.....	10/C1
<i>Thorichthys meeki</i> – photo by Lonnie Goldman	11/C1
<i>Ilyodon Whitei</i> – photo by Stephen Sica.....	12/C1

CYPRINIDS

“How The Zebrafish Earns Its Stripes” by Jules Birnbaum	03/13
---	-------

EXCHANGE ARTICLES

“My Green Wet Thumb: <i>Lobelia</i> ” by Derek P.S.Tustin	03/15
“The HY511 Tetra, <i>Hyphessobrycon</i> Species” by Don Kinyon.....	04/13
“Dwarf Jumbo” by Jim Kinniston	05/19
“Talking (Doradidae)” by Derek Tustin	06/21
“Cichlids From Lake Nicaragua” by Mike Liu	07/13
“Mangroves” by Glenn Roberts	08/09
“You’ve Been Slimed!” by Evelyn Egan.....	09/17
“Temporary Tanks” by Jim Peterson	10/17
“Welcome To The Dark Side” by Karen Murray	11/12
“Extraordinary Example of Intelligence and Play Behavior in Cichlids” by Robert Price.....	12/11

GCAS Facebook Fishy Friends

Fishy Friends’ Photos	03/18
Fishy Friends’ Photos	04/12
Fishy Friends’ Photos	05/24
Fishy Friends’ Photos	06/16
Fishy Friends’ Photos	07/12
Fishy Friends’ Photos	08/17
Fishy Friends’ Photos	09/19
Fishy Friends’ Photos	10/16
Fishy Friends’ Photos	11/18
Fishy Friends’ Photos	12/16

GCAS Society Issues

GCAS Prohibited Species List	04/22
GCAS Breeders Award Program	07/17
GCAS Breeders Award Program	08/21
GCAS ‘Night At The Auction’ Rules	08/14
GCAS Bowl Show Rules.....	08/25
GCAS Bowl Show Rules.....	09/20
GCAS 2019 Award Winners.....	12/17
GCAS Past Award Winners	12/18
GCAS 2019 Author Award Program	12/23
GCAS 2019 Breeder Awards	12/23
GCAS 2019 Breeder Awards Update	12/24
GCAS 2019 Breeder Award Totals.....	12/25

GENERAL INTEREST and Miscellaneous

2018 MODERN AQUARIUM INDEX OF ARTICLES.....	03/23
“How The Zebrafish Earns Its Stripes” by Jules Birnbaum	03/13
“Hatching Rainbowfish Eggs” by Gary Lange.....	03/14
“My 70-Year Search for the Perfect Tropical Aquarium Fish” by Jules Birnbaum	05/15
“Take A Stand” by Stephen Sica.....	05/09
“You Can’t Tell A Fish What To Do” by Susan Priest.....	07/07
“Recycling: Are We Almost There Yet?” by Dan Radebaugh.....	08/15
“Why Did the Turtle Cross the Road?” by Ronald G. Webb.....	09/21
“Trumped By Climate?” by Stephen Sica	11/09
“It Takes A Village” by Jules Birnbaum	11/15
“How to Write an Award-Winning Article” by Bernard Harrigan.....	11/19
“The Greater City Conservation Society” by Susan Priest	11/21
“Trying To C.A.R.E.S.” by Stephen Sica	12/13

KILLIFISH

“The Fabled Blue Gularis” by Joseph Ferdenzi	08/07
--	-------

LIVEBEARERS

“Trying To C.A.R.E.S.” by Stephen Sica	12/13
--	-------

MA CLASSICS

“The Cardinal Tetra Story” by Alan Mark Fletcher.....	05/21
“How WWII Contributed to the Golden Decade of the Aquarium Hobby” by Alan Mark Fletcher.....	06/24
“When the Last Aquarium Goes” by Alan Mark Fletcher	10/19
“How to Write an Award-Winning Article” by Bernard Harrigan	11/19
“Be Prepared” by The Undergravel Reporter.....	12/09

MARINE FISH & FISHKEEPING

“A Slice of Reef” by Joseph Gurrado.....	06/14
““P” Is For Puffer” by Stephen Sica	03/19

