



# AQUATICA

THE ON-LINE JOURNAL OF THE BROOKLYN AQUARIUM SOCIETY  
VOL XXVIX MAY ~ JUNE 2014 No. 5

**A community of marine fish at the  
Long Island Aquarium & Exposition Center.**



**Photo: John Todaro**



103 YEARS OF EDUCATING AQUARISTS  
**AQUATICA**  
VOL. XXVIX MAY - JUNE 2014 NO. 5  
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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 Education Hall of the New York Aquarium at Coney Island, Surf Avenue at West 8th St., at 7:30 PM. Meetings are open to visitors. Refreshments are served. Membership is \$25 per year family / \$20 individual / \$15 for students under 14. Send inquiries or membership checks payable to:

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# BROOKLYN AQUARIUM SOCIETY

## CALENDAR OF EVENTS ~ 2014-2015

**MAY 9 Giant Spring Auction** ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods including a 55 gal. tank & stand.

**JUN 13 Chuck Davis ~ Gizmos, Gadgets and Other Good Ideas** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction. BAS elections.

**JULY/AUGUST - NO MEETINGS**

**SEPT 12 Greg Sullivan ~ Saltwater for the Squeamish** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**OCT 10 Giant Fall Auction** ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods, including a 55 gallon tank & stand.

**NOV 14 James Fatherree ~ Reef Basics** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**DEC 12 Holiday Party ~ Members, their families and friends, all you can eat sit-down dinner.**

• Fish Bingo & Prizes • BAS awards presentations.

**2015**

**JAN 9 TBA Freshwater** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**FEB 13 Joe Yaiullo - Marine TBD** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**MAR 13 Discus Hans - Discus** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**APR 10 Todd C. LaJeunesse - The Intriguing Evolution of Palau Corals** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**MAY 8 Giant Spring Auction** ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods including a 55 gal. tank & stand.

**JUN 12 Lou Ekus** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**JULY/AUGUST - NO MEETINGS**

**SEPT 11 TBA** ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

**OCT 9 Giant Fall Auction** ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods, including a 55 gallon tank & stand.

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**DEC 11 Holiday Party ~ Members, their families and friends, all you can eat sit-down dinner.**

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# BAS 2014 PHOTO CONTEST

## OFFICIAL RULES

**NO PURCHASE OR PAYMENT NECESSARY TO ENTER OR WIN**

### HOW TO ENTER:

The 2nd Brooklyn Aquarium Society Photo Contest will be announced Friday May 9th 2014 at the monthly Society's meeting. All entries will be accepted until Sunday October 13th, 2014. The results of the Contest will be announced on November 14th, 2014 at the Society's monthly meeting, as well as the awards ceremony. Digital photos must be submitted to [basnyphotocontest.weebly.com](http://basnyphotocontest.weebly.com) in JPEG format. Photos submitted must be 6 MP or greater. As a condition of registration, you will be required to fill out all spaces marked with an asterisk (\*) to signify that you accept and agree to be bound by these Official Rules. With each submission, participants must include the following:

- 1) Name of Photographer.
- 2) Phone Number.
- 3) Email.
- 4) Screen name under which they wish to appear.
- 5) Category in which photo is to be entered.
- 6) Scientific and Common Name of Subject in Photo.

### CATEGORIES:

#### FRESH WATER

- Best Aquascape
- Best Nano Aquarium (2 ½ - 10 gallons)
- Best Mid-sized Aquarium (12 - 40 gallons)
- Best Large Aquarium (50 + gallons)
- Spectacular Freshwater Fish
- Most Fabulous Plant
- Most Amazing Freshwater Invert
- Best Freshwater Photo (any category)
- Awesome Ponds
- Best Fully Aquatic Creature in its Environment

#### SALT WATER

- Best Aquascape
- Nano Aquarium (2 1/2 - 10 gallons)
- Best Mid-sized Aquarium (12 - 40 gallons)
- Best Large Aquarium (50 + gallons)
- Spectacular Saltwater Fish
- Most Breathtaking Coral Reef
- Most Amazing Saltwater Invert
- Best Saltwater Photo (any category)
- Best Fully Aquatic Creature in its Environment

### PHOTO ELIGIBILITY:

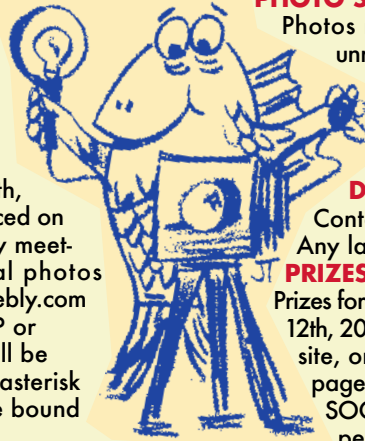
To enter, you must be a member of the Brooklyn Aquarium Society in good standing or an active (at least 5 posts in the prior 3 months) member of the BAS Forum. No age restrictions. BAS judging individuals and their immediate family are not eligible. Entries that fail to comply with the Official Contest Rules will be disqualified.

### IMAGE MODIFICATIONS:

Minor digital enhancement is permitted, but images that have been significantly modified or appear unnatural will be disqualified.

### NUMBER OF ENTRIES:

An individual may submit a maximum of three (3) photos per category.



### PHOTO SUBJECT RESTRICTIONS:

Photos must be appropriate for category entered. Photos unrelated to the contest or of questionable content will not be considered. BAS retains sole discretion as to what constitutes appropriate content. Photos must not contain people or other objects other than the subject for the category entered.

### DEADLINE:

Contest ends midnight Sunday October 19th, 2014. Any late entries will not be considered.

### PRIZES:

Prizes for each category to be announced during the September 12th, 2014 BAS meeting, on the [basnyphotocontest.weebly.com](http://basnyphotocontest.weebly.com) site, on the BROOKLYN AQUARIUM SOCIETY Facebook page, and on our web site ([WWW.BROOKLYNAQUARIUM-SOCIETY.ORG](http://WWW.BROOKLYNAQUARIUM-SOCIETY.ORG)). No substitution or transfer of prize permitted by winner. Sponsors reserve the right to

substitute prize of equal or greater value.

### JUDGING:

Entries will be judged on the basis of overall photographic quality, showing clarity and effectiveness in conveying the beauty and/or unique character of the object in their respective categories. A panel of judges consisting of representatives of the Contest's sponsors as well as members of the BAS Board will judge the entries and all contest decisions are final.

### WINNERS:

The judging panel will select 19 winning entries (one per category). Winners and all prizes will be announced and presented during the BAS November 14th, 2014 meeting. For any winner not able to attend the meeting, the prize will be kept at BAS until the December 12th, 2014 meeting. If the winner/s fails to collect the prize as mentioned earlier, the prize/s will be mailed to the contestant.

### PHOTOGRAPHER/COPYRIGHT:

Entries must be submitted by the original photographer. Do not submit a photo taken by someone other than yourself. You must be the sole owner of the image submitted. By submitting your photo, you guarantee that you are the author and copyright holder of the photo. By submitting, the contestant waives all rights upon submission and therefore has no recourse whatsoever in the use of the photo. Winner agrees by submitting photos for consideration that they may be used by the sponsors of our contest who donate the prizes, in their advertising or other promotional efforts at no additional remuneration. Winning entries will be published in BAS publications and on our Web site.

### ADDITIONAL TERMS AND CONDITIONS:

BAS is not responsible for computer system, hardware, software, or program malfunctions or other errors, failures, or delayed computer transactions or network connections that are human or technical in nature. Furthermore, BAS is not responsible for: (i) lost, misdirected, misplaced, illegible, unintelligible, incomplete, or late entries or (ii) any act, failure to act, or delay regarding the transmitting or processing of entries. BAS reserves the right, in its sole discretion, to cancel or suspend all or any portion of this contest without notice. BAS is entitled to interpret these rules as needed and its decisions are final. BAS reserves the right to disqualify any entry that BAS has reason to believe is not the original work of entrant, or does not otherwise meet the contest rules.



## This Overlooked Fish May Be The Perfect Aquarium Fish!

What qualities would you give the perfect dream  
tropical aquarium fish?

How about the following;

**T**he fish should be able  
to live in the water that  
comes right from the tap.

- Be able to live in cool water, say, the high 60° to the low 70°F,
- Will eat anything.
- It should be happy in any size tank.

- It shouldn't get too big, say up to about 2 to 3 inches.

- Naturally, it should be colorful.

- It has to be peaceful, and get along with other fish.

- It has to be easy to breed.

- The fry have to be able to take care of themselves from the moment they are born.

- And for serious breeders looking for a challenge, it would be nice to be able to develop different strains of color and finnage.

- And, oh yes, how about being able to cross breed the fish with a different species in the same family.

*Okay, no such fish exists, you say.  
Right? Wrong!*



Introducing the often underrated and over-looked... *Xiphophorus maculatus* or better known as the Platy!

Yes, folks, often considered a beginner's fish, it just might be the perfect aquarium fish. It has all of the qualities of the dream tropical fish.


#### Let's check it out!

Platies come from the lowlands of central America where the water remains cool most of the year, but even if the temperature goes up, these fish can take it.

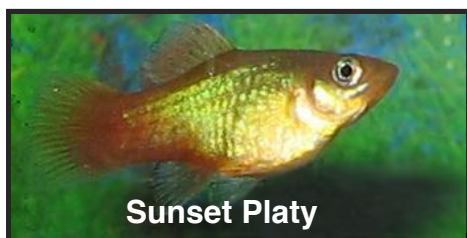
Platies are livebearers, easy to breed and can be bred to develop brilliant colors and long flowing

fins. The platies have been hybridized with swordtails, *Xiphophorus helleri* to create the strains you find in pet shops.

Now, after touting the platy as the perfect fish, I must insert a caveat here. Like any living creature in your care, you should not take its toughness as a sign that you can abuse it any more than you would other more delicate fish.

Platies deserve clean water, well maintained aquariums and proper feeding. When these conditions are met, it just might be your perfect aquarium fish. 

**Reference:** *Livebearers*, W. L. Whitern, TFH, 1979



Sunset Platy



Hi-fin Wagtail Platy



Mickey Mouse Platy



**Scientific Name:** *Xiphophorus maculatus*.

**Common Name:** Platy

**Origin:** Central America, Mexico. Guatemala, Honduras.

**pH Range:** 7.0 - 8.2

**Temperature Range:** 64° - 79°F

**Ideal Temperature:** 74° F

**Hardness:** 15 - 30 dkh

**Life Span:** 4 years

**Size:** 2 inches

**Diet:** Omnivore. Will eat most foods.

**Sexing:** Females have a fuller stomach area. The males are slimmer and have a gonopodium.

**Breeding:** Livebearers. Females give birth once every 4-6 weeks. Each brood contains up to 70 fry.

The fry are large and accepts small flake food. Fry grows fast.

