



AQUATICA

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BUTTERFLY FISH - *Pantodon buchholzi*



PHOTO: JOHN TODARO



107 YEARS OF EDUCATING AQUARISTS **AQUATICA**

VOL. 31 MAY-JUNE 2018 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 18. Send inquiries or membership checks payable to:

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BROOKLYN AQUARIUM SOCIETY

CALENDAR OF EVENTS ~ 2018

No meetings in July and August

We're off on vacation...
see you all in
September for a great
new season of
Educating Aquarists.



MAY 11 Giant Spring Auction ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

JUN 8 James Perrenod, President of Discus R Us - Discus Keeping Q & A Session ~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

NO MEETING JULY & AUGUST

SEPT 14 Justin Spall, H2OPlants.com - Setting Up a Plant Room. ~ Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods.

OCT 12 Giant Fall Auction ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods..

NOV 9 Greg Sage - Selective breeding - Followed by an auction of marine fish, aqua-cultured corals, freshwater fish, plants & dry goods..

DEC 14 Holiday Party ~ Members, their families & friends • Fish Bingo & Prizes • BAS awards presentations.



TONY KROEGER - BAS



What Kind of Butterfly is that?

The African Butterfly - *Pantodon buchholzi*

Weird! That describes the African butterfly fish.

Big head and mouth, big eyes and pectoral fins, weird shape. A true oddball fish and interesting to keep in your aquarium.

Native to Nigeria, the African Butterfly grows to 4" inches. It is milk chocolate in color with a dark chocolate band eye to jaw and irregular dark chocolate marbling on the body. All the fins have irregular rows of dark chocolate spots.

And those fins! Well, they're odd too.

The dorsal is very small and set far back on the body. Pectoral fins are large, long and broad. Seen from above when extended (most of the time), they do look like a butterfly's wings. Pelvic fins are small but have huge filamentous extensions of the fin rays. The anal fin is broad and long and notched in the male.



The center of the caudal fin is greatly extended ala Congo Tetra style. This is a twilight active fish.

All specimens offered are wild caught and usually imported from Nigeria. Price is usually reasonable and most stores offer this fish, or can obtain it for you.

African Butterflies are surface fish. They

never feed or rest on the bottom unless they are sick. They feed only at or very near the surface.

A long, shallow tank is best for these fish. A 20-gallon long or a 55-gallon tank is fine

African Butterflies do not like strong currents. Use a small power filter with a sponge filter. Dark substrate and background is a must, as are floating plants. I highly suggest the use of watersprite with this fish. The Butterflies will hide under the floating leaves all day and the plants also block the Butterflies from bright light which they do not like. They also love their own



"floating cave." I cut styrofoam coffee cups in half and float them. Your Butterflies will happily call them home! Of all the aquarium fish species I've imported, this fish jumps the very best! I once opened a bag of 100 from Nigeria to transfer into a tank. By the time I had the cover off the tank all 100 Butterflies were out of the bag and flopping around on the floor, in less than a minute.

When you use a net to move this fish, always cover the net with your hand. If you don't the Butterfly will jump right out of the net while you're holding it. Always be sure this fish is covered immediately and completely! If you don't, you'll find your butterfly dried up on the floor.

African Butterflies are peaceful with fish they cannot swallow and not surface inhabiting fish.

Never keep this fish with Danios, which it will eat or fight with. Likewise, no fin nippers such as Tiger Barbs or Serapes which will shred the Butterfly's fins. They do fine with midwater fish like Angels and substrate fish like Corys and Rams.

For water, use low to medium hardness slightly acidic water that should be kept warm 78 - 84°F is good. I change 30% weekly. Keep your water quality high. They do tolerate poor water quality in shipping, but don't push your luck.

Feeding should be live food only, although some specimens will learn to take large flakes eventually. Feed your Butterflies small feeder guppies, mealworms (use a tweezer to hold them at the surface), and crickets which they love and will gorge themselves on. They also love ants of all kinds (except fire ants) and spiders.

Many specimens will learn to eat freshly swatted houseflies, moths and mosquitoes if you



throw them onto the surface so they appear to have fallen off a leaf. Any food which sinks below the surface will be ignored.

I feed mine daddy long legs as a special treat which they go completely crazy over.

Breeding African Butterflies is not too hard, but raising the fry is difficult. Certainly good for BAP points.

Adults are sexed by looking at the anal fins. Males are notched. Females are straight.