MEMBER PHOTOS

“Pictures from Our Last Meeting” by Joseph Gurrado	03/08
“Pictures from Our Last Meeting” by (Various).....	04/18
“Pictures from Our Last Meeting” by Susan Priest.....	05/12
“Pictures from Our Last Meeting” by Joe Gurrado.....	06/08
“Pictures from Our Last Meeting” by Joe Gurrado.....	07/22
“Pictures from Our Last Meeting” by Susan Priest.....	08/18
“Pictures from Our Last Meeting” by Marsha Radebaugh & Larry Whitfield	09/22
“Pictures from Our Last Meeting” by Marsha Radebaugh	10/24
“Pictures from Our Last Meeting” by Joe Gurrado.....	11/22
“Pictures from Our Last Meeting” by Joe Gurrado.....	12/26

NEC News/Events

“The NEC 2019 Betty Mueller Award Presentation”	05/14
“The GCAS At The 44th NEC Convention”	05/15
“The NEC 2018 Articles Competition.....	05/25

OBITUARIES

“RIP Anton Vukich”	03/21
“Alan Mark Fletcher (1928-2019)” by Joseph Ferdenzi	05/18
“Larry Whitfield: RIP” by Dan Radebaugh.....	10/05
“Good-Night, All Creatures Great And Small” by Stephen Sica	06/11

PLANTS

"Duckweed: Food For Thought" by Stephen Sica	07/09
"Mangroves" by Glenn Roberts	08/09
"You've Been Slimed!" by Evelyn Egan.....	09/17
"The Mystery of the Crypt: <i>Cryptocoryne usteriana</i> ," by Wayne Toven	10/23
"Welcome To The Dark Side" by Karen Murray	11/12

PUZZLES

"FIN FUN"

"Over The Rainbow"	03/32
"Finny Films"	04/28
"Undead Food"	05/30
"Meet the Mate"	06/32
"Fun With Livebearers"	07/28
"Continental Divide"	08/30
"Once Up Pond A Time"	09/28
"All Fall Down"	10/30
"Scrambled Rivers"	11/28
"Down Memory Lane"	12/32

RAINBOWFISH

"My 70-Year Search for the Perfect Tropical Aquarium Fish" by Jules Birnbaum.....	05/15
"Hatching Rainbowfish Eggs" by Gary Lange.....	03/14

REVIEWS

"Dark Waters" by Dan Radebaugh.....	06/19
-------------------------------------	-------

SPEAKER PROFILES

Tonight's Speaker: Gary Lange, on "Cruising Papua"	03/07
Tonight's Speaker: Mark Denaro, on "Cichlids I Hate!".....	04/07
Tonight's Speaker: Harry Faustmann, on Live Foods	05/07
Tonight's Speaker: Jim Cumming, on Madagascan and Indian Cichlids	10/07
Tonight's Speaker: Greg Steeves, on Creatures of the Comal.....	11/07

THE TRAVELING AQUARIST

"Cozumel Express" by Stephen Sica.....	09/11
"Keys To The Kingdom" by Stephen Sica	10/08
"Trumped By Climate?" by Stephen Sica	11/09

THE UNDERGRAVEL REPORTER - a column by *The Undergravel Reporter*

"Bigger IS Better"	03/31
"Beetles vs. Devils"	04/27
"Under cover water spies"	05/29
"Microbiomes and Your Fish"	06/31
"Where NOT to Fish"	07/27
"Bettas Gone Wild!"	08/29
"Pooping With The Fishes"	09/27
"Sometimes It Pays To Be Different"	10/29
"Taking C.A.R.E.S."	11/27
"Females & Foraging"	12/29
"Be Prepared" by The Undergravel Reporter	12/09

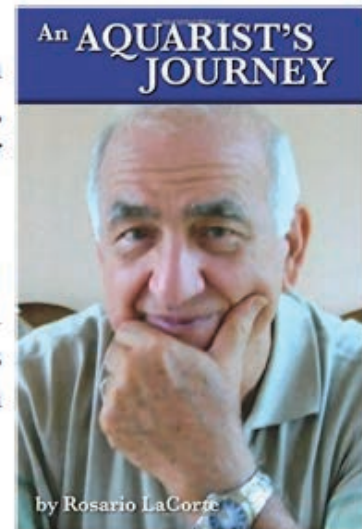


An Aquarist's Journey

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



NEED COMPUTER HELP?