**Remarks:** In their native habitat, this species lives in very clear, oxygen rich, alkaline waters. Strong filtration is advised to maintain high oxygen levels. Water should be moderately hard, in the range of 15-30 dGH.

Breeders have developed a multitude of color varieties, orange, red, yellow, red/black, and black/white, and are commonly found in aquarium stores.

#### Reference:

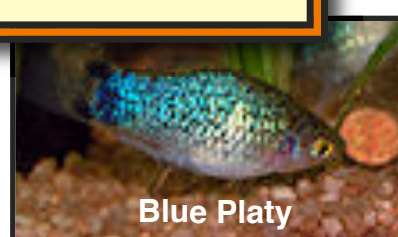
- About.comFreshwaterAquariums
- Wikipedia



Wagtail Platy

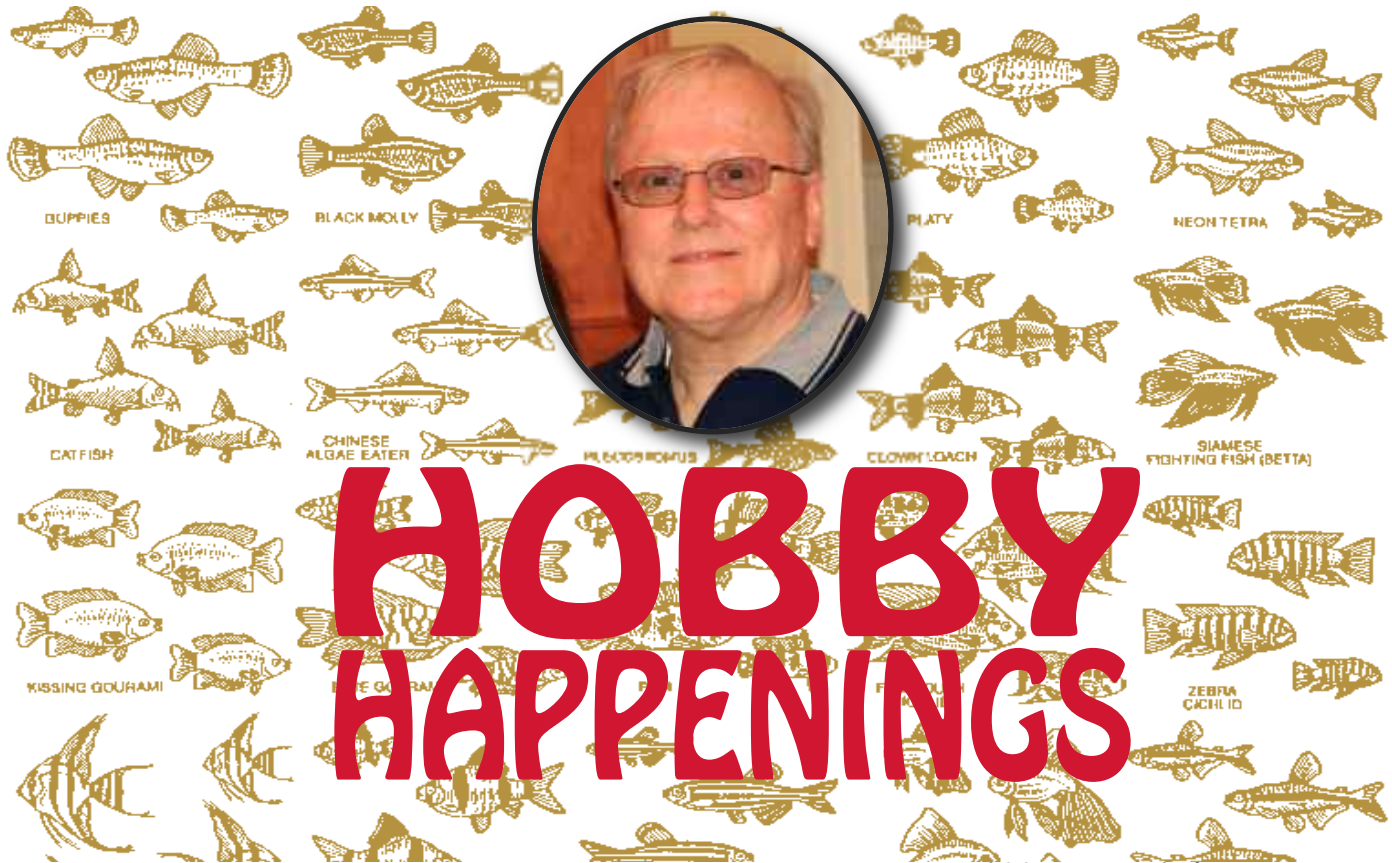


Red Salt & Pepper Platy



Blue Platy





# HOBBY HAPPENINGS

**E**nough talk about fishrooms, filters and heaters already! Let's talk about fish and what's happening with the fish now.

I'm still working on BAP points, but I'm also having a lot of fun with old favorites that were spawned in the NJ fishroom.



When I spoke at the North Jersey AS workshop in October 2011, I saw many of my fish friends. **Matte** asked me if I'd like to try working with some white *Altolamprologus calvus*. I jumped at the chance, figuring he would bring me some fry. The day of the

auction he walked in and presented me with two adult trios! I set them up that night in a 5 gallon plastic tote in my hotel room. I've learned never to go to a fish workshop or convention without the ability to house and transport fish.



They weathered the trip to NC successfully and were set up in a 20 gallon long with a sand substrate, rocks and some whelk shells that had been gathered on the bayside beach on a family trip to Cape Cod. They did very well feeding on Ken's flake, live black worms and live baby brine. Along the way spawning behavior was noticed, but no fry.

May 2013 I was giving my catfish talk at the NJAS monthly meeting and discussed the *calvus* with Matte. He was sure that they were spawning and said to remove the shell, female and all, to another tank. When home I finally got around to following his advice, but only had a plastic 2 ½ gallon tank available. After filling it with water from the *calvus* tank and adding some crushed coral and an aged sponge filter, the shell was moved with the female in it. The next day I saw a few fry in among the crushed coral on the bottom. Monitoring continued each day and when I could count at least six fry, the shell with the female was moved back to the 20 long. There were at least 20 fry in the 2 ½ gallon tank, which are happily feeding on crushed flake and live baby brine. I'm prepared for the long haul as these fry grow quite slowly and I don't anticipate turning them in for points in the near future. Most BAP chairman like to be able to see the fish!

At the May meeting, along with the advice, Matte also gave me a group of five *Cyprichromis leptosoma Mpimbwe* "black bee" and a half dozen 1 ½" *Lamprologus cylindricus*. They both were set up in a 40 gallon breeder with a sand substrate and rocks. A few terra cotta spawning caves

were thrown in for good measure. Since, then, *cylindricus* are busy establishing territories and the *Cyprichromis* have spawned. I didn't see the spawning, but noticed one of the females holding. After a week, she was moved to a hang on tank about 6" x 12" that was given to me by **Mike Sheridan** when he cleaned out to move to Florida. An airstone and a piece of coral were added to give the female some shelter and give the fry a haven when she released them. After a couple of weeks, she released one baby. A few days later, two, one dead and one live. A few days later, I noticed a bunch of fry, so I proceeded to net and move the female back into the tank. Unfortunately one of the fry escaped into the tank. Bye-bye baby! I'm sure the *cylindricus* enjoyed him. Total eleven fry recovered, one dead and one MIA. They were moved to a 2 ½ gallon tank with crushed coral and a sponge filter and are doing well feeding on live baby brine and crushed flake.

Next month, we'll discuss the barbs and corys that are spawning. I still have to finish the *cyprinid* specialty award for NJAS. I'm looking forward to the NJAS 60th Anniversary Weekend in October and seeing many fish friends. If you see me, I'd like to get some constructive (!) criticism and suggestions for my articles. 

*Larry*



# Life with *Limia Vittata*



Photo: Goliad Farm

***Limia vittata* are beautiful, easy to keep aquarium fish. Unfortunately, they are usually not readily available at most aquarium stores.**

**M**y favorite *Limia* species is *Limia vittata*. I was first introduced to this fish about 15 years ago during a Minnesota blizzard. At that time I was working at a fish store. The weather that day was terrible. A following blizzard was raging and the store was closing early.

This particular store accepted customers' fish for credit. I was the live animal department manager. As the assistant manager and I were locking up the store, a car pulled up and in it was a woman with a bag of fish. The assistant manager said we were closed, but the woman insisted we take the fish. I did and told her to come and see

me the following day.

Rather than re-open the store since the blizzard was so bad, I tucked the fish bag inside my coat and took them home for the night.

Arriving home and safely out of the storm, I opened my coat and looked at the fish in the bag to see what had been given to me.

My initial impression was nothing special. Just some washed out juvenile marble mollies, *Poecilia vivipara*. I acclimated them in a darkened 20 gallon long and thought nothing more about them.

The next day I had to dig my car out of a





huge snowbank, so I went into work without looking at the fish.

At work, I found a message from the woman saying she would see me the following weekend.

On returning home that evening, I proceeded to feed my fish as usual. When I went to the 20 long and looked at the fish, I was surprised! The washed out "mollies" were very pretty indeed! I had two pairs and five juveniles of *Limia vittata*.


The males had beautiful orange crescents in the caudal fins like a good spenoids molly and beautiful yellow dorsal fins. Their bodies were a metallic silver with black spots and white bellies. These really were nice fish! I decided to keep the *Limias*.

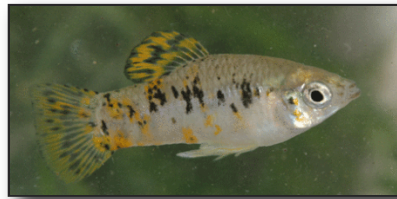
The two females were pregnant. They bred easily in typical livebearer fashion. I never saw

the adults bother or try to eat the fry.

I kept these fish in hard, alkaline water with a teaspoon of salt per 5 gallons. Water temperature was kept at 78°F. I kept them with a sponge filter and live plants in the tank consisted of a dense grove of hornwort, *Ceratophyllum demersum*.

