108 Years of Educating Aquarists

# BAS BULLETIN

Brooklyn Aquarium Society Monthly Online Newsletter VOL. 22 March 2019 No 3

### FRIDAY, MARCH 8 @ 7:30 PM

The Brooklyn Aquarium Society Presents

# Richard Ross Coral Spawnig



### **AUCTION AFTER THE SPEAKER FEATURES:**

Marine Fish, Aqua-cultured Corals, Freshwater Fish, Plants & Dry Goods Auction

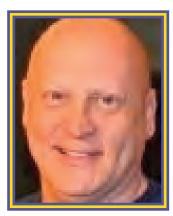
At New York Aquarium, Education Hall, Surf Ave. & West 8th St., Bklyn, NY

\$5 Donation for non-members. Good towards membership that night only.

Held the 2nd Friday of each month @ 7:30PM except July & August

For Information Visit WWW.BROOKLYNAQUARIUMSOCIETY.ORG. Or Call BAS 24 Hr. Calendar of Events Hotline (718) 837-4455

# The President's Message



February is always cold and damp but our speaker warmed us up when he started his presentation titled, "A Pond Grew In Brooklyn." Joe Graffagnino, former President and Corresponding Secretary, was our guest lecturer. His talk was enlightening and had us stimulated for

setting up a pond and stocking it with koi and goldfish. Joe spoke about the trials and tribulations about building and maintaining a pond. The audience was quite interested since they asked lots of questions.

For March we are bringing in **Richard Ross** from California. Richard spoke at our Society years ago and then his topic was, "Cephalopods: In There An Octopus In Your Future?" back in 2011. His topic for next month is "Coral Spawning and Secore." Let's welcome Richard back with a great BAS hello!

The Brooklyn Aquarium Society just turned 108 years young on Valentine's Day. We are the oldest and largest general aquarium club in the United States and that is because of you – our members, our Board and Officers and the love we all have for aquatic creatures. So come on down on March 8 for an enjoyable evening with great people. Ww always try to have an interesting topic for you and our aquatic auction and sales tables can't be beat. As always there will be **FREE parking and FREE refreshments**, doors open at 7:30 pm.

New BAS shirts arrived and they were selling like hotcakes! Many of you noticed that the BAS officers and Board members wore the regular BAS shirt with the word TEAM on the back. We did this to identify our members that work and help organize our events. We also have new BAS hats in a light blue color.

Due to confusion at a previous meeting, we need to reinforce policy issues: BAS will no longer permit reserve prices on aquatic donations in our auction and no individuals, member or guests, are allowed to sell or buy anything from members or guests on New York Aquarium grounds.

I must ask for our members' help – our Treasurer had to leave due to personal reasons. Please, if you have experience in accounting, we need your help.

Also, we are looking to rent a garage, street level, to hold our BAS equipment and supplies. If you have something reasonable, please let us know.

If you want to see different speakers and learn about different aquatic systems, fish, plants and marine life, please let me know. The elected officials of the Brooklyn Aquarium Society are here to serve YOU! Please let us know what you want and why, because it would be helpful to everyone. It is important that you visit and patronize our sponsors. It goes full circle: by helping them, they are also helping you as hobbyists and everyone is helping the Brooklyn Aquarium Society, so help us, help you!

For more info, please call our BAS Hotline at (718) 837-4455, or visit our modern website at

## WWW.BROOKLYNAQUARIUMSO-CIETY.ORG.

On a more personal note – any member who wants to attend a Board meeting, which is held at Education Hall of the New York Aquarium on the 1st Friday of the month, September through June, please notify me at (347) 277-4793 by the Tuesday before the meeting.



# This Month's Speaker

ichard Ross is a Senior Biologist at the Steinhart Aquarium in the California Academy of Sciences where he cultures and cares for exotic cephalopods, fish & coral, participates in ongoing field work on coral spawning, animal collection & transport, and manages tropical saltwater displays including the 212,000 Philippine Coral Reef exhibit. He is a prolific writer and speaker, authoring academic papers (notably on the Larger Pacific Striped Octopus) and a catalogue of articles on aquarium and reef related educational topics including his Skeptical Reefkeeping series which focuses on critical thinking, responsibility and ethics of aquarium keeping. Richard was presented with the MASNA Aquarist of the Year award in 2015, and his work has been covered by Scientific American, National Geographic, Penn's Sunday School, Science Friday, Discovery News and Fox News.