Virus/Spyware Removal \$79.00*

Wireless Setup \$49.00**

Optimization Special \$39.00*

Test Hard Drive and Memory
Eliminate Windows build-up
Remove Internet activity and accumulation
Accelerate Windows start-up



All Work Guaranteed
Professional, Friendly Service
On-Site Service in Your Home,
Office or Business

CompTIA® A+ Certified

Repairs & Upgrades • DSL & Cable Modems Installed • Home & Office Networking
Wireless Networks Installed • Computer & Peripherals Set Up • Troubleshooting & Optimization
Virus & Spyware Removal Specialist • Data Recovery • One-on-One Training

* \$15.00 Mobile charge

** Labor only. Equipment additional

Call: 718-469-5444 • jasontech1@verizon.net



Greater City Aquarium Society

Prohibited Species List

This is a list of species prohibited from being sold, given, or traded at any Greater City Aquarium Society (GCAS) auction. These species are restricted by NYS or federally, require special permits, and/or have complicated trade requirements. GCAS will remove any of the listed items, and ethically dispose of, or turn over such items to the proper authorities. Common names may differ, so please check the scientific names of any species you sell.

Prohibited Aquatic/Bog/Marsh Plants:

Golden Bamboo (*Phyllostachys aurea*)
Yellow Groove Bamboo (*Phyllostachys aureosulcata*)
Common Reed Grass (*Phragmites australis*)
Marsh Dew flower (*Murdannia keisak*)
Purple Loosetrife (*Lythrum salcra*)
Reed Manna Grass (*Glyceria maxima*)
Smooth Buckthorn (*Frangula alnus/Rhamnus frangula*)
Yellow Iris/ Yellow flag iris (*Iris pseudacorus*)
Anacharis/Elodea/Brazilian water weed (*Egeria densa*)
Eurasian minfoil (*Myriophyllum spicatum*)
Broadleafwater minfoil (*Myriophyllum heterophyllum X M.laxum*)
Cabomba (*Cabomba caroliniana*)—any similar species we cannot identify will be removed from the auction.
Floating Primrose Willow (*Ludwigia peploides*)
Frogbit (*Hydrocharis morsus-ranae*)
Hydrilla/water thyme (*Hydrilla verticillata*)
Parrot Feather (*Myriophyllum aquaticum*)
Uruguayan Primrose Willow (*Ludwigia hexapetala/grandiflora*)
Water Chestnut (*Trapa natans*)
Yellow Floating Heart (*Nymphoides peltata*)
Slender false brome (*Brachypodium sylvaticum*)

Prohibited Aquatic Inverts:

Asian Clam (*Corbicula fluminea*)
Zebra Mussel (*Dreissena polymorpha*)
Quagga Mussel (*Dreissena bugensis*)
Asian Sea Squirt (*Styela plicata*)
Asian Shore Crab (*Hemigrapsus sanguineus*)
Bloody Red Mysis Shrimp (*Hemimysis anomala*)
Carpet Tunicate (*Didemnum spp.*)
Chinese Mitten Crab (*Eriocheir sinensis*)
Faucet Snail (*Bithynia tentaculata*)

Chinese Mystery Snail (*Cipangopaludina chinensis malleata*)
Japanese Mystery Snail (*Bellamya japonica*)
New Zealand Mud Snail (*Potamopyrgus antipodarum*)
Rusty Crayfish (*Orconectes rutilus*)
Suminoe Oyster (*Crassostrea ariakensis*)
Veined Rapa Whelk (*Rapana venosa*)
All freshwater mussels or clams native to the USA

Prohibited Fish Species:

Bighead Carp (*Hypophthalmichthys nobilis*)
Black Carp (*Mylopharyngodon piceus*)
Large-scale Silver Carp (*Hypophthalmichthys harmandi*)
Silver Carp (*Hypophthalmichthys molitrix*)
Round Goby (*Neogobius melanostomus*)
Tubenose Goby (*Proterorhinus seilunaris/marmoratus*)
Eastern Mosquitofish (*Gambusia holbrooki*)
Western Mosquitofish (*Gambusia affinis*)
Dojo Loach/Weather Loach/Gold/Marbled Loach (*Misgurnus anguillicaudatus*)
Sea Lamprey (*Petomyzon marinus*)
Tench (*Tinca tinca*)
Walking Catfish (*Clarias batrachus*)
Snakehead (All species described and undescribed in the genus *Channa*)
All species of Piranha
Asian Arowana (*Scleropages formosus/inscriptus*)
Zander (*Sander/Stizostedion lucioperca*)