This fish eats any sort of flakes, frozen and live foods offered. They stay small, growing only a couple of inches long. The fry grow quickly with frequent water changes. I changed 50% of their water weekly. The fry will grow slowly without frequent water changes. *Limia vittata* are not the easiest livebearers to acquire, but they are well worth the effort to obtain.

Now that it's winter, who knows what a blizzard might bring me this year. 



## SPECIES PROFILE

**Scientific Name:** *Limia vittata*

**Common Name:** Cuban Limia

**Origin:** Cuba

**pH Range:** 7.5 - 8.2

**Temperature Range:** 64°F -75°F

**Hardness:** 25- 30 dkh

**Life Span:** 4 years

**Size:** 3 inches

**Diet:** Omnivore. The Cuban limia eats worms, crustaceans, insects and plant matter. They like to eat algae.

**Sexing:** Female have a fuller stomach area. The males are slimmer and have a gonopodium. Blue-gray back, silvery sides and a white belly; scales edged with black producing a "fishnet" pattern

on the sides; females with a yellow patch near the vent; male's dorsal fin and tail usually yellow-orange with blue black speckles; females with colorless fins and growing to more than double the size of males

**Breeding:** Livebearers. Females can produce over 100 fry every 4-6 weeks. The fry are large and accept small flake food. Fry grows fast.

**Remarks:** Peaceful fish that is suited excellent for the community aquarium with hard water. The hardness can be reached by adding 30 grams sea-salt at 10 liters of water. The aquarium should be decorated with plants that can live in water with high Gh and pH.



# ADVENTURES

## with *Pseudotropheus acei*

**T**he *Pseudotropheus acei* is a beautiful fish that has a deep dark blue body with yellow in its tail, anal and the rear part of the dorsal fin. They can attain a length of approximately 7 inches. All the males and even some of the females have egg spots on their anal fins. They are a mouth brooding Mbunda species that stay in relatively shallow parts of Lake Malawi. The three (3) females that I have are a lighter blue than the males. The males also have a white streak across the dorsal fin when they are in breeding condition.



When the name *Pseudotropheus* is mentioned, hobbyists look worried. They expect ripped fins, chewed off tails and knock down drag out fights that never end.

Not so with *Pseudotropheus acei*. This fish is the least nasty type of *Pseudotropheus*. If two males are in a small tank they will fight and if the losing fish cannot escape then the more aggressive one will kill him. However, if there is sufficient space for them to move around and the tank has plenty of hiding places, keeping a couple of males with several females should be all right. A unique aspect of this fish is that it needs wood. I have seen it scraping the wood for algae or for wood

fibers that may help it digest food. I have seen a pair actively spawning on a large wooden piece. The dominant

male defends his area around the wood piece. This may be because it is the center piece of the tank.

Other species in the same tank, such as *Labidochromis caeruleus* and *Labeotropheus trewavasae* always spawn on flat rocks or they dig out the gravel until they reach the bare glass bottom of the tank and spawn there.

I managed to obtain a trio of females at a tropical fish auction. These fish were very pretty in their coloration. I took them home and set



them up in an existing 30-gallon tank (12"W x 36" L x 16"H) with several types of *Synodontis* catfish. All the fish got along great together. A few months later, I attended another tropical fish auction and came across a bag of two (2) males of *P. acei*. I managed to obtain them and brought them home.

Upon arrival I noticed the larger male chewed a large hole in the side of the smaller *P. acei*, while they were in the bag. I quickly set up a hospital tank and added a fungus treatment medicine. After several weeks, the fish recovered. I waited the mandatory 30 days that I keep any new fish I acquire in quarantine tanks. When I am assured all is physically well, I introduce them to an established tank. In this case, they went into a 180-gallon African tank.

After a month in their larger surroundings the larger male started attracting the females and the breeding started. All three (3) females were holding eggs at almost the same time. I waited 20 days post spawning and stripped each female of the fry. From each fish I obtained over 80 babies. Each baby was an exact replica of mom and dad.


I originally placed the babies in plastic holding containers that sit on the tank. After a week, I was able to move the fry to a 30-gallon tank to make it easier for them to grow. They joined a existing group of *Theraps nicuaraguense* fry and a couple of broods of *Labidochromis caeruleus* (Yellow labs). They all got along famously and grew quickly. The fry were fed crushed flakes, fry pellet food, live microworms and de-capsulated brine shrimp.

I have been keeping these fish in water temperature of 78° - 80° degrees F., with a pH of 7.6 - 8.0, using Kosher salt to bring the hardness up, with an occasional dose of Epsom salts for the extra minerals needed.

These fish are easy to breed and a week or so prior to their spawning cycle start, I fed them foods heavy in protein, such as frozen blood worms or frozen mysis shrimp. This food seems to keep them in top condition and promotes healthier babies.

**These fish are easy to breed and a week or so prior to their spawning cycle start, I feed them foods heavy in protein, such as frozen blood worms or frozen mysis shrimp. This food seems to keep them in top condition and promotes healthier babies.**

On occasions I have not been able to be quick enough to catch the mothers and when I do catch them, their mouths appear ready to burst with all the fry in their buccal cavity. When I do strip these moms-to-be, many babies come out dead. The fry have stayed in mom's mouth too long and the yolk sac gets absorbed. Since mom won't release the fry to eat and she won't take in food, the fry starve to death. It is my belief that the mothers will not release the fry in a hostile environment. If she sees predators all around, she won't release the fry knowing they will be eaten almost immediately - a terrible price to pay for a very conscientious mom.

This is an interesting fish to keep and *Pseudotropheus acei* does not require anything special for their environment or food. Their coloration is beautiful, blue and yellow. They are great parents and nice tank mates to every African cichlid or African catfish I have had with them. Just remember to have some natural wood in their tank; for whatever reason, they do seem to need it. Enjoy these beautiful and special Mbuba from Lake Malawi and enjoy watching them flourish in your African cichlid tank. 

#### References:

- *Enjoying Cichlids*, Ad Konings, pgs. 110-111.
- *The Cichlid Aquarium*, Dr. Paul Loiselle, pgs. 265-267.
- *Malawi Cichlids In Their Natural Habitat*, Ad Konings. pgs. 227 -229.





Robert Fenner

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www.wetwebmedia.com Aquarticles

# TREATING Tap/Source-water for Marine Aquarium Use

**M**OST MUNICIPALITIES DISINFECT THEIR DRINKING WATER WITH CHLORINE OR CHLORAMINE. THESE CHEMICALS ARE DEADLY TOXIC TO DISEASE-CAUSING MICROBES, UNSIGHTLY, DISTASTEFUL ALGAE, AND UNFORTUNATELY, OUR DESIRED AQUATIC LIFE! PRESENT PRACTICES RESULT IN A HIGHLY VARIABLE TAP-PRODUCT, ONE THAT SHOULD BE MONITORED AND MUST BE DEALT WITH, EITHER BY STORAGE/AERATION OVER AN EXTENDED PERIOD, CONSCIENTIOUS TREATMENT, OR VERY SLOW AND/OR LIMITED WATER CHANGE REGIMENS.

This article will familiarize you with the whys of these sanitizers, your options in dealing with them, and symptomatology & therapy for poisoned livestock. Hey, I'll even give you my version of "the best way" (according to the Fishman) to render tap water usable. Ho-boy!

## WHY DO WE HAVE TO DEAL WITH THIS STUFF ANYWAY?:

Always a good question. Answer: Because it's there. Water intended for human consumption; drinking, bathing, washing, what-have-you is rendered biologically zippo (that is, nothing living in it) by semi-unselectively poisoning it with materials that are supposedly not very toxic to us.

As the story goes, there was/is a high positive correlation with the blending of free chlorine with organics, present more and more in source waters, resulting in compounds termed tri-halo-methanes (spelling mine). Tap water in the U.S.A. used to be primarily treated with chlorine as a gas, or liquid (principally as the bleaching agent, sodium hypochlorite, aka hypochlorous acid). Due to the aforementioned problem, linking colonic cancers with tri-halo-methanes, the fed. EPA saw fit to pass laws supplanting free-chlorine-liberating means of potable water sanitizing with the less noxious (as far as colonic cancers go's) but more persistent chloramines. But, dear reader, please allow me a short digression:

There are still places where this magazine reaches, like Britain and Japan, where chlorine is



still in vogue, and even (gasp!) Western Europe, and some commune(ities) utilize the commie- subterfuge-itself, fluorine(!). And so, let us have a slight review of the ole High School level qualitative chemistry, shall we? As you'll recall, in the most popular presentation of the primary building blocks of the universe (atoms), there is an arrangement of these elements in a Periodic Table, or Chart.

By definition, the vertical columns in the periodic chart of elements are called Families of elements. Ostensibly, all members of a given family share alike chemistries on the basis of kindred arrangements of electron-cloud configurations. The column immediately adjacent to the far-right family of noble gas, is termed the halogens (note the similarity of halo above and halogen here). Geez, anyway what I'm trying to get to here is that all members of the halogen family (halogenated be thy name?) act (poison) the same. Fluorine, Chlorine, Bromine, Iodine and Astatine. Anywho, all these atom-types are very reactive, wanting only one more electron to fill out their outer electron cloud, but that's another story (thank goodness). They all will kill your fish, inverts, algae, live-rock, whatever you have, in sufficient concentration. On with this story.

Chlorine ( $\text{Cl}_2$ ) bound up with ammonia (nominally  $\text{NH}_3$ ) we'll call chloramine. This critter is responsible for almost as much captive mortality as hobbyist-generated-booboos! No small feat. And the reason(s) why? Let's make that a separate article, okay? Suffice it to write here that:

- 1) Chloramine is present in toxic quantities in virtually / actually all city water supplies,
- 2) It takes a good week or so to "dissipate" by "setting," "aeration," "hopeful wishing," or other such means, or...
- 3) Can be neutralized by various store-bought or

home-made chemical conditioners, some only effective with concurrent contactor filtrants (e.g., carbons, zeolites) to remove resultant ammonia. But most all wanna-be advanced-aquarist -types know some version of this extended-greatest-fish-poisoning -story-ever-told.

Basically, know this, the water district types are not your best fishy buddies. For various reasonings, they fool with the water, very occasionally yielding a more and more toxic product that you must remain vigilantly suspicious of.