Condition the adults heavily on live and fresh swatted insects. Use a 20-gallon long with floating water sprite and an airstone for one pair. No substrate. Cover the external bottom and all sides (except for the top 1/3rd of the front glass) with black construction paper. Use peat moss extract.

Butterflies spawn at the surface. An average spawn is from 80 to 200 eggs. Remove adults after spawning. Always make sure you've covered the tank!

Eggs float among the watersprite. They're transparent when first spawned, but soon turn brown then black as they develop. Eggs will hatch in about 36 hours.

Now comes the hard part; raising the fry. The fry are not all the same size at hatching and accept only live food. Try live cyclops and newly hatched baby brine shrimp at first. Keep the lighting dim; you can use a flashlight to draw the cyclops and baby brine shrimp to a concentrated surface area near the plants. The baby Butterflies will eat them this way. Larger baby Butterflies readily cannibalize their smaller brethren so you must sort them frequently to keep similar sizes together. Given good water quality, they grow fast.

African Butterflies are very unusual and worth the effort. Try some.

Happy fishkeeping.



70n4



Mike Zajac - MAS

Reprinted from *TropiQuarium* - Official publication of the Motor City AS
December 2017

BUG BITES

A review

A few months ago, Jeff was able to get me some samples of **Bug Bites**, so I could give them a try.

Bugs have always been an important food for fish. In Michigan, most people are familiar with the Giant Michigan Mayfly, *Hexagenia limbata*. The fishfly is one of the most important foods in the food chain. In Lake St. Clair and Lake Erie, the fishflies can be a problem when the wind blows them on land. The hatches can be so large that the Nation Weather Service has tracked some of the hatches on Doppler radar. Most of their life cycle, they are found on the bottom of the lake. Old-time perch fishermen will anchor their boats and use mudders to stir up the bottom so perch can find the larva of the Mayfly. In the winter, ice fishermen can sometimes find larva as bait.


The idea of Bug Bites is that fish are used to eating bugs in the wild, and they will hunt them down. In the package, you will not find anything that looks like bugs. What you will find



are pellets small or large. Their idea is to try to create a fish "super food." Bug Bites are created by Fluval by using black soldier fly larva. The larva are fed human-quality fruits and vegetables. They are harvested and ground up. They are then processed using other ingredients, amino acids, and other additives. I would recommend you check out Fluval's website at www.fluvalaquatics.com. They have an excellent video

posted to explain the process.

I have found that my fish do aggressively hunt down and eat this food. When I first got the product, I tossed some floating pellets into a Cory grow-out tank. I figured that the food would eventually sink. Instead, my Cory went up to the surface and fed on the food.

Bug Bites are a product that I would use again. I would hope that Fluval will make larger sizes of Bug Bites for aquarists with large numbers of fish and aquariums. 



What I Feed my Plecostomus


Probably the most often asked question I get is “What do you feed your plecos?” As varied a diet, the better and this holds true for *plecostomus* as well.

Regardless of genus or species, I always keep wood in the tank with them. As fry, even with full egg sacs, I believe it is vital for success in raising them to have some seasoned wood available for them to graze on. By seasoned, I mean wood taken from an established tank which is already soaked, soft, and has a biofilm (a thin film of bacteria) covering it, not a dry piece off the shelf. In addition, for fry, seasoned leaves also provide this vital biofilm and works as well as wood. I personally use oak leaf litter in quite a few of my tanks so there is always some available if needed when fry are on hand. The types of wood I use are Beech and Alder, but there are a good many types that are safe to use. Some quick research online will assist with what is acceptable to use and which are not, such as Pine.

Now as you read on, please keep in mind, species that eat/require more meaty foods in the wild get more of the meaty type of foods. *Ancistrus* get more of the wood diet with some vegetable based foods and omnivores get a good mix of it all. This all boils down to knowing what your fish should be eating. Frozen foods are some of the better types of the foods I offer. The ones I use regularly include: Bloodworms, Shrimp (what we eat!), most of the Repashy gel types and earthworms. The sinking dry foods that I use most often include: Sera Catfish Chips & VipaChips, Earthworm, Krill,

Shrimp, Carnivore, Blackworm and Spirulina pellets.