Prohibited Reptiles/Amphibians:

Alligators/Crocodilians
Monitor lizards
Newts/Salamanders

Other Rules:

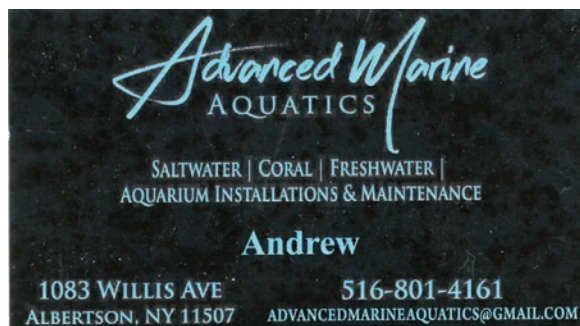
Any species native to the State of New York is Prohibited.
Any Game species defined by DEC or NYS is prohibited.
Any species protected by the U.S. Endangered Species Act is prohibited.
Any species not listed that is prohibited federally.
Any species that violate the Lacey Act is prohibited.
Any species imported or transported illegally is prohibited.
Any species GCAS feels may be illegal or a threat not listed may be removed from auction.
Any species listed as “Dangerous” or “Injurious” is prohibited.
Any species that violate CITES laws is prohibited.

For pictures:

www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedanimals.pdf
www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedplants2.pdf



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.



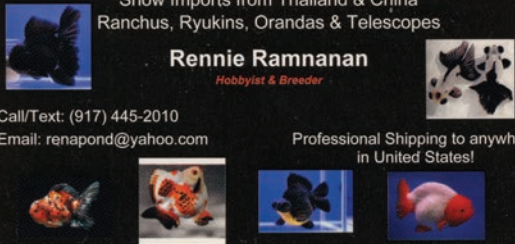
10% Discount on everything except 'on sale' items.

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.

JUNGLE BOB ENTERPRISES, INC.

 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
 ALSAQUATICSERVICES@OUTLOOK.COM

AL TURRISI
 516.633.8806

- SPECIALIZING IN
- POND DESIGN & INSTALLATION
- PONDLESS WATERFALLS
- TURTLE PONDS
- SALT & FRESH WATER AQUARIUM SET UPS
- REEF TANK SET UPS

Services Include

Scheduled Maintenance

Repairs & Emergency Service

Pond sitting while you travel

Professional Aquatic Services

Specializing in Aquatic Animals

AlsAquaticServices@outlook.com



10% Discount on everything.

NATURE'S REEF & REPTILE PET SUPPLY CO.



☎ 917-300-2293

📍 124-11 Jamaica Ave
 Richmond Hill, NY 11418

🌐 naturesreefandreptile.com

🕒 Mon-Sun
 10 am - 8 pm

📷 [natureefandreprs](#)

📷 [nature_reef_reptile](#)



GCAS Classifieds

FOR SALE: African cichlids -- all sizes, as well as tanks and accessories.
 Call Derek (917) 854-4405

FOR SALE: Coralife 9-Watt Turbo-Swift U/V, bulb recently replaced.
 Call Kris: 516-282-6677



GCAS Happenings

March

A SPECIAL WELCOME TO NEW GCAS MEMBER DONALD LANG!

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



GREATER CITY AQUARIUM SOCIETY

Next Meeting: Wednesday, April 1, 2020

Speaker: Peter Izzo

Topic: TBA

Meets: The first Wednesday of each month

(except January & February) at 7:30pm:

Queens Botanical Garden

43-50 Main Street - Flushing, NY

Contact: Horst Gerber (718) 885-3071

Email: pilotcove43@gmail.com

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

BIG APPLE GUPPY CLUB

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

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

Contact: Donald Curtin (718) 631-0538



BROOKLYN AQUARIUM SOCIETY

Next Meeting: March 13, 2020

Speaker: Jason D'Ambrosio

Topic: *Stingray Husbandry*

Meets: 2nd Friday of the month (except July

and August) at 7:30pm:

NY Aquarium - Education Hall, Brooklyn, NY

Call: BAS Events Hotline: (718) 837-4455

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



LONG ISLAND AQUARIUM SOCIETY

Next Meeting: March 20, 2020

Speaker: TBA

Topic: TBA

Meets: 3rd Friday of each month (except July and August) at 8:00 PM. LIAS Meetings are held at SUNY

Stony Brook's Maritime Science area. Room 120 in

Endeavor Hall on the State University at Stony Brook

Campus, Stony Brook, NY 11790

Email: president@lisonline.org

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



EAST COAST GUPPY ASSOCIATION

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

Environmental Ctr.: 228-06 Northern Blvd.