**BASICALLY, KNOW THIS, THE WATER DISTRICT TYPES ARE NOT YOUR BEST FISHY BUDDIES. FOR VARIOUS REASONINGS, THEY FOOL WITH THE WATER, VERY OCCASIONALLY YIELDING A MORE AND MORE TOXIC PRODUCT THAT YOU MUST REMAIN VIGILANTLY SUSPICIOUS OF.**

### **MODE OF ACTION:**

Chlorine, Chloramine, Fluorine compounds et al. are hemolytic in their action, splitting up blood cells. Additionally, in sufficient concentration, the actual gill membranes will dissolve in their presence. Both these reduce respiratory capacity (no duh!)

What's A Pet-Fish Type To Do? First and foremost, be aware! How else are you going to "get by" in the world, let alone optimize your opportunities? Next, determine whether you're going the intensive versus extensive (lazy) mode. In the former, extend your senses and get a test kit for chlorine / chloramine. How 'bout an advertisement / schpeil here? Okay! Aquarium Pharmaceuticals has a nice inexpensive liquid-reagent variety; Hach and LaMotte have some nicer units for the hoi polloi, and there are even electronic types for the lottery-winning, ultra-tech-ee. The extensive / lazy approach is to MAKE FREQUENT, SMALL WATER CHANGES (boy, that's bright on the old word processor), say 10-15% at weekly / twice-monthly intervals, gambling on absorption, complexing of tap sanitizers with "what's in your system." 3) The last and generally least desirable, but necessary to discuss,



means are directly chemical in nature. You know their names, the sundry new/tap water conditioners. Let's not name-names directly here, but do let us make a general classification scheme/discussion on the basis of apparent activity, and some letting-on concerning ingredients...

**A)** Dechlorinators: These are the tried and true (sodium) thiosulfate, aka hypo, or hyposulfite compounds. Yes, this is the same stuff you may be familiar with in terms of photographic developing chemicals for (surprise!) removing free chlorine to eliminate interaction with silver... More on this real soon.

**B)** Dechloraminators: Here I mean one's that "really" work, that is, that take care of both chlorine and ammonia. These typically involve poly-vinyl compounds. This is a big hint! **C)** Pea Suede Oh (pseudo), read that as phoney "Dechloraminators." Yes, there are products, some quite popular, that profess to "remove chloramine in "one-step". A vital clue here is their formalin/formaldehyde smell. What a scam! These products "work" by **1)** poisoning your livestock such that it produces slime and other materials in response to the formalin and thus precludes chlorine/chloramine from entering their bodies, and **2)** as a placebo, albeit toxic one, where no treatment was necessary.

Don't believe me? Get a test kit and do the simple experiment. How do these companies stay in business? People buy their stuff out of ignorance. Don't be ignorant.

### TOO LATE, I ALREADY BLEW IT:

What can you do if your livestock are poisoned by these sanitizers? You have to act quick: seconds, to minutes to (rarely) hours. Depending on the source and degree of the problem, do (in order of possibility):

**WHAT CAN YOU DO  
IF YOUR LIVESTOCK  
ARE POISONED BY  
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DEPENDING ON THE  
SOURCE AND DEGREE  
OF THE PROBLEM, DO  
(IN ORDER OF  
POSSIBILITY)**

**1)** Move your livestock to a non-toxic environment.

Keep your eye constantly on your charges, especially for bullying.

**2)** Treat the water! You twit! With items listed in 3 & 4 below.

**3)** A real dechloraminator, and definitely not with a phoney one. More mucus production and hemolytic activity by formalin poisoning will only exacerbate pushing your critters over the edge. Watch the dosage. Do not overtreat!

**4)** Engage filtrants (carbons, zeolites, appropriate resins) to remove the source of the problem.

**5)** Flush the whole mess and start over again.

Oh sorry; just kidding. Other

Sources of These Noxious Chemicals:

Principally from "cleaning" ornaments and tanks with "chlorine bleaches" and household cleaners' fumes and aerosols making their way into your tanks. What you can do to avoid these despicable circumstances should be obvious, and I don't get paid by the word, but here's a gander at poisoning prophylaxis:

**1)** Rinse the dickens out of whatever cleaning stuff you're using, air-dry, use a cheapy bio-assay, break-down and buy/use a test kit, will you?

**2)** Be careful: don't use ammoniated or chlorine-containing and releasing compounds around your system, geez.

**3)** Flush the whole mess, no, not this again!

### HOW TO SAVE YOUR LIVESTOCK, YOUR SANITY, & YOUR POCKETBOOK:

My real advice is really to just do frequent partial water changes and not sweat it, but, in reality, if you're changing a lot of water, I would suggest what I and our service company do:

Batch process your water with, I mean





cheap, home-made hypo solution purchased from a chemical/lab or photo supply outlet and either pump/drain your supply water over a chemical filtrant (cited above) to remove the remaining ammonia. Sodium thiosulfate at about two pounds dissolved in a total volume of one gallon, used at one-two drops per tap gallon is about right. There are folks who sell this stuff through the magazines, if you won't get off your duff and check out your local "yellow pages."


### **AND THE VERY BEST METHOD!?** **NONE AT ALL: PREMIXING/STORING** **SALTWATER**

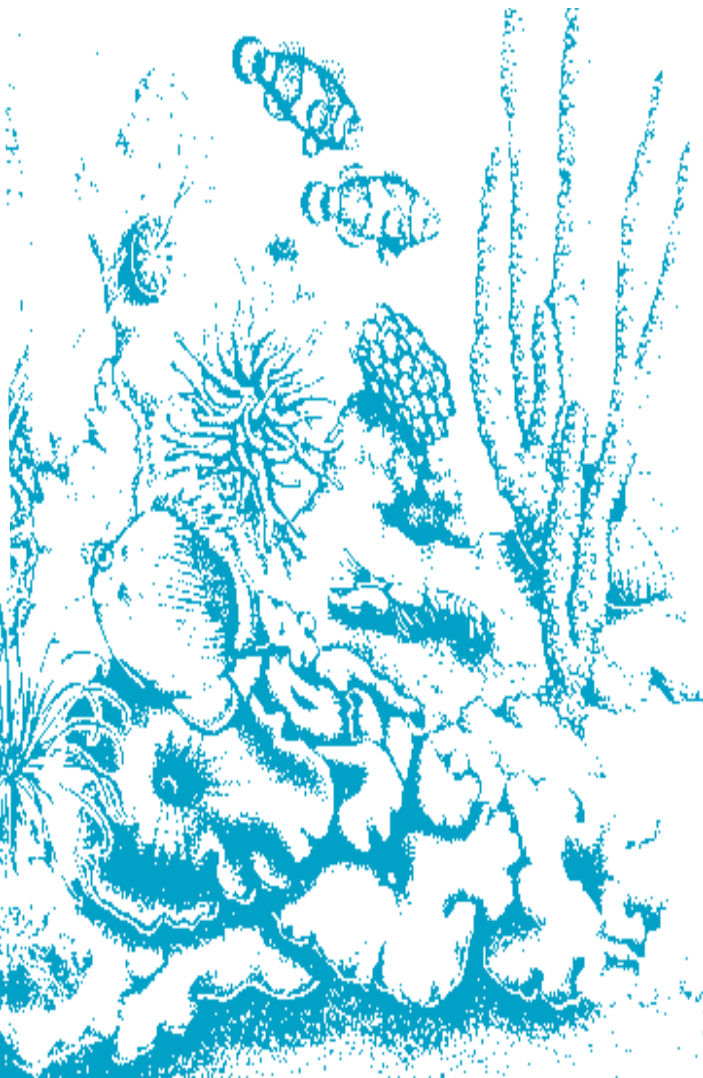
The simplest, most assured way of making sure sanitizers, metals (that can be settled/complexed), excess gasses... are removed from solution ahead of using synthetic salt mixes is to pre-mix and store them for a week or so ahead of use. This is best accomplished by way of buying and dedicating "Fish Tank Only" gear to the purpose. A new (my favorite are the Rubbermaid™ Brute) trash can and lid (to keep little hands and stuff out) maybe with their spiffy dolly to roll around... a pump (like a powerhead, but with a nozzle for attaching a bit of flexible tubing to ease moving the water to your system(s)... and possibly a thermostatic heater (make sure and unplug this when doing additions)... and your trusty hydrometer...

By allowing the new water to mix and circulate, many things are done... chlorine/amine

are liberated, perhaps excess gas, metals... and the various soluble and not so components of your salt mix are able to complete dissipate ahead of use.

### **LET'S WRAP THIS THING UP** **ALREADY:**

Chlorine and chloramine poisonings are significant causes of livestock loss. The sources of these sanitizers and their testing, removal and therapeutic treatment has been surveyed. If you won't invest in and use a test kit, be chary of massive water changing, or at least use "real" dechloraminators. Thanks! 





# The Practical Plant

## PROPAGATING

### *Tonina fluviatilis*

**T***onina fluviatilis* is a really pretty stem plant, and quite rare.

It is so rare I cannot find it in any of the books I have ever seen. It is a bright green color and branches well. This plant is a first cousin of *Tonina belem*. The two plants have much in common, but *T. fluviatilis* has wider and shorter leaves than *T. belem*. As far as I know, these are the only two species of this genus in the hobby. The best description I think I can come up with is that it looks like a miniature pineapple top. The only place I could find a specimen was from our club's good friend **Robert Hudson** over at [www.Aquabotanic.com](http://www.Aquabotanic.com).


This plant is a very difficult one to make happy. It seems to require a great deal of light, substantial nutrient levels in the water column and carbon enrichment. The normal growth pattern for this plant is to have densely packed nodes. If your nodes are growing too far apart, your lighting is inadequate. If it is happy, it will grow at a good pace typical of stem plants. It is easily propagated by stem cuttings.



I planted my specimen in a 15 gallon high aquarium. This tank has some really intense lighting, a Coralife 96 watt compact fluorescent fixture which equals 6.4 watts/gallon on a tank 18" tall. The substrate is Seachem's Flourite Red. The temperature is 78°F and the water is kept fairly soft (about 40 GH). I enrich carbon by both CO<sub>2</sub> injection and Seachems Excel. For the liquid fertilizers, I follow the Estimated Index (EI) method. This

means that I make a massive water change (50-75%) every week. The rest of the week I alternate the dosing of the supplements between Seachem's Flourish (the macronutrients) and Seachem's Trace Elements (the micronutrients). The filtration is provided by a Fluval 104 canister filter with the output directed thru a submerged spray bar.

If you can provide this plant with the proper environment, you will be rewarded with a truly beautiful and rare plant.