Richard has kept saltwater animals for over 25 years, has worked in aquarium industry and trade (maintenance, retail, wholesale) and has consulted for a coral farm/fish collecting station in the South Pacific. Before working in the animal world was a professional Juggler and corporate presentation script writer. He is an avid underwater photographer/videographer and has been fortunate to scuba dive many of the worlds reefs. At home he cares for a 300-gallon reef system and a 250-gallon cephalopod/fish breeding system, two hairless dogs, 2 hairless cats, 2 geckos and 6 chickens. When not doing all that stuff, he enjoys glass blowing, juggling, ice skating, horseback riding, mixed martial arts, exercising his philosophy degree, spending time with his fabulous daughter and his incredibly generous, intelligent, gorgeous and patient wife.

### Why is there an octopus on Rich's head?



While training divers on responsible and sustainable fish and coral collection in Tonga, we came across this octopus. As Tonga is mostly a substance culture, the divers we were training wanted to catch the octopus to help feed their families. One of them grabbed a claw hammer and proceeded to smash up several meters of coral while catching the octopus. One the boat I asked him 'we just spent all day talking about how not to damage the reef, and there are easier ways to catch octopus, so why use a hammer?'. He answered 'they bite'. 'No they don't' I said, picking up the octopus and putting it on my head, where luckily it didn't bite me, going on to discuss better ways to catch octopus. We then talked about how sustainable and responsible

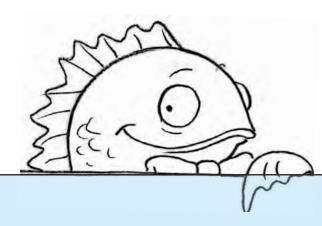
ideas applied to everything including fishing, and how respecting habitat means there will be creatures there for a long time to come.

### DIRECTIONS TO THE NY AQUARIUM

**Directions by Car**: Take Belt Parkway to Ocean Parkway South (Exit 7S). Take Ocean Parkway approx. 1/2 mile. The New York Aquarium will be on your left.

**Directions by Subway:** Take either the Q or F trains to West 8th St., NY Aquarium Station. **Follow signs to NY Aquarium**.

# Brooklyn Aquarium Society CALENDAR OF EVENTS 2019





MAR 8 Richard Ross - Coral Spawning and Secore ~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

**APR 12 Ralph Chi** [Pacific Aquarium] ~ **The Thriving Aquarium Retail Still Lives** ~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

MAY 10 Giant Spring Auction ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods, including a brand new 55-gallon tank & stand.

**JUN 14 Cameron Provost** [House of Fins] **-Rare Marine Fish in the Aquarium Hobby**~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

### NO MEETINGS JULY & AUGUST

SEPT 13 Tullio DelAquella ~ The Fact's of Light: A Scientific Approach to Comparing Light Sources for Aquarium Use ~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

**OCT 11 Giant Fall Auction** ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods, including a brand new 55-gallon tank & stand.

**NOV 8 Lou Ekus** [Tropc Marin] - **Reef Chemistry Made Easy** ~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

DEC 13 Holiday Party ~ Members, Their Families & Friends • BAS awards presentations.



# Regional Society Events

### CHECK ALL TIMES AND DATES BEFORE ATTENDING

If listed **TBA** (To BE ANNOUNCED), the Society has not gotten a speaker or has not updated their calendar of events. Before attending a meeting please check their web site for more information.

### FRIDAY MARCH 1 - LONG ISLAND REEF ASSOCIATION -

Meets the 1st Friday of the month @ 8:00 pm at Acan Lighting, 75 Austin Blvd, Commack, NY 11725.

Info: http://www.LongIslandReef.org

### TUESDAY MARCH 5 - PIONEER VALLEY AS

Meets 1st Tuesday of the month at The First Congregational Church, 20 Lathrop St, West Springfield, MA @ 7:00 pm. Free parking in lot. Public welcome. Info: Jacob Guinasso, jguinasso@pvas.net or Martha Morris, martha\_morris@hotmail.com. or pvas.net

### WEDNESDAY MARCH 6 - GREATER CITY AS • GARY LANGE - CRUISING PAPUA - FOLLOWING NEW ROADS AND EXPLORING "THE BIRD'S HEAD"

Meets the 1st Wednesday of the month @ 7:30 pm at the Queens Botanical Garden, except for January and February. The public is welcome. Speakers, publication, bowl show, raffles, door prizes, refreshments, plant and fish auctions.