Contact: Gene Baudier (631) 345-6399



NASSAU COUNTY AQUARIUM SOCIETY

Next Meeting: March 10, 2020

Event: TBA

Topic: TBA

Meets: 2nd Tuesday of the month (except July and August) at 7:30 PM. Molloy College, at 1000 Hempstead Avenue, Rockville Centre, NY, in the Hagan Center for Nursing building, in the lower level, classroom #H006. See website for directions.

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

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



NORTH JERSEY AQUARIUM SOCIETY

Next Meeting: March 16, 2020

Speaker: Brian Zimmerman

Topic: *Native Fish Husbandry*

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

Parkway at exit 135

Contact: NJAS Hotline at (732) 332-1392

Email: tcoletti@obius.jnj.com

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



NORWALK AQUARIUM SOCIETY

Next Meeting: March 19, 2020

Speaker: TBA

Topic: TBA

Meets: 8:00 P.M. - 3rd Thursday of each

month except for July & December at: Earthplace - the

Nature Discovery Center - Westport, CT

Contact: Sal Silvestri

Call our toll free number (866) 219-4NAS

Email: salsilv44@yahoo.com

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

Three-D, or not Three-D?

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.

One of the world’s strangest 3-D cinemas is tucked away in a research laboratory in Woods Hole, Massachusetts. Its underwater interior lacks seats and aisles, and its screen measures only a few inches high. The patrons are European cuttlefish (*Sepia officinalis*): stout-bodied, color-changing relatives of squids and octopi that deploy a pair of long, limber tentacles to snare their prey.

The film is in 3-D. To get the spectacles to stick, Trevor Wardill, a visual ecologist at the University of Minnesota had his students superglue a patch of Velcro onto the skin between the cuttlefish’s eyes, then affix the glasses on top. With this unusual setup, Wardill and his colleagues have shown that cuttlefish perceive depth much like humans do: by comparing and combining the slightly offset images of the world that each of our eyes perceive, as reported in **Science Advances**.

Stereopsis, or stereo vision, requires complex coordination between the eyes and the brain. It was once thought to be unique to vertebrates. Two years ago, a team led by

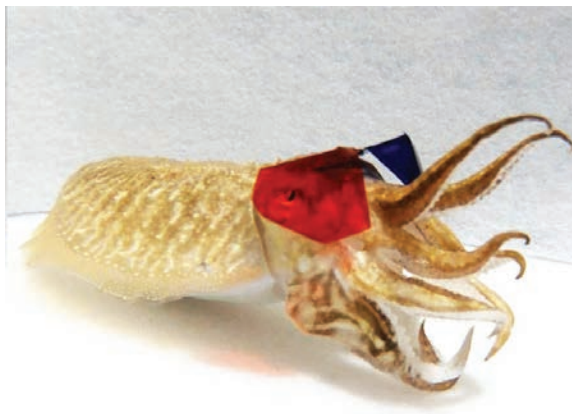
Vivek Nityananda and Jenny Read of Newcastle University in the UK found stereo vision in the praying mantis. Now, the cuttlefish brings the number of invertebrates known to possess the trait up to two.

Taking inspiration from similar experiments with praying mantises, Wardill and his team searched for stereovision in 11 cuttlefish by situating them in a 3-D cephalopod cinema, similar to old-school 3-D theaters for people. Glasses, outfitted with two filters of different colors, showed each of their eyes a separate image of a tasty shrimp on the screen. If the mollusks were using stereo vision, the colored images would combine in their minds to create the illusion of depth, allowing them to calculate the ideal distance from which to attack their apparently three-dimensional “prey.”

The researchers also found that cuttlefish, which can rotate their eyes independently of each other, don’t always focus both eyes on the same point, and the reason is still a mystery. “The positions of their eyes can be as much as 10 degrees apart,” Wardill says. “For us, that would be disastrous. We’d have trouble walking around.”