With dry foods, my thinking is that each type is made with different ingredients and may provide a slightly different nutritional value than the next, so occasional feedings, even if it is only once every couple of weeks, gives your fish a little better balanced diet. Foods that I have that fit into this category include, in no particular order: an assortment of New Life Specrum pellets, Plecocaine, Hikari Wafers, Xtreme Cat Scrapers & Catfish PeeWee, Trout Chow, and anything I receive in a raffle or as a door prize....all you hobbyist, who attend shows, conventions or club meetings know about those! With all of that said, another factor to look at is that in every tank of plecos I maintain, I keep active, open water fish with them. This keeps them relaxed as they know some large predator isn't lurking above them ready to cause problems! The bottom feeders will have the opportunity to feed on what those fish are being feed as well. That would mostly be a wide selection of about a dozen types of specialty and commonly used flake foods and often live baby brine shrimp, live blackworms, canned green beans, and seasonal live daphnia and mosquito larvae.

All too often I see hobbyists spending good money on nice fish and have disastrous results, or at best minimal success just maintaining them, because they feed one or two of the cheapest foods they can find, with a “special treat” of something decent once a week! All fish need to have a good, proper diet to thrive and reproduce. 



Rich Bressler - ACLC

Reprinted from *Tank Tails*, January 2018 Vol. 47. Issue 1
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SUMMER TUBBING 2017

Breeding of the Silver Tip Tetra



Silver Tip tetra - *Hasermania nana*

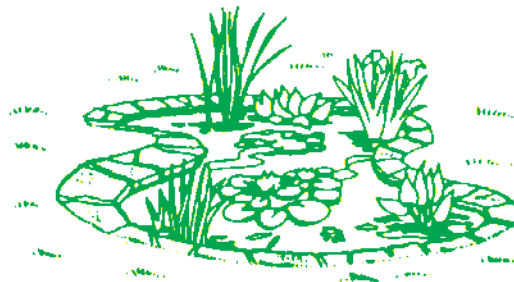
My interest in summer tubing was peaked after a great presentation by Rachel O'Leary at one of our ACLC meetings. She describes the process and which types of fish would be good candidates for outside tubs. Then after a visit to her fish room to purchase some of her fish, she showed me her outside tubing operation. It was quite impressive!

In the summer of 2016, I set up my own backyard tubing operation. I acquired a 30-gallon plastic tub and a 100-gallon plastic tub. I also had a 150-gallon galvanized steel tub which I had for years. A Tetra Whisper 60 air pump with a gang valve was used to power Hydro sponge filters. Each tub received some floating water sprite, Hornwort, and some potted water lilies. Then after about a week, 8 Chili Rasboras went into the 30-gallon tub. Eight *Microdevario nana* went into the 100-gallon tub and 8 *Danio choprae* were added to the 150-gallon tub. All the fish were new purchases and were added right into the tubs.

The fish were fed very lightly about once or twice a week. Some water was added occasionally

because of evaporation. The two smaller tubs looked great, plants were growing well, and the water had a nice clear amber color. The 150-gallon galvanized tub, however, was not doing well. The water seemed brown and plants were kind of dwindling away.

Early in September it was time to harvest the fish along with what we hoped would be a new crop of babies. All the adult Chili and *Microdevario nana* were recovered, but no babies. The galvanized tub contained no adults or babies. The tub with the Chili Rasboras also produced some turquoise rainbow babies. Apparently, the adult rainbows in my aquarium had laid eggs in the plants before I moved them outside. So, summer 2016 was pretty





much a failure, but some lessons were learned.

When spring of 2017 rolled around, I scrapped the galvanized tub. and bought another 100-gallon plastic tub. This time I set the tubs up in May with just the plants. I also tried adding Guppy Grass (*Najas guadalupensis*). A more powerful air pump, the super Luft pump, was also installed. This time I went with Silver Tipped Tetras in the 30-gallon tub, Black Neon Tetras in one of the 100-gallon tubs and Brilliant Rasboras in the other. I also added Red Wag Platies to my 40-gallon in ground pond. All fish were conditioned in my aquariums and then moved outside near the end



Guppy Grass, *Najas guadalupensis*

The Silver Tip Tetras had produced a nice crop of fry and again we got some rainbowfish, this time Red Rainbows (*Glossolepis incisus*), fry as a bonus. No fry were recovered from the Black Neon Tetras or the Brilliant Rasboras. The Red Wag Platies had pretty much over populated the pond. I would call the Summer of 2017 a half success. Again, some valuable lessons were

learned.

I believe if you want to spawn egg scatterer, you should go with the guppy grass and no floating plants. If you are going to have lots of floating plants, you might want to try some type of Anabantid.



Red Wag Tail Platies


of June, giving the water almost two months to cycle and allow for microscopic life to grow.