Info: Claudia Dickinson at: ivyrose@optonline.net or (631)-668-5125, or www.greatercity.org

### THURSDAY MARCH 7 - BUCKS COUNTY AS

• GARY LANGE - TOPIC TBA

Meets the 1st Thursday of the month except August. Meetings start @ 7:30pm doors open @ 7:00 pm, at the Churchville Nature Center, 501, Churchville Lane, Churchville, PA. Annual membership is \$20 for single membership, and \$10 for each additional family member who wishes to have voting privileges and the ability to participate in the BAP program. Info: bcasonline.com

### MONDAY MARCH 11 - JERSEY SHORE AS

Meets the 2nd Monday of the month at the South Wall Fire Rescue Co., 2605 Atlantic Ave., Manasquan, NJ. @ 7:30 pm. Speakers, auction rare & exotic fish, aquatic plants, door prizes.

Info: www.jerseyshoreAS.org; or (732)-859-5595 or mws71@yahoo.com

### SUNDAY MARCH 12 - NASSAU COUNTY AS

• ANNUAL TROPICAAL FISH & DRY GOODS SPRING AUCTION Usually meets the 2nd Tuesday. of the month at Molloy College., 1000 Hempstead Ave., Rockville Centre NY @ 8:00 pm. General meetings open to the public. Guest speakers, fish related events, raffles, mini-auc-

Info: Mike Foran (516)-798-6766, or at info@ncasweb.org or http://ncasweb.org/directions.php.

### THURSDAY MARCH 14- TROPICAL FISH CLUB OF BURLINGTON

Meets the 2nd Thursday of the month at the VFW Hall, 73 Pearl St., Essex Junction, VT. Meetings start @ 6:30 pm. Door prizes, bowl show (warmer months), monthly auction, fish discussions and a good time! New members are welcome! Info: David Banks at dbanks@together.net or www.tfcb.org

### FRIDAY MARCH 15 - LONG ISLAND AS

Meets the 3rd Friday of the month at SUNY Stony Brook's Maritime Science area, Room 120 in Endeavor Hall (After you enter building, take hallway on the right. Room 120 is first room on the left) on the State University at Stony Brook Campus, Stony Brook, NY 11794. Doors open @ 7:30 pm, meeting starts @ 8:00pm. Speakers, auctions, refreshments, free parking.

Info: www.liasonline.org

#### SATURDAY MARCH 16 - NORTH JERSEY AS BRIAN ZIMMERMAN - NATIVE FISH HUSBANDRY

Meets the 3rd Saturday of the month 12:30 pm sharp at the Clark Public Library Union County just off the Parkway at exit 135. NJAS one of the largest and most well respected aquarium clubs in North America. Since 1953, NJAS has provided a friendly outlet for the exchange of aquarium-related ideas and information and recognizes the accomplishments of local hobbyists.

Înfo: www.njas.net/

### THURSDAY MARCH 21 - NORWALK AS

Meets the 3rd Thursday of the month @ 8:00 pm at Earthplace, The Nature Discovery Center, 10 Woodside Lane, Westport, CT. Open to public. Info: Norwalkas.org

#### FRIDAY MARCH 22 - DANBURY AREA AS TBA

Meets the 4th Friday of the month @ 7:30 pm at Laura Sprain Memorial Cornerstone park, 1 Fair St. Carmel, NY 10512. Info: Rich Litsky (845) 228-0372 or Joe Masi (845)-896-4793 or daas@northeastcouncil.

#### **TUESDAY MARCH 26 - GREATER HARTFORD AS** TBA

Meets 4th Tuesday of the month @ 7:00 pm at the Lutz Children's Museum, 247 S. Main St., Manchester, CT. Info: (860)-643-0949

### TUESDAY MARCH 26 - BIG APPLE GUPPY CLUB

• TBA Meets: the last Tuesday each month (except Jan, Feb, July, and August) @ 7:30 to 10:00 pm. Alley Pond Environmental Ctr., 228-06 Northern Blvd., Queens, NY. Info: Donald Curtin (718) 631-0538 or twindon1 @aol.com

#### WEDNESDAY MARCH 27- METROPOLITAN AREA KILLIFISH ASSOC.

Meets 4th Wednesday of the month @ 8:00 pm at the Meadowlands Environmental Center, Lyndhurst, NJ. Speaker and auction of fish eggs, plants and dry goods. Refreshments served. Info: SLMACK@compuserve.com