Perhaps the most extraordinary finding is that the brains of dramatically different animals developed 3-D perception independently. Hundreds of millions of years have passed since humans, cuttlefish and praying mantises shared a common ancestor, yet they share this same visual strategy.

Comparing stereo vision in other creatures might someday help crack the molecular code that makes depth perception possible. Anyone want to help in Velcroing 3D glasses on my Apple Snails?



Reference:

<https://www.smithsonianmag.com/science-nature/scientists-velcroed-3d-glasses-cuttlefish-study-depth-perception-180973918/>



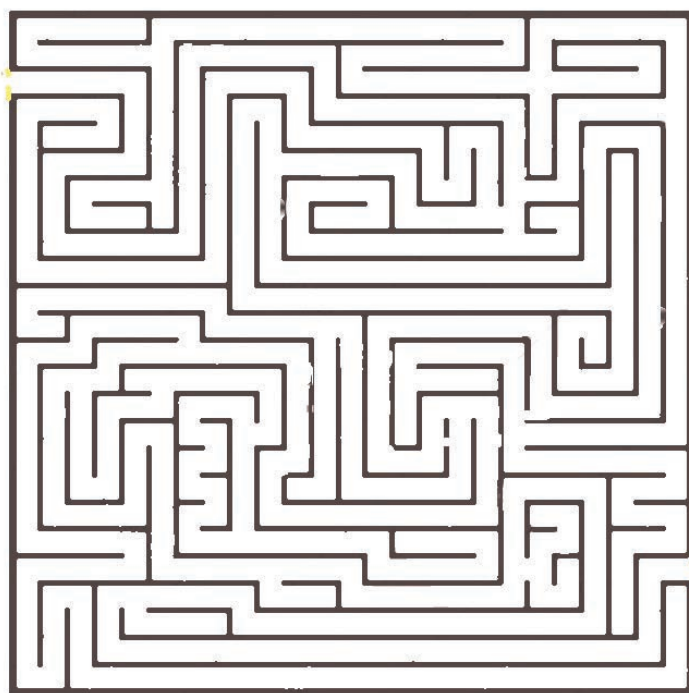


Fin Fun

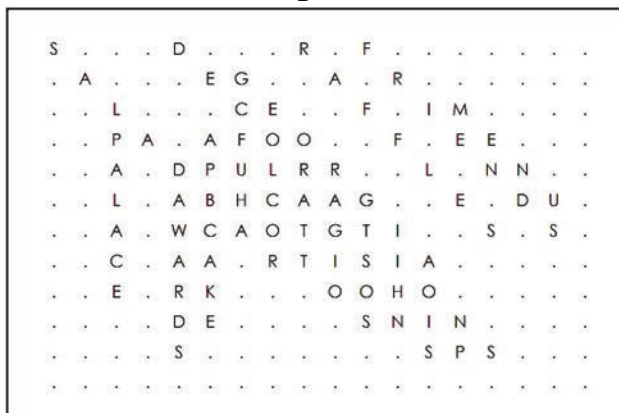


Under the Rainbow

Can you help this leprechaun find the end of the rainbow (and the waiting rainbowfish)?



Solution to our last puzzle: **Down Memory Lane**



AUCTIONS
AWARDS
CAKE
DECORATIONS
FLAGSHIP
FRIENDS
GEORGIA
MENU
PALACE
PHOTOS
RAFFLES
SALADBAR

NorthEast Council of Aquarium Societies

45th Annual Convention

APRIL 17-19, 2020 * WALLINGFORD, CT



a multitude of programs & workshops to choose from!

SPECIES PROFILES ★ TANK-POND-BREEDING TIPS ★ EXPEDITIONS & DISCOVERIES

PLUS...

- ★ **VENDORS & CLUB SALES**
Fish! Plants! Inverts! Hardscapes! Dry goods!
- ★ **MEGA SUNDAY AUCTION**
- ★ **SPECIAL AUCTIONS ALL WEEKEND**
- ★ **HOBBYIST COMPETITIONS**
- ★ **HOSPITALITY SUITE**
- ★ **GREAT MEALS**



NEW LOCATION!




**Hilton
Garden Inn**
Wallingford, CT

For 45 years...

One of the premier events
in the aquarium hobby!



**"GET THEE
TO THE
NEC!"**

FOR MORE DETAILS INCLUDING SCHEDULE AND PRICING VISIT:

www.northeastcouncil.org



You Tube



Find us on
facebook