That is, if you can find it. 

Izzy



**John Todaro – BAS**

From the Brooklyn Aquarium Society's publication

*SCRUMPTIOUS MEALS & LIVE FOOD TREATS* Compiled, Edited & Written by John Todaro

# Frozen Seafood Chowder




Are your marine fish costing you small fortune to

feed? If your answer is yes, here's a recipe developed by the well

known marine authors and speakers, **Anthony Calfo** and **Steve Pro**.

They recommend this recipe to keep you from going broke. Thirty minutes in the

kitchen is all you need to whip up this meal that makes about 2 pounds of nutritious food at a cost of about \$3 to \$5 per pound.

Pound for pound this is much more economical than commercially prepared frozen foods that can run anywhere from \$12 to \$18 per pound (if you bought that many 4 to 8 ounce frozen food packages). For all you marine fish keepers, here's a way to save money and feed your marine fish a hearty and economical meal. 

## RECIPE

### INGREDIENTS:

14 oz. raw seafood; shrimp, haddock, crab, squid, etc.  
Dry food (extruded like Vibra-Gro.  
Fish food pellets or other good choices include: Spirulina, freeze dried food w/color bits).  
1/2 tsp. Garlic  
1/8 tsp. Paprika (natural color enhancer)  
1 small Orange  
1 small Apple  
1 tsp. Vanilla  
1 tbsp. Carrots (natural color enhancer)  
1 tbsp. Peas  
1 tbsp. Spinach  
1/4 cup Gerbers™ Oatmeal  
1/2 Banana  
10 oz. Water  
3 pkg. Knox® unflavored gelatin

### PREPARATION:

Dissolve gelatin in 10 ozs. of boiling water, then let cool down a bit. Mix the other ingredients in a blender to the consistency of puree. Slowly, add the dissolved gelatin water to the mixture until it is all added. If you want the food to float longer, blend until you get many air bubbles in the mixture, then quickly pour it into Ziploc® freezer bags. Put on baking pan with raised sides and press flat to 1/4 inch thick, or into plastic ice cube trays. If you want the food to sink more easily, stop the blender and let mixture sit a while to let the air escape and the mixture settle for a few minutes.

### FEEDING:

Break off enough pieces to feed your fish all they can eat in 5 or 10 minutes. Clean up leftovers.



TheShrimpFarm.com is the place to go for freshwater shrimp. The owner, **Brad Kemp**, has a new address: The Shrimp Farm USA, 11936 West 119th St., #197, Overland Park, KS 66213, U S A and has set up an Aquarium Shrimp Forum <http://theshrimpfarm.com/forum/index.php>. You can go to this forum and ask questions, talk to other shrimp nuts and discuss anything and everything related to Aquarium Shrimp.

# Yellow Shrimp



**Scientific Name:** *Neocaridina heteropoda* (var. yellow)

**Other Scientific Names:** *Neocaridina denticulata sinensis* (var. yellow)

**Common Name:** Yellow Shrimp.

**Other Common Names:** Yellow Cherry.

**Origin:** South East Asia.

**Found in the Wild:** No.

**pH Range:** 6.5 - 8.0

**Ideal pH:** 7.2.

**Temperature Range:** 65° - 85°F

**Ideal Temperature:** 72°F.

**Hardness Range:** 3 - 15 dkh

**Ideal Hardness:** 6 dkh.

**Life Span:** 1 - 2 Years.

**Gestation Period:** 30 Days.

**Size:** 1/2 - 1" inch.

**Diet:** Omnivore.



### YELLOW SHRIMP HISTORY

The Yellow Shrimp is a fairly recent color variation of the wild *Neocaridina heteropoda*. This color variation was originally bred in Germany and started to appear in the Freshwater Aquarium Shrimp hobby in the early 2000's.

### YELLOW SHRIMP CARE

The care of the Yellow Shrimp is exactly the same as the Red Cherry Shrimp. They are undemanding when it comes to water parameters, as long as extremes are avoided and the parameters are stably maintained.

### YELLOW SHRIMP DIET

The Yellow Shrimp is an omnivore. While the Yellow Shrimp is great for aquarium algae control, when kept in larger groups, supplemental feeding is often required. Foods intended for bottom feeding fish and aquatic invertebrates make great foods. Vegetables that have been thoroughly cleaned and boiled until they are soft are also great foods.

### YELLOW SHRIMP BREEDING


Breeding Yellow Shrimp in the home aquarium is rather easy. As long as there is a mature male and a female in a well established, well maintained aquarium, they will breed. The male Yellow Shrimp is smaller and a little less colorful, while

the females are larger and display deeper more vivid colors. Mature adult female Yellow Shrimp will often display a saddle on their upper back (seen in insert). This saddle is the female's eggs developing in her ovaries.

### YELLOW SHRIMP BEHAVIOR

Yellow Shrimp are a very non-aggressive species of Dwarf Shrimp. The Yellow Shrimp is very active and will be often seen grazing for algae on plants, decorations and the substrate. They only become shy and hide after molting (when a shrimp sheds its exoskeleton in order to grow or breed).

### SPECIAL NOTES

As with all aquatic invertebrates, it is important to make sure copper does not get into the aquarium. Copper is toxic to all Dwarf Shrimp. Many medications contain elevated levels of copper, so it is recommended not to medicate an aquarium containing Dwarf Shrimp. 

Brad





# HOW TO MAKE A PLECO "CHRISTMAS TREE."

**O**NE OF MY FAVORITE PLECOS IS THE FLATHEADED OR MEDUSA PLECO L-34, *ANCISTRUS RANUNCULUS*. THESE FISH ARE SO UGLY I DON'T EVEN THINK THEIR OWN MOTHER THINKS THEY'RE PRETTY!



**B**oth sexes are well endowed with spines and the males have an especially nasty set beneath their eyes. These fish should always be caught in a plastic bowl or cup; never use a net as they will either snare themselves or cut up the net.

Male Medusa Plecos are territorial and have no problems using their spines on each other in turf battles. Battles usually occur in defense of a cave.

I had problems because all the males wanted the same cave. How could I stop the fighting?

I was not trying to breed them, but rather just keep them in good shape in my tank.

Medusas and many other Plecos prefer caves on an angle. In nature they dig caves in clay. Using this idea and knowledge, I came up with what I call the "Pleco Christmas Tree." It's easy to make. The only materials you'll need are

a piece of black slate, aquarium sealer, PVC pipe (sized to your Plecos) and a saw to cut the PVC.

I used 2 inch PVC cut into 10 inch lengths. I make sure the PVC is cut 4 inches greater than the mature length of the Plecos I am keeping.

I have created two versions of the "Pleco Christmas Tree." One is shaped like a regular Christmas Tree and the other is inverted.

**SEE DRAWINGS AND INSTRUCTIONS,  
NEXT PAGE.**

By making all the caves the same size, my Plecos stopped fighting. I have found that Bushynose breed readily in "Pleco Christmas Trees."

I have used these trees with Gold Nugget Royal Clown Plecos and *Psychedelic zebra* L-66 with great success.





Note: do not use a light colored stone or slate as the base. I have found that Plecos will not use the caves if the base is too light in color. The darker the base, the better. That is why I use black slate; also the weight of the slate helps to hold the PCV tree in place.

I have also used Pleco Trees with great success for fish such as Red Tail Sharks, variegated Labeo Sharks and various *Gastromyzon* species of catfish. Redfin Botias really like them too.



If your PVC is 1/2 inch wide Kuhlii Loaches will jam themselves into it like sardines. This makes them easy to catch.

The trees can be easily cleaned with hot water and a

bottle brush.

If you are having territorial problems with bottom dwelling fish, try a "Pleco Christmas Tree."

Happy fishkeeping!

*Tony*

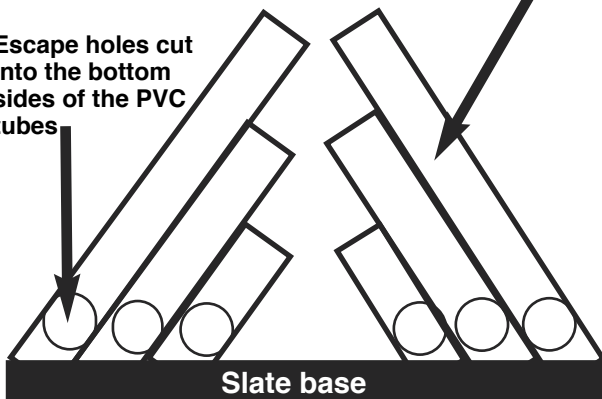
**The PVC Tubes lean against each other and are sealed to each other with Aquarium sealer.**

**The bottoms of each PVC tube are cut at a 45° degree angle so as to sit flat on the slate base. In addition, each tube bottom has a hole cut out to allow the fish to exit at the top or the bottom.**

#### REGULAR PLECO TREE

PVC pipe cut to 10", 8" and 6 inch lengths

Escape holes cut into the bottom sides of the PVC tubes

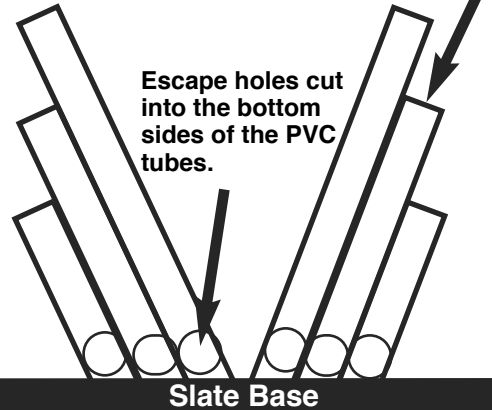


The bottom of each PVC pipe is cut at a 45° degree angle so as to sit flush on the slate.

#### INVERTED PLECO TREE

PVC pipe cut to 10", 8" and 6 inch lengths.

Escape holes cut into the bottom sides of the PVC tubes.



The bottom of each PVC pipe is cut at a 45° degree angle so as to sit flush on the slate.





# Colt Coral Propagation



Propagating a Colt Coral is a very easy and rewarding process. For those of you who are reluctant to propagate your corals for fear of hurting the animal, you will be happy to know that corals do not feel pain. They do not have a nervous system therefore they do not feel pain the

way we do. So the parent and cutting will not be hurt during propagation, even though it will seem that way when you see them curl up in a small ball. Don't let it deter you from propagation.