# Coming Events

### 2019 EXHIBITIONS, AUCTIONS & CONVENTIONS 2019

MARCH 1 - 3 RALEIGH AQUARIUM SOCIETY 34TH CAROLINA WORKSHOP held at the Holiday Inn, 2805 Highwoods Blvd, Raleigh, NC. FRIDAY 1 - Native Fish Collecting Trips: 1 am -6 pm • Meet & greet with speakers 7 pm - 8 pm. (Ted Coletti) • Rare fish mini-auction 9 pm - 9:30 pm. SATURDAY 2 - Speaker presentations & display 9:30 am - 5:30 pm • Fish Collecting in Florida - Bob Bock • The many ways to grow aquaarium plants - Tom Barr • Ăre sunfish bizarro cichlids -Bob Bock • It's planted, now what? - Tom Barr • Joys of African Rift Lake cichlids - David Herlong • Surprising world of platies & swordtails - **Ted Coletti.** Social Time 6 pm -7 pm Dinner Banquet 7 - 8 pm, After dinner speaker 8 - 9 pm. *Hidden history of the* aquarium hobby in America - Ted Coletti. SUNDAY 3 Auction starts 10 am - fish, plants, inverts, supplies. RAW registration costs: \$20 Members \$25 Nonmembers, Kids ubder 12 Free. Diner Banquet & talk \$20 members \$25 Non-members \$10 Kids under 12. Sunday Auction members free, Non-members \$5. For info: raleighaquariumsociety.org or RAS Facebook Group

MARCH 2 - NEW ENGLAND FRAG FARMER'S MARKET held at Smith High School, 1235 Storrs Rd. Storrs, CT 06268. Event Categories: Coral Exhibition, Frag Swaps, Raffles, Saltwater & Tropical fish vendors. For info: Email: swansonjl@hotmail.con or visit web site www.eosmithcoralproject.org/index.html

APRIL 12-14-NORTHEAST COUNCIL 44th ANNUAL CONVENTION held at the Red Lion Hotel, 100 Berlin Rd, Cromwell, CT 06416. One of the country's premier tropical fish hobby event, with an all-star speaker line-up: Eric Bodrock, Ken Boorman, Rosario LaCourt, Dr. Paul Loiselle, Regina Spotti and more speakers to be scheduled. The exciting schedule includes: Fish shows •Nano tank contest •Photo contest •Vendor hall •Trade displays •Club swap meet •Silent auctions •Live Auctions •Symposia •Hospitality suite and Awards banquet. For info: www.northeastcouncil.org

MAY 23-24-25-26 - AMERICAN LIVEBEARER ASSOCIATION 2019 CONVENTION held at the Crowne Plaza, [Louisville Airport] 803 Phillips Lane, Louisville, KY. Event Categories: Auctions, Conventions, Fish and aquatic plants, Freshwater, Livebearers, Speakers, Trade Show, Tropical Fish, Vendors. Hosted by Louisville Tropical Fish Fanciers. For info: http://lift.net/

JUNE 7 - 9 - THE TROPICAL FISH CLUB OF BURLINGTON CELEBRATES 30 YEARS. Held at the Holiday Inn, South Burlington, VT. Seminars & speakers: Hans Georg Evers, Steve Lundblad, and others. Also includes a tour of Vermont Microbreweries, dinner cruise on Lake Champlain, Friday night social pizza party...plus Sunday Auction, raffles, vendors, and more. For info: Visit www.thcb.org

JUNE 20-21-22-23 - INTERNATIONAL BETTA CONGRESS SHOW & ANNUAL MEETING held at the Atrium Hotel & suites, 4600 W. Airport Fwy, Irving, TX 75026. Event Categories: Bettas, Club Meetings, Conference, Exhibition, Fish Shows, Freshwater Tropical Fish. For info: http://www.ibcbettas.org/

JULY 18-22 NEW ENGLAND CICHLID ASSOCIATION. ACA CONVENTION Held at the Red Lion Hotel, 100 Berlin Road, Cromwell CT. Event Categories: Aquarium supplies and equipment, Auctions, Cichlids, Conventions, Exhibition, Fish and aquatic plants, Fish Shows, Freshwater, Raffles, Speakers, Trade Show, Tropical Fish, Vendors

For info: www.necichilds.org/cich-toberfest-2017#!

AUGUST 30 - SEPTEMBER 1 - MARINE AQUARIUM CONFERENCE OF NORTH AMERICA 2019. Held at the Walt Disney World Swan & Resort, Florida. The Conference Tickets include: 3-day access to the Exhibit Floor, Speaker Access, Workshop Access, Meet-up Access, Friday Night Reception, and Saturday Night Banquet Tickets start at just \$139 (chicken/vegetarian) and \$154 (beef). This early bird pricing will not be available for long, so book early!

available for long, so book early!