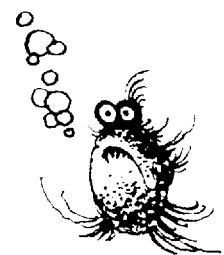
By the end of July, the guppy grass had grown very thick in the 30-gallon tub and we started seeing baby Silver Tip Tetras swimming near the surface. The two 100-gallon tanks were a different story. The water lilies and surface plants had taken over and shaded out the guppy grass. This probably gave the adults less breeding spots and the fry nowhere to hide. Meanwhile the pond was loaded with Red Wag Platy fry.

We emptied the tubs and the pond at the end of August. We recovered all of the adult fish.



Red Rainbows, *Glossolepis incisus*

I am now looking forward to the summer of 2018. Hopefully with everything I have learned from my previous failures, it will be a complete success. I hope this article will inspire others to give it a try and possibly learn from my mistakes. Outdoor tubing is really fun and not that expensive. 





Mike Hellweg, CFN (Certifiable Fish Nut) – MAS
Reprinted from the *Darter* May/June 2017 Vol. 43 No. 3
The publication of the Missouri Aquarium Society

The Blue Pin Tail Gourami

Malpulutta kretseri

A C.A.R.E.S. Species



Hiding among the leaf litter on small Sri Lankan streams, and even among the leaves and plants growing in some family water collection and storage tanks on the island is the gorgeous, yet little known dwarf gourami - *Malpulutta kretseri*. I've been told local boys collect them and gave them the name that translates to Blue Pin Tail.

Males are among the most stunning of freshwater fishes. They are a pale tan color, covered with metallic blue dots. The unpaired fins are bright metallic blue. The dorsal fin can extend well past the caudal base and the central rays of the caudal form a pin tail that is sometimes as long as the rest of the fish!

For many years, this fish was been rumored to be extinct, nearly extinct, endangered, or threatened, depending on the source you read. Due to the recently ended long and brutal civil war in Sri Lanka, actual data is hard to come by, even today. They disappeared from the hobby in the late 1980's, leading hobbyists to fear the worst. But in the last few years, numbers of them

have made their way to Europe and from there to the US. Prices reflect their scarcity in the trade, and paying \$150 for a pair is not unusual. Once a few more specialized breeders bite the bullet and start working with them, I see that price coming down quickly.

The fish are remarkably undemanding for such a rumored "delicate" fish. In my experience, they are remarkably hardy and prolific. The biggest disappointment is that these gorgeous fish are extremely shy. This could lead to being thought more rare in the wild than they actually are because they hide all the time.

Males prefer caves, and females seem to prefer hiding in plants. Most of the time even with small dither fish you don't see them and the tank looks empty. Sometimes a week or more will go by without ever seeing them, especially the females. Not even food can bring them out, though Grindal worms will sometimes coax the male out into the open.

Oddly, young fish are just the opposite, gregarious to the point of not letting other non-kretseri in the tank even get something to eat. Upon reaching maturity, however, they also take on the secretive ways of their parents.

A tank setup is simple. I kept a single pair in a 10-gallon tank, filtered by a sponge filter



(before my Mattenfilter phase). The tank was tightly covered; as with many other small Anabantoids, they are excellent jumpers. The tank was full of caves and plants, and the surface of the tank was completely covered with Water Sprite (this was back when it grew like a weed for me; I can't keep it alive now!). I kept them at a pH of around 7.0 - 7.2 with a total hardness of 125 ppm, mostly from carbonates (about 70 ppm). Temperatures were in the low to mid 70's. They appeared to stop spawning when it gets close to 80°F in nature; they are also a hidden nest spawner. My males have preferred to spawn in caves made of inverted flower pot saucers with a notch in the side. You'll know something is up when the male doesn't even come out for a nice, juicy worm, or if he does, it's a quick dash and back to the cave. It seems that almost magically one day you are presented with a group of 25 to 40 fry when they become free swimming.

I remove the fry to another tank as I see them, though I've missed some and they've grown up in the tank with the adults, so they don't seem to be serious fry predators. This is similar to their cousins,

Pseudosphromenus cupanis and *P. dayi*, neither of which are fry predators to a great degree. Over the last year or two that I kept them, I noted a couple of nests that were made by young males in caves up against the front glass. They are small, barely larger than a dime. Spawns are likewise small. I've had some spawns as large as 60, but some of the first were only a dozen or so. I fed the adults and juveniles a variety of foods - live and freeze dried. Rehydrate freeze dried foods for 10 - 20 minutes, then feed to the fish with a baster like brine shrimp. They loved



newly hatched brine shrimp, small *Daphnia* and *Moina*. They also enjoyed smaller worms like Grindals and young black worms. The fry ate microworms, 'Walter Worms', Cyclopeeze, Golden Pearls and APR, along with grazing microfauna from the large number of plants in the tank.