A second area of concern that may hinder a decision to propagate a Colt Coral is lighting. Minimal lighting is required for these corals because they are naturally found deep in the ocean where they do not get very strong light. I am only using two fluorescent lights, one actinic blue and one super daylight bulb, and my coral is thriving.

However, during propagation the corals are more susceptible to infection and other ailments while they are recovering, so it is very important to have a healthy tank before, during, and after you make the cutting.

## Equipment Required:

- 1 Toothpick (I find the round ones are easier to work with).
- 2 Elastic.
- 1 Razor blade or very sharp scissors.
- 1 Rock to fasten the cutting on.
- A container of clean saltwater to put the cutting in.



### Before you make the cutting:

Before you make the cutting, you need to have a very healthy tank. Make sure that all of your readings are (preferably) lower than the safe range. You don't want to stress the parent and cutting any more than you have to. I generally do a water change 4 or 5 days before I propagate my Colt. This way I know that I won't have to worry about stressing the new cutting by having to make a water change while it is just starting off. The water change will also help replenish the required trace elements in the water which the colt corals will need to recover and grow.

Next, you want to make sure the Colt Coral is healthy as well. Make sure that the polyps open up all the way and that the coral is fully extended. If it isn't for any reason, wait a couple of days before you make the cutting.

### During the cutting process:

The time has finally come to make the cutting! Make sure you have everything you need to make the cutting close at hand. Choose a branch that you want to cut, make sure the branch is at least 2 or 3 inches long. This will give you around a 1½ inch cutting. When you make the cutting, don't cut the branch right at the base, leave around a ½ inch from the base. The parent coral will eventually grow another branch from the stub.

The Colt Coral has a very tough skin, so when you make the cutting, you will need to use some force. I generally use a razor blade to make



my cutting and lean the branch against a rock for support while I cut. Make the cutting in one clean cut. This will help the coral recover quicker and the cutting will grow onto the rock easier. When you make the cut, the corals will excrete a clear liquid; this is normal and it will stop soon after.

### Once you have the cutting:

Take it out of the tank and put it in the container of clean saltwater you have prepared. Get the piece of rock you want the new coral to grow on and lightly dry off a spot to place the cutting on. Wrap two elastics around the rock, one on each side. You will use these to secure the cutting in place until it has had time to grow on to the rock.

Next, take the cutting and push a toothpick through the center, near the base. Place the base of the cutting on the rock and put the toothpick under the elastics. The cutting should be held firmly against the rock.

### Now you are ready to put the cutting back in the tank:

Place it in a location with good lighting and a light current. Make sure that it is in an area where other creatures in the tank will not disturb the new coral (i.e., knock it over or bury it).

### After care of the new coral:

Now that the hardest part is finally done,






you have to have patience and wait for parent and cutting to open up. I have found that the parent will open up first within a few hours. As for the cuttings, I can't tell you any normal length of time. I have had one open in a few hours and another open in a day. So have patience! (Something I am trying to learn myself!)

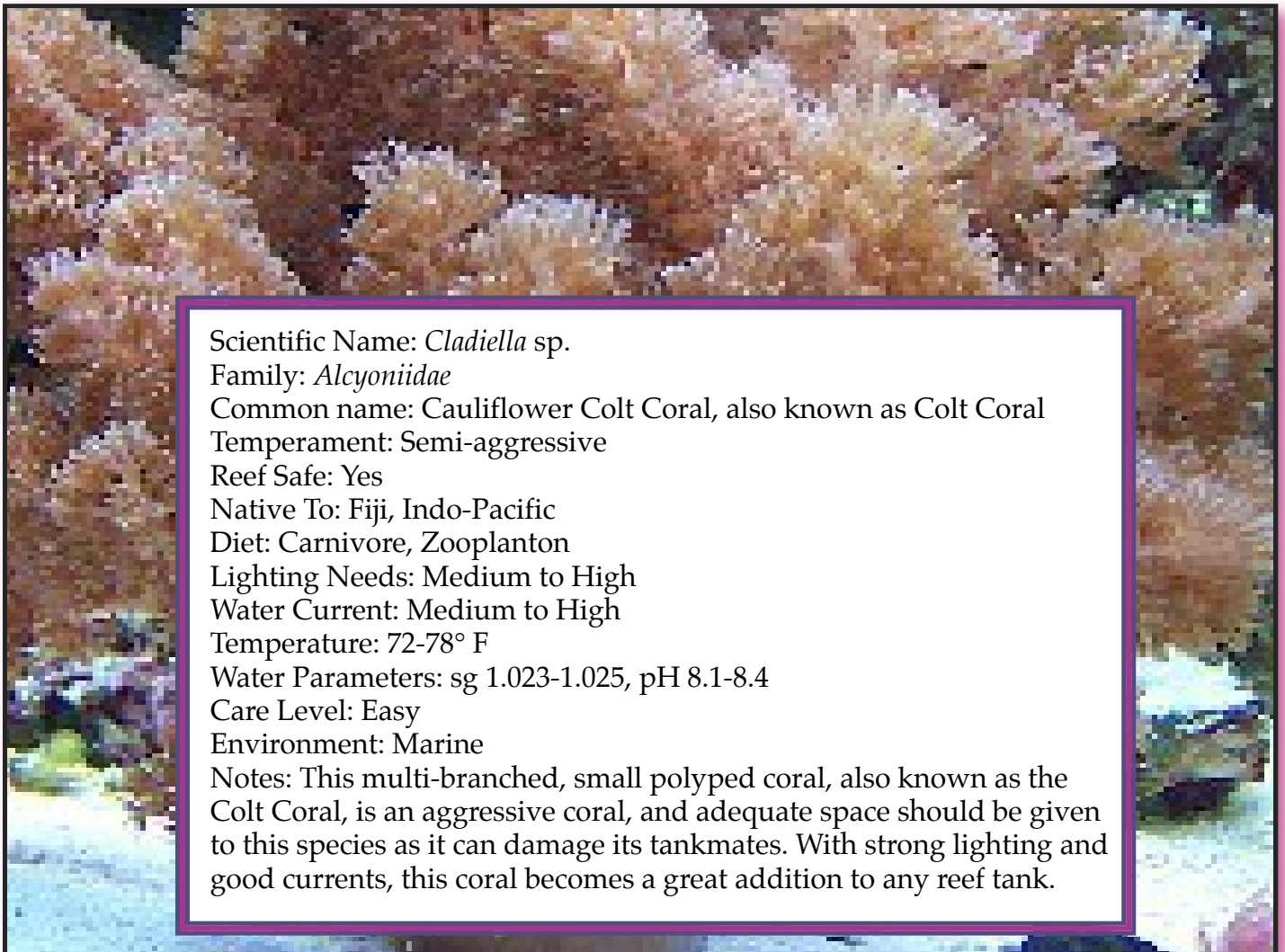
If the cutting doesn't open in a couple of days, check to make sure that the cutting is firm to the touch and isn't losing its color. If it is soft to the touch or dull looking, then chances are it isn't going to live. I suggest that you remove it from the tank before it pollutes the water. If you have a quarantine tank you could try putting it in there to give it more time.

Over the next couple of weeks, the new cutting will start to grow and secure itself to the rock. It

should be attached after about a week but I suggest that you give it a little more time. After two weeks, it's time to take the toothpick out of the young coral. Remove it slowly and gently so you don't pull the cutting away from the rock. I find that it helps if you turn the toothpick to detach any part of the coral that has grown on to it. Remove the elastics from the rock at this time also. Replace the young coral in the tank and you are done!

### Congratulations!

You now have a new Colt Coral! Easy, wasn't it! (After you got over the jitters of harming the coral and see that everyone is going to live! LOL) 



Scientific Name: *Cladiella* sp.

Family: *Alcyoniidae*

Common name: Cauliflower Colt Coral, also known as Colt Coral

Temperament: Semi-aggressive

Reef Safe: Yes

Native To: Fiji, Indo-Pacific

Diet: Carnivore, Zooplanton

Lighting Needs: Medium to High

Water Current: Medium to High

Temperature: 72-78° F

Water Parameters: sg 1.023-1.025, pH 8.1-8.4

Care Level: Easy

Environment: Marine

Notes: This multi-branched, small polyped coral, also known as the Colt Coral, is an aggressive coral, and adequate space should be given to this species as it can damage its tankmates. With strong lighting and good currents, this coral becomes a great addition to any reef tank.



This information is from **Shirlie Sharpe**  
About.com FreshwaterAquariums site. This is a great site with  
fish facts and questions to common problems.  
Aquarists should sign up to this informative online newsletter.

# HOW LONG WILL MY FISH LIVE?

THAT'S A QUESTION OFTEN ASKED BY HOBBYISTS. WELL, HERE IS AN ALPHABETICAL LIST OF THE LIFESPANS OF OVER 110 COMMONLY KEPT FRESHWATER TROPICAL FISH. IF THE FISH YOU WANT TO KNOW ABOUT IS NOT LISTED, I WOULD SUGGEST CHECKING THE FAMILY IT BELONGS TO AND READING ABOUT IT.