Our #MACNA2019 rates include the resort fee and start at \$175 per night, so don't believe the prices you see on the internet which will charge you more at checkout. All reservations for rooms through MACNA.org are held with your credit card, but the deposits are not charged until August 1, 2019.

For info: macnaconfernce.org





### Some of The Best Aquarium Products in 2018

### **BEST NEW SALT/ADDITIVE PRODUCT**



### The Two Little Fishies AccuraSea1 Artificial Saltwater Mix

As you would expect from a first rate company like Two Little Fishies, their AccuraSea1 Artifical Saltwater Mix is a very high quality salt. But what really makes it a winner is the way it's packaged. This salt is sold with individual packaging for five gallon bags. Why is this important? Because unless an entire bag of any salt is used at once, each mix you produce may not be the same (because it may not be perfectly mixed). And when a bag of salt is not used in its entirety, humidity gets in and reacts with the salts, producing insoluble residuals that fundamentally change the formulation. AccuraSea1 avoids this problem by having ten precisely measured bags that are small enough you will always mix the entire bag. It also allows us to sell portions of the 50 gallons boxes to

those who have nano tanks and don't need 50 gallons of salt for top off water.

### **BEST NEW PUMP**



### The Rossmont Riser R850 Return Pump

We're been touting the merits of the Rossmont Pumps for years. In 2018 they came out with another game changer—the first controllable AC pump. Other controllable pumps are DC and much more expensive. The Rossmont Riser R850 Return Pump can be used with the Rossmont Waver Wireless 2-Channel Controller. With the Waver the Riser flow can be increased and decreased, and up to two Risers can be controlled with the Waver for a wave effect. Without the Waver, the Riser is still a powerful, quiet & energy efficient pump. Ideal for tanks up to 100 gallons.

### **BEST WATER PURIFICATION PRODUCT**



### The AquaticLife Twist-In RO & RO/DI

Changing RO & RO/DI cartridges can be a pain. This is especially true when your system is under a sink or in another hard to get to place. With the Twist-In, you don't need a special tool and you don't need to take the filter out of the canister. The filter and canister are one. A simple twist removes the old filter cartridge. A simple twist puts the new one in. The cartridges are sealed and do not make a mess.

# Petco to Close Drs. Foster and Smith

BY PET BUSINESS STAFF



Petco will close all operations of its Drs. Foster and Smith (DFS) business, based in Rhinelander, Wis., on Feb. 12, 2019,

### with the exception of Live Aquaria.

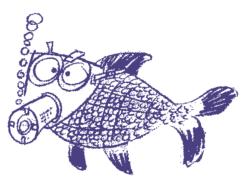
Operations will be closed to the public and all online services will be transferred to Petco.

This change affects 289 employees, with their last days of employment varying over the next 60 to 120 days. All have been notified and will be provided severance and transition support.

The company is working with local officials to provide outplacement programming for those impacted.

"This decision has not been an easy one, nor has it been made lightly, and we appreciate that it has a very real effect on both individuals and the broader community in Rhinelander," Petco said in a statement. "Taking into account the needs of modern pet parents, shifting consumer preferences and the ongoing evolution of the Petco brand, we believe this will enable us to streamline operations and better focus on our core business and customer."





#### **OCEAN WONDERS AT** THE NY AQUARIUM

**SHARKS** Over 115 marine species, 18 different kinds of sharks and rays, an unforgettable experience. The Donald Zucker and Barbara Hrbek Zucker Ocean

Wonders: Sharks! the exhibit brings some of the most misunderstood animals out of the depths and nose-to-nose with you!

Sometimes tunnel vision is a good thing. Like when it puts you smack dab in the middle of

this colorful coral reef, surrounded by blacktip reef sharks, butterflyfish, and zebra sharks swimming above you.

### DAILY SCHEDULE

10:00 AM - Aquarium Opens 10:30 AM - Penguin Feeding 15 minutes 11:00 AM - Aquatheater Show 15 minutes 11:30 AM - Sea Lion Feeding 15 minutes

11:45 AM - Harbor Seal Feeding 15 minutes

1:00 PM - Aquatheater Show 15 minutes 1:30 PM - Otter Feeding 15 minutes 2:45 PM - Harbor Seal Feeding 15 minutes 3:00 PM - Sea Lion Feeding 15 minutes

3:15 PM - Aquatheater Show 15 minutes

4:00 PM - Penguin Feeding 15 minutes

4:00 PM - Last Entry 5:00 PM - Aquarium Closes



### HELP US UPDATE OUR ARCHIVES

We need someone who can edit the videos we make at our speaker events and upload them to our account on Vimeo.