The species was kept alone. My interest is mainly in breeding and studying fish, not in keeping a "community," though I do have a few of those. Most of the folks that received fry from me reported a similar shyness when the juveniles reach spawning age. Thinking Pygmy Rasboras would act as dithers and make the kretseri feel comfortable enough to spend time in the open, at least one person tried to keep adult fish with this diminutive fish. His kretseri nearly starved to death! Judging by their shyness, they probably won't do well with a lot of other fish.

If you come across these rare gems, don't hesitate to give them a try. Provide them with their own tank set up in a simple manner as outlined above, keep them cool, and they'll provide you with more fry than you

know what to do with! 

Photos from www.seriouslyfish.com
(c) Choy Heng Wah, Colin
Dunlap & Kohr Harn Sheng



Tony Kroeger - BAS

NOTABLE NATIVES

Once again we begin our survey of native aquarium fish well worth acquiring.

The Sheepshead Pupfish

Cyprinodon variegatus



We'll start with a killifish - the Sheepshead Pupfish.

The best place to find this beautiful killie is in a local pet store's ghost shrimp and sales tank. Many times this fish is mixed in with ghost shrimp accidentally.

Both occur in brackish to a fresh marsh environment. Ghost shrimp collectors always catch them together and seldom segregate the pupfish out.

Usually you can obtain these fish very cheaply. Of course you can collect yours in any brackish marsh type environment too. It is native from Cape Cod to the Texas/Mexico border and along the U.S. Atlantic and Gulf Coast.

All pupfish are pretty! Sheepsheads have a squat thick body that is metallic silver, covered in wavy black marbled stripes. In the males, add a neon tetra blue nape from snout to dorsal fin and extending down the sides. The fins on the male are pink or yellow and usually are edged in black. The ventral and anal fin have metallic orange or blue edges in males.

Growing to less than 2 inches, you can easily keep a trio in a 5-gallon aquarium.

They do not need a heater, but do need an aquarium cover, they jump very well!

I keep mine in 25% salt water and changes 20% three times a week. This fish loves water change and just glows after them. Water changes also spur and trigger breeding displays and activity.

A sponge filter with sand and a breeding mop is all these fish need. I like to add a bit of hornwort and water sprite or duckweed for some cover too.



They do seem to nibble on plants just a bit. Pupfish are very easy to feed. They love all foods flake, frozen, pellets. They especially love mysis and brine shrimp, and of course blackworms too!

Sheepsheads are peaceful with other fish. They do very well with gobies, especially dragon gobies, blennies, and other killies.

This fish easily tolerates full salt water if given time to adjust and makes a good companion for seahorses and pipefish too!

Do not, however, put 2 males together. They can and will fight, sometimes to the point of one killing the other. Pupfish must have hard alkaline water. Do not use soft or acidic water with these killies; soft water will kill them. Added salt is optional. I add enough salt to bring my specific gravity to 1.005 - 1.010. But you can also just add 3 teaspoons to a 5-gallon tank too. When you make a water change remember to add some salt back.

These are hardy long lived killies, often living for years. They seldom fall ill. This killie is used for toxicology studies of sewage plants, so you know it's tough.

These killies breed easily. They lay their eggs in a mop after a very vigorous and colorful display by the male. A male Sheepshead in full breeding display is an electric neon blue, metallic silver and flashing pink and yellow. It is a sight not soon forgotten.

About 150 eggs is a normal spawn which sometimes extends over a few days. That's okay though; the breeders do not eat their own eggs.

If you remove the eggs and rigorously aerate them, your percentage of healthy hatched fry increases. Eggs left in unaerated water produce more belly sliders...so aerate those eggs! The eggs hatch in a week. The babies take newly hatched brine shrimp upon becoming free swimming and are easy to raise. They do grow slowly, however, so be patient.