## A

**Adolfos Cory** - 5 years  
**Angelfish** - 10 + years  
**Apistogramma** - 3 to 5 years  
**Archer Fish** - 5 years  
**Armored Catfish** - 7 to 15 years  
**Axelrods Rainbowfish** - 5 years

## B

**Bala Shark** - 10 years  
**Bandit Cory** - 5 years  
**Banjo Catfish** - 5 to 8 years  
**Betta** - 2 to 3 years  
**Black-Banded Leporinus** - 5+ years  
**Black Neon Tetra** - 5 years  
**Black Phantom Tetra** - 5 years  
**Black Shark** - 4 to 10 years  
**Black Widow Tetra** - 5 years  
**Blackfin Cory** - 5 + years  
**Bleeding Heart Tetra** - 5 years  
**Blindcave Fish** - 5 + years  
**Bloodfin Tetra** - 10 + years  
**Blue Gourami** - 4 years  
**Boeseman's Rainbow** - 5 years  
**Bolivian Ram** - 4 years  
**Bronze Cory** - 5 years

## C

**Cardinal Tetra** - 4 years  
**Cherry Barb** - 5 to 7 years  
**Chocolate Gourami** - 4 years  
**Clown Loach** - 15 + years

**Columbian Tetra** - 5 years

**Congo Tetra** - 5 years

**Convict** - 10 to 18 years

## D

**Debauwi Catfish** - 8 years  
**Diamond Tetra** - 5 years  
**Discus** - 10 to 18 years  
**Dojo Loach** - 10 years  
**Dwarf Gourami** - 4 years

## E

**Emperor Tetra** - 6 years

## F

**Festivum** - 10+ years  
**Figure 8 Puffer** - 5 years  
**Firemouth** - 10 to 15 years  
**Frontosa** - 8 to 15 years

## G

**Giant Danio** - 5 to 7 years  
**Glassfish** - 8 years  
**Glowlight Tetra** - 5 years  
**Gold Barb** - 5+ years  
**Goldfish** - 10 to 30 years  
**Guppy** - 3 to 5 years

## H

**Harlequin** - 6 years  
**Hatchetfish** - 5 years  
**Hog Nose Brochis** - 10 years  
**Honey Gourami** - 4 years

**J**

Jack Dempsey - 10 to 18 years  
Jordan's Catfish - 10 + years

**K**

Killifish - 1 to 2 years  
Kissing Gourami - 5 years  
Kribensis - 5 years

**L**

Lake Kutubu Rainbow - 5 years  
Lake Madagascar Rainbow - 5 years  
Lake Wanam Rainbow - 5 years  
Lemon Cichlid - 8 years  
Lemon Tetra - 5 years  
Leopard Danio - 5 to 7 years  
Leporinus - 5+ years  
Livingstoni - 10+ years

**M**

Marigold Swordtail - 4 years  
Midas Cichlid - 15 + years  
Mollie - 4 years  
Moonlight Gourami - 4 years

**N**

Neon Rainbow - 3 to 4 years  
Neon Tetra - 5 to 10 years

**O**

Oscar - 10 to 18 years  
Otocinclus - 5 years

**P**

Pacu - 10 years  
Pearl Danio - 5 years  
Pearl Gourami - 4 years  
Pictus Catfish - 8 years  
Piranha - 10 years  
Platy - 3 to 5 years  
Pleco - 7 to 15 years  
Powder Blue Gourami - 4 years

**R**

Rafael Catfish - 7 to 15 years

Rainbow Shark - 4 to 10 years  
Rams - 4 years  
Rasboras - 5 to 10 years  
Red Bellied Piranha - 10 years  
Red Eye Tetra - 5 years  
Red Fin Shark - 8 years  
Red Hook Silver Dollar - 10+ years  
Red Rainbow - 5 years  
Red Tailed Catfish - 15 years  
Red Tuxedo Platy - 4 years  
Red Wagtail Platy - 4 years  
Rosy Barb - 5 years  
Royal Pleco - 10 + years  
Rummy Nose Tetra - 5 + years

**S**

Sailfin Molly - 3 years  
Severum - 10 + years  
Silver Dollar - 10 + years  
Silver Pacu - 10 years  
Silvertip Tetra - 5 years  
Swordtails - 3 to 5 years

**T**

Texas Cichlid - 10+ years  
Tiger Barb - 6 years  
Tinfoil Barb - 10 year

**U**

Upside Down Catfish - 5 years


**W**

Weather Loach - 10 years  
Whiptail - 10 + years  
White Cloud Mountain Minnow - 5 to 7 years  
Wimple - 20 + years

**Y**

Yellow Tetra - 5 years

**Z**

Zebra Cichlid - 10 + years  
Zebra Danio - 5 years 



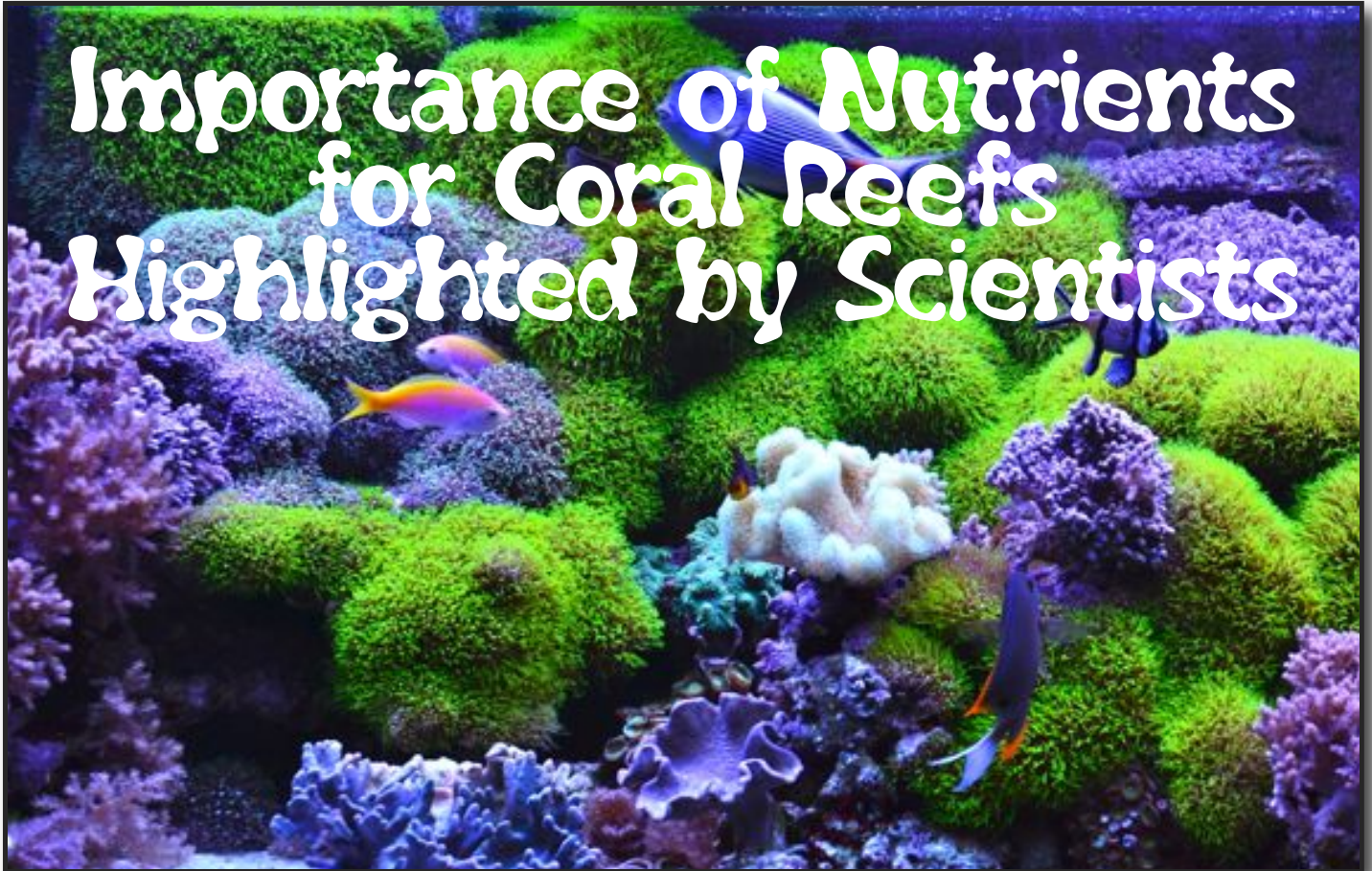


**MLA APA Chicago University of Southampton.**

*"Importance of nutrients for coral reefs highlighted by scientists."*

27 February 2014.

<[www.sciencedaily.com/releases/2014/02/140227092024.htm](http://www.sciencedaily.com/releases/2014/02/140227092024.htm)>.



**A new publication from researchers at the University of Southampton and the National Oceanography Centre, Southampton highlights the importance of nutrients for coral reef survival.**

**D**espite the comparably small footprint they take on the ocean floor, tropical coral reefs are home to a substantial part of all marine life forms. Coral reefs also provide numerous benefits for human populations, providing food for millions and protecting coastal areas

from erosion. Moreover, they are a treasure chest of potential pharmaceuticals and coral reef tourism provides recreation and income for many.

Unfortunately, coral reefs are declining at an alarming rate. To promote management activities that can help coral reef survival, an international group of world renowned scientists have summarized the present knowledge about the challenges that coral reefs are facing now and in the future in a special issue of the journal *Current Opinion in Environmental Sustainability*. The contribution of scientists from the University of Southampton to this special issue highlights the crucial role of nutrients for the functioning of coral reefs.






The University of Southampton researchers who are based at the Coral Reef Laboratory in the National Oceanography Centre, Southampton, explain that "too many" nutrients can be as bad for corals as "not enough."

**Dr Jörg Wiedenmann**, Professor of Biological Oceanography at the University of Southampton and Head of the Coral Reef Laboratory, says: "The nutrient biology of coral reefs is immensely complex. It is important to distinguish between the different direct and indirect effects that a disturbance of the natural nutrient environment can have on a coral reef ecosystem."

Since corals live in a symbiotic relationship with microscopically small plant cells, they require certain amounts of nutrients as "fertiliser." In fact, the experimental addition of nutrients can promote coral growth. "One should not conclude from such findings, however, that nutrient enrichment is beneficial for coral reefs -- usually the opposite is true," explains **Dr Cecilia D'Angelo**, Senior Research Fellow in the Coral Reef Laboratory and co-author on the article. **Dr Wiedenmann**, whose research on coral reef nutrient biology is supported by one of the Starting Grants from the European Research Commission, adds: "Too many nutrients harm corals in many different ways, easily outweighing the positive effects that they can undoubtedly

have for the coral-alga association.

Paradoxically, the initial addition of nutrients to the water column might result in nutrient starvation of the corals at a later stage. In this publication, we conceptualise the important role that the competition for nutrients by phytoplankton, the free-living relatives of the corals' symbiotic algae, may have in this context."

"Nutrient pollution will continue to increase in many coral reefs. Therefore, an important prerequisite to develop efficient management strategies is a profound understanding of the different mechanisms by which corals suffer from nutrient stress." 

#### Story Source:

The above story is based on materials provided by University of Southampton.

#### Journal Reference:

**Cecilia D'Angelo, Jörg Wiedenmann.** Impacts of nutrient enrichment on coral reefs: new perspectives and implications for coastal management and reef survival. *Current Opinion in Environmental Sustainability*, 2014.





Ann Whitman - TFCB

Reprinted from *In Depth* the publication of the  
Tropical Fish Club of Burlington 25th Anniversary Issue.

# Leaving Your Fish Without Losing Your Mind!



**S**ometimes preparing for a vacation hardly seems worth the effort, especially when you're leaving aquariums behind. Taking off for a couple of days or even a long weekend is pretty simple when you have established tanks and adult fish because they can easily go without food for several days. However, if you're leaving for a week or more and have a breeding operation or other special circumstances, you can't just drive away. You have to start planning well in advance of your trip.