Please contact Joe at (917) 922-5108.

We have an archive of our guest speaker videos from as far back as 1995. We make these videos so that members who could not attend the meeting or wish to refresh their aquatic skills can watch and learn from the speaker's topic.

Our mission since 1911 is Educating Aquarists!

# BAS MEMBERS CAN BUY & SELL ON THE BAS FORUM

Any BAS member can place a free ad to sell or to buy any fish type item. The item to sell or buy is to be entered into the BAS Forum which is located on our BAS website: http://WWW.BrooklynAquariumSociety.org. The Forum entry point is located on the top right side of our websites main page.

**The Brooklyn Aquarium Society Inc.** is a non-profit organization 501(C) (3) for people interested in the aquarium hobby and the study of aquatic life. The Society meets the 2nd Friday of each month except July and August at the Educational Hall of the NY Aquarium at Coney Island, Surf Ave. at West 8th St., at 7:30 PM. Meetings are open to visitors. Membership is \$25 per year family, \$20 individual, \$15 for students under 18. Send inquires or membership checks to **Brooklyn Aquarium Society, c/o Membership Chairperson, P.O. Box 290610, Brooklyn, NY 11229-0011.** 

MarineAndReef.com Newsletter #219 January 14th, 2019

## What do Coral Need?



We are often asked, "What do I need to keep a reef aquarium?"

### The Three Key Factors

There are an overwhelming number of products that make keeping a reef-keeping seem impossible. Many of these things, such as kalkwasser reactors, dosing pumps, specialized additives and controllers, can make make it easier. But ultimately there are only three things that corals absolutely need to thrive. You can have a beautiful reef aquariums just paying great attention to these three factors.

# I. High Output Lighting with Adequate Near-UV Spectrum Light

Lighting will likely be the biggest investment of any new reef aquarium. There are so many lights to choose from that the task can prove intimidating. The best lights don't just have a lot of output, as measured imperfectly as wattage, lumens, lux & PAR, but the light needs fill the entire aquarium with well blended, even lighting. They also need to have the right spectrum, with the near-UV end of the spectrum (sub 420nm) being the spectrum most lacking in many lights.

We recommend Kessil LED lights because, along with being powerful and controllable and having well-blended LEDs, they have adequate sub 420nm light. We have found that aquarists with no experience can easily have success with Kessil lights while there is a big learning curve for many other types of LED lights.

To find the best light for your reef tank, please refer to the MarineAndReef.com Reef Aquarium Lighting Chart. When choosing a light please keep in mind we are assuming that the corals requiring the most light could be in the bottom corner of the aquarium. If you go for a



less powerful light than we recommend, put the corals needing the most light at the top near the light.

# 2. Water Movement That Replicates the Ocean

Corals are accustomed to the random tides and sloshing movement of the oceans waves. The water movement moves away the accumulated detritus away from the corals, brings nutrients to the corals, and, for lack of a better term, exercises the corals. The movement of water at the surface also oxygenates the water.

It is very important to replicate this movement in the aquarium We recommend the Rossmont Mover Circulation Pumps for water movement because they are extremely high quality for the price. For more natural random water movement that replicates waves, you can use a Rossmont Waver with your pumps.

When sizing your pumps use at least two pumps and be sure the total water turnover is at least 10 times your tank volume an hour. More is better and if you are using submersible circulation pumps, like the Rossmont Mover, it is easy and affordable to turn over the water 30-40 times per hour. Two Rossmont M1900 Circulation Pumps will turn over a 100 gallon tank 38 times an hour at a very affordable price.

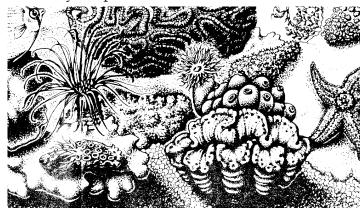
### 3. Superior Water Quality

Despite human activity, the ocean is still a pretty clean place. When it isn't, corals do not survive. Good water quality in an aquarium is a result of using clean water, filtration and supplementation.

Always start with RO/DI water. The first stage of filtration is regular water changes. In small aquariums with less than 20 gallons, water changes alone can provide adequate filtration. On

any system more than 20-gallons we recommend a good protein skimmer and some method of removing nitrate. We like Reef Octopus Protein Skimmers. These skimmers come in many sizes for all kinds of aquariums. We also recommend choosing one size larger than the specifications would lead you to believe. In addition to a skimmer we recommend some method of controlling nitrate levels You can use a CPR Aquatic Refugium or a Lifegard Turbo Reactor with NPX Bioplastics.

Supplementation is the process of adding good things to the water. Over time coral grow and take specific elements out of the water. Those elements need to be added back to the water. We recommend the E.S.V. B-Ionic Calcium Buffer System as a comprehensive trace element solution. B-Ionic can be added on a weekly basis based on the aquariums alkalinity levels. There is no reason to add B-Ionic if the alkalinity is 7-9 DKH. Often no supplementation is needed for as long as the first 6 months of setting up an aquarium. Use a Red Sea MCP pH/Alkalinity Test Kit to test for alkalinity. Add alkalinity when you notice an alkalinity drop.



Marineandreef.com, 1536 W. Todd, Suite A102, Tempe, AZ 85283

Toll Free: 877.878.9349. 8-11:30 AM & 12:30-4 PM Mountain Time on Monday through Friday



## New and Renewing Members in February 2019

### **NEW Members**

Bismarck Vanegas Julio Cordova Lon Deixler Marshal Sherman

### Renewals

Denver Lettman
Dorothy Russell
Matthew Chiodo

Paola Patrinicola Richard Harris Scott Peters



# THE FOLLOWING MADE GENEROUS DONATIONS TO THE FEBRUARY AUCTION. THANK YOU!

### INDIVIDUALS

Nick DeCillis Gene & Ed Kogan Don Lang Galina Mironyuk Kai Nguyen Scott Peters

Carline Victor Robert Wranovic, Jr.

### **STORES & COMPANIES**

- Aquarium Village, Westbury, NY
  - Brooklyn Aquarium Society
- Brooklyn Zoo & Aquarium, Brooklyn, NY
  - HardScape, Brooklyn, NY
  - Monster Aquarium, Queens, NY
  - Pacific Aquarium & Pet, New York, NY
- Parrots of the World, Rockville Center, NY



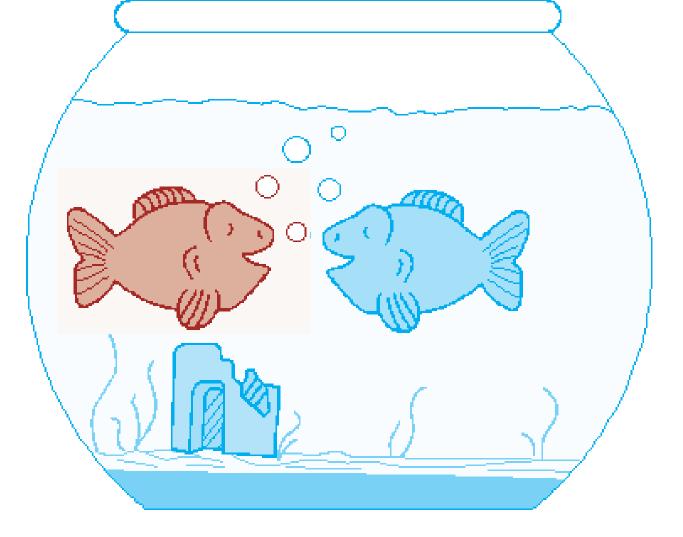


# Tip Of The Month

ou should set up a regular maintenance that includes pruning over grown plants, removing dead leaves and detritus. Clean the front glass of your aquarium both outside and inside. Using magnet algae cleaning pads is a really great way to remove algae from the inside of your tank. Don't forget the glass cover because it can become covered with algae and salts that will obscure the light entering the tank.

Remember to change part of the filter wool when you clean your filter. Set up a regular schedule for making water changes.

Your fish and corals will thank you by being healthy.





# Shirts, Hats & Patches

# **NEW BAS T-SHIRTS**

SMALL TO XL \$10 EACH
PRICE VARIES ON XXL & LARGER SIZES

### Historic

Brooklyn Aquarium Society logo in gold on navy blue short sleeve T-shirt.
White lettering states the society's mission...

### Educating Aquarists Since 1911



### A FEW BLACK BAS T-SHIRTS LEFT



SOCIETY

OFFICIAL CAP.
Blue with
embroidered gold
BAS insignia.
One size fits all.
\$10 each

OFFICIAL
BAS embroidered
patches that can easily
be ironed onto any
shirt, hat, jacket or
article of clothing
you wish.