### One month before departure:

- Stop bringing home new fish, no matter how tempting. You don't want any ich or other surprises. Think "stability" for the next few weeks.
- Prevent fish from breeding, if possible. Baby fish are complicated.
- Buy and test an electronic fish feeder.
- Hire someone to check on your fish every few days to be sure all is well. Hire a house sitter if you have baby fish that need frequent feeding or live food.
- Beef up your biological filtration systems. Add sponge filters or bio media.
- Have a contingency plan for power outages, leaks and other unplanned emergencies. I use PitBoss Sump Alarm, which texts to my cell phone if our power goes out or water reaches the top of our sump hole.

### Two weeks before departure:

- Stock up on Poly-Filter pads. These are indispensable for maintaining water quality when you can't do a water change.
- Get light timers, if you don't have them already.
- Check that heaters, filters and light timers are working properly. Replace malfunctioning and marginal equipment while you still have time to test it. Avoid messing with equipment right before you go.
- Observe fish behavior closely. Separate aggressive or weak fish that may cause trouble while you're away. Avoid big reorganizations, though. Calm fish and stable environments are good.


### One week before departure:

- Write up detailed instructions for fish care. I use Super Sticky Post-it® notes on each tank for feeding instructions and other critical information. General instructions and my contact info goes on a legal pad. Include the phone numbers of a neighbor and a local fish expert, such as someone from the fish club, in case you can't be reached.
- Pre-measure food portions for each tank and tape the baggies to the aquariums. Or use measuring spoons to help prevent overfeeding. Look for a

set of "small portion" spoons that measure in "pinch, dash and smidgen." Remember less is better when it comes to food. Having hungry fish is better than having a polluted tank and dead fish.

- Set a time to meet with your house sitter to go over the routine. Have them feed the fish and do other maintenance with your guidance.
- If your fish spawned despite your interventions, and your house sitter isn't up to the task, farm out the young fry to an experienced aquarist to care for in your absence.
- Do your water changes!

### Day before you leave:

- Do your water changes again, and then put a Poly-Filter in each tank to help maintain water quality.
- Leave your house thermostat at its normal setting. Don't turn down the heat or turn off the air conditioner. Aquarium temperatures may become unstable if the tank heaters can't keep up or the house becomes stifling hot.
- Double check your list, hand the keys to the house sitter, and go, knowing that you've done your best to make your fish—and yourself—stress free on your vacation. 







Robyn Bright

Reprinted from March 1, 2014 PETBUSINESS.COM

# PUTTING AQUARIUMS IN THE LIME LIGHT



Bringing the public's attention to the wonders of the fish-keeping hobby is just one of the ways that the stars of television's **Tanked** are helping to support the aquarium trade.



Anyone who has watched the popular Animal Planet show **Tanked** knows it is a lot of fun to watch brothers-in-law **Wayde King** and **Brett Raymer** go through the ups and downs of designing, fabricating and setting up aquariums for Acrylic Tank Manufacturing (ATM) in Las Vegas. But what is more important to members of the pet industry is the fact that the show has given the tropical fish trade a much needed boost.

It is no secret that the aquarium hobby has

faced an uphill challenge in attracting younger generations, due in large part to the Internet, video games and the many other technological distractions that occupy their time. However, the stunning aquarium designs that are regularly featured on **Tanked** have gone a long way in capturing the imagination of the viewing public—hopefully, helping to turn the tide for the hobby.

While King and Raymer have enjoyed the fame that has come from starring on the show, they get more gratification out of their role in



strengthening the aquarium industry—although they have had to defend themselves to retailers who have questioned their “instant” tank installations. The problem was that editing of the show took out many of the more boring technical details.

“People were badgering us at shows and asking, ‘How do you set up a tank so quickly?’” says King, who is the CEO of ATM. Both he and Raymer, who is the company’s COO, are passionate about keeping fish properly, and like many experts in the aquarium industry, they understand that quick set-ups can be accomplished using biological media such as bacteria to cycle a tank virtually instantly.

“The thing is, today when you set up an aquarium, it’s very difficult to cycle quickly, but if you use seeded bio-material, have natural seawater, and put in live sand and bacteria, that tank is done and ready to go,” notes King.

Unfortunately, the producers of **Tanked** originally did not highlight this process on the show. As a result, some viewers were going into their local pet store demanding instant tanks without realizing what went into these quick set-ups. Thankfully, the show started delving into these factors more and more in later seasons.

Most of the feedback from the pet industry has been positive, say the **Tanked** stars. “I like the fact that people come in here and thank us every day for making their store survive through the [difficult] economy,” says Raymer. “I think we’ve invigorated the industry.”

When asked how can pet stores sell more aquariums, both Raymer and King say that having great display tanks is the number-one way to drive sales of tanks, as well as fish and products. “Every pet store with aquariums should have at least three nice display tanks, including a reef, a freshwater with live plants, and a regular saltwater tank where you can show the world what you can do,” says King. He also stresses that having display tanks allows customers, especially kids, to “see the tank, touch it, and realize they love that tank and want to have one like it at home.”

The hardest part of setting up a display is

decorating it. **Robert Christlieb**—called Redneck on the show—oversees ATM’s entire manufacturing process, but he used to be in charge of making the decorative inserts that would be the focal point of the company’s tanks. He says that as long as the “décor is safe for the fish, you can do anything with a tank. You’ve just got to have a creative mind.” He suggests looking at books, tanks at other stores and photos on the Internet for inspiration.

Raymer believes that another way pet retailers can sell more tank setups is by making sure the store is always well maintained and clean. King agrees, noting that the livestock within the store should also be well cared for. “A lot of people will go around an area visiting many different pet stores and will say to themselves, ‘Oh, this store is dirty, and this one is disgusting, and this one smells, and this one doesn’t have nice looking fish,’” he says. “But if your store is clean and has great and healthy fish, you’re going to be successful.”

King suggests that any pet retailer that sells aquarium setups should have either maintenance available through the store or a trusted third-party affiliate. This can be a great selling point, especially for getting larger tanks into businesses that do not want to care for the aquariums themselves. Some stores have found that the income generated by taking care of aquariums, or by getting a commission from a maintenance company, can help boost the store’s revenue.

According to **Frankie DiLuzio**, ATM’s head of residential sales, selling more fish and setups starts with having a good knowledge base. “The more knowledge that you have in this industry, the more you can help your customers out with whatever they need, and the more successful you will be,” he says. “The more time that you spend with your customer, give your customer the information that they need, and they know they can count on your store help, the more they are going to tell their friends about you.”

To gain the necessary knowledge, DiLuzio suggests that retailers be sure to learn every aspect of how everything sold in the store works to keep



a tank clean and the fish healthy. It is also important to keep up with the latest trends and advancements in the fish industry. Although not completely new, the best innovation in the aquarium industry—and the one that has been advancing more and more—is LED lighting, says **Jacque King** (no relation to Wayne), retail manager for ATM. “LED lighting is a big step in the right direction, although we’re not 100 percent there yet,” she says. “I think we have a lot of growing to do in that area.”

ATM has been working on adding LED lighting to its proprietary product line, which includes a bacteria product called Colony, as well as an all-natural water conditioner, an acrylic cleaner and a phosphate remover. As for other products, ATM will soon offer a high-quality sea salt that has a high amount of necessary elements, dissolves quickly and easily, and is reasonably priced and very consistent. The company has been testing it for over four years, says King, and those who have tried it “love the salt.” ATM will also soon offer carbon, as well as a line of fish food that will include floating and sinking pellets for fresh and saltwater. The food will not be baked, as this can cause a loss of nutrients.

Of course, what ATM is known for is making tanks. Any pet store can call and order an acrylic

tank of any size and shape from the company, as ATM has been doing both retail and wholesale for years. In fact, when Tanked first aired, hundreds of pet stores contacted ATM once they realized they could order custom tanks for themselves and their customers.

“We’ll do any size from a very small to a very, very large tank that can be either simple or complex in design,” says Wayne King. “Everything is built to order.”

In addition to its custom work, ATM is developing a line of small, packaged tanks that can be set up on a counter top. The designs for these mini-tanks will be inspired by some of the aquariums that have been set up on the show, such as a gumball tank and possibly a skateboard tank.

Another important development for retailers that King and Raymer are proud of is the creation of an online directory—on their website—that pet stores, maintenance companies and installers around the country can join for a small fee. Then tank customers can look up who is available in their area, what they offer and what they can do to help with the customer’s aquarium.

The affiliate program is reflective of King’s passion for the pet industry. “We’re trying to help every store out there, and to make the aquarium industry stronger and better for everyone,” he says.







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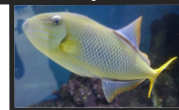
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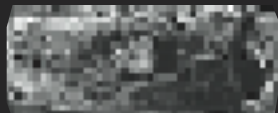
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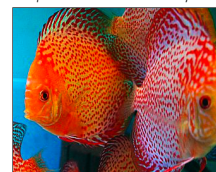
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Meetings are held at the NY Aquarium Education Hall on the 2nd Friday of the month at 7:30pm. Knowledgeable speakers on fish care and culture, door prizes, raffles, and fish auctions. All meetings are free to members. Visit us on line:  
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PHONE (DAY) \_\_\_\_\_ (EVE) \_\_\_\_\_ (FAX) \_\_\_\_\_

E-mail Address \_\_\_\_\_

TYPE &amp; LENGTH of MEMBERSHIP: (CHECK ONE)

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FAMILY

[ ] \$15 STUDENT 1YEAR

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2yr.

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4yr.

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\$25

2yr.

\$45

3yr.

\$63

4yr.

\$85

(UNDER 18 YEARS)

\*If family membership, please list all family members. Only first two listed will have voting rights.

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

4 \_\_\_\_\_ 5 \_\_\_\_\_ 6 \_\_\_\_\_

Number of tanks [ ] marine [ ] freshwater [ ] Do you breed fish?  
[yes] [no]

If yes, what types do you breed: \_\_\_\_\_

Special interest (if any) \_\_\_\_\_

How did you hear about BAS [friend] [dealer] [flyer] [Aquatica] [mag ad] [online]  
other \_\_\_\_\_

To volunteer check [yes] [no] A board member will contact you if you check yes.

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Member number: \_\_\_\_\_ Type of membership [F] [I] [S] Date  
paid: \_\_\_\_\_ Board approved date  
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