Only \$ 1 each





## Books By Our Talented Members



### P. M. GRIFFIN

**P.M. Griffin,** better known to us as **Pauline Griffin,** lives in Brooklyn, N Y, with her cat Nickolette and two tropical fish aquariums and devotes just about every 'spare' moment to writing, research,

Pauline is an award winning well known science fiction and fantasy writer with some 28 novels and story collections under her belt. She has now branched out and written a romance novel, featuring two farms, one purpose. Two hearts, one love, but there are diffi-

and reading.

culties in plenty to challenge any hope of a happy conclusion. You have to read this novel to find the answer.

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## Books By Our Talented Members



### **JOE GRAFFAGNINO**



The Saga of Mary & Ma Li is the final piece of a fantasy and adventure trilogy. A ruthless Chinese billionaire industrialist and his gorgeous homicidal maniac enforcer convince the leaders of China to support their plan to manipulate the world's stock markets and thus control the world. With China's political and military might behind them, it seems that nothing can stop their plan of world conquest. As fate would have it, their accountant is a CIA undercover mole operative. Mary and the Carrington Protection and Recovery Agency are hired by the CIA and the Chinese billionaire without each sides knowledge, to find and return the elusive agent and the secret documents he possesses that prove China's involvement.

The story unites modern China and feudal Japan in turmoil. Old enemies and new ones become allies to destroy Mary and Ma Li. Unknown to the spirit sisters, a bet between a demon and an archangel centuries before was the catalyst that created both Mary and Ma Li and the mystical swords that became their weapons. These same elements are needed by demons to open a

chasm between the world of humans and the demon realm to start an unholy revolution.

learned and grew from their spiritual bond.

Mary and Ma Li are thrown into a fight for survival in both the mortal and spirit worlds. Friends' loyalties are tested and enemies are forced to trust each other. Ancient prophecies are fulfilled, but not the ones written by man, but the original vows witnessed by long-dead spirits and enforced by demons and angels. The saga now comes full circle for Mary and Ma Li. The past and the present combine to decide their own fate. But, who will decide the survival of supportive friends, loving family, Mary's children?

# Mary

### Ma Li & Mary

A bet between a demon and an angel created the existence of Ma Li, a 15th century warrior priestess and Mary, a 20th century Taoist priestess. The trials and experiences these two women endured; the battles they fought and the people they met in their travels were merely guideposts along their preordained path. Separated by five centuries the connection they shared survived and strengthened. Both women

The story of Ma Li & Mary is one of love, loyalty, betrayal and survival at all costs.

Mary Petrovich's mother was a Sioux Indian cryptologist working for the U.S. government in Moscow, and her Russian Secret Police father, were forced to flee to Chicago to escape Soviet and American government agents in the 1980's. They took refuge with her Uncle, a crazed, sadistic gangster. He murdered her parents and repeatedly beat and raped her before she escaped at the age of twelve.

• Local book stores have it as well as Amazon, Barnes and Nobles and my publisher AuthorHouse.

Soft cover is priced at \$13.99 and Kindle/Nook version at \$3.99. I will bring some to the next meeting for those who want autographed copies.



# Fantasy & HQRRQR

In addition to his fantasy / adventure novel "The Journey of Mary/Ma Li". His latest book has 13 short stories under the title of "Fantasy & Horror Short Stories". These 13 stories draw readers into a compelling web of intrigue and





suspense. Some are funny, others sad, and still others capture the inner conflicts that torment us yet hint at hope for a brighter tomorrow. Readers immediately identify with the bigger-than-life fictional characters that make us ponder our inner selves, fantasies, dreams and passions, and question how far we're willing to go to

"Fantasy & Horror Short Stories" is available at all book retailers and is available in hardcover, softcover and electronic editions. Amazon has it in Kindle and Barnes and Noble has it in Nook versions for \$3.99.

Please visit Joe's web site **www.JAGraffagnino.com** to purchase either book, in any of the listed formats. Also visit his web site for contests, FREE giveaways and information about other soon-to-be-released works from the author.

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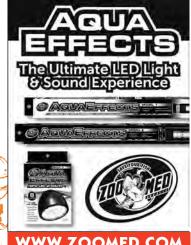
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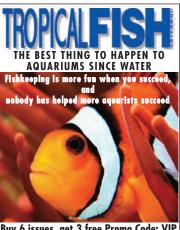
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