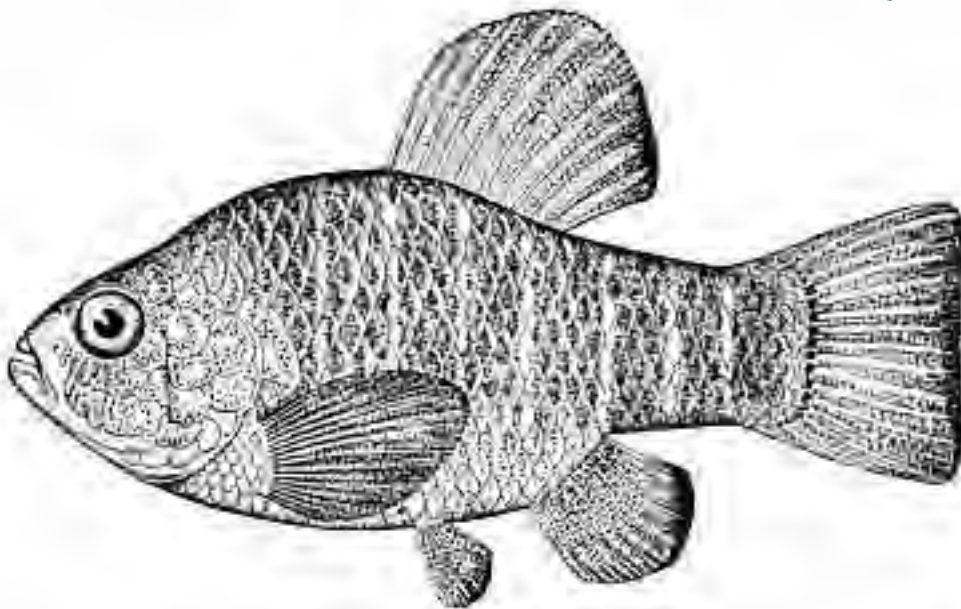
Both fry and adults easily handle wide changes in salt if acclimated over time.

Note: Always check to be sure that keeping native fish is legal in your area.

Check out those ghost shrimp feeder tanks and get some Sheepshead pupfish.

You'll be glad you did. 

70n4





Ryan Curtis – BAS

TheShrimpFarm.com is the place to go for freshwater shrimp. The new owner is **Ryan Curtis**, with a new mailing address: The Shrimp Farm USA, 2401 East Washington St, STE 200 A2, Bloomington, IL 61704 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 Freshwater Aquarium Shrimp.

The Best Types Of Fish For Your Shrimp Aquarium

It's very important that you get the right types of freshwater fish for your shrimp tank – choose the wrong types of tropical fish and you could end up unleashing an Armageddon for your poor little shrimp! There have been dozens of stories reported to us of people releasing their new shrimp into their aquarium, only to see them instantly be gulped down by predatory fish who think it's Christmas time!

The problem with shrimp and different types of fish is that for many of them, shrimp are the natural food for many types of freshwater fish. Many types of tropical fish see shrimp as delicious snacks, or even a part of their staple diet, and so if you go putting predatory fish into your shrimp tank, or vice versa, then you are almost certainly going to see a feast of shrimp, in which your beloved shrimp are on the menu.

Types of Fish

Keeping different types of tropical fish is a great hobby, and it's an ideal one for anyone who keeps shrimp, because there are so many types that go well with them. But with the sheer magnitude of available types of freshwater fish, it can be quite difficult to know which ones are suitable for keeping with shrimp.

Environment

One more thing to consider, while we are on this subject, is whether or not your shrimp are able to hide. In nature, shrimp spend most of their lives hiding out from types of freshwater fish. Indeed, some have a natural coloration that helps them to mimic their surroundings and help them to evade predators. Shrimp breeders have completely removed this line of defense for your shrimp, with selective breeding to make them look more beautiful. Many shrimp have colors that are rarely, if ever, seen in the wild – for example; solid reds, whites, blues etc. are never normally seen. Therefore, your brightly colored shrimp

often look like a beacon for predatory types of freshwater fish.

The point of all this is not to deter you from keeping types of tropical fish with your shrimp. Rather, we just want to enlighten you so that you don't make any mistakes. Some shrimp

can be very expensive and if they get eaten, you will not be very happy about it.

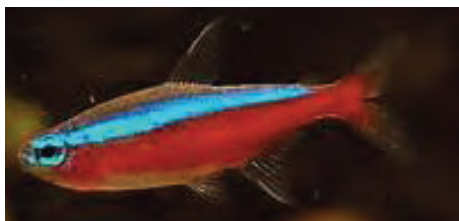
So which types of fish are suitable for our shrimp? Luckily, there are a few fish you can keep with them safely. But, it would always be a good idea to have plenty of plants and bits and pieces in your tank for the shrimp to hide from the different types of freshwater fish. As well, you should remember the golden rule:

"If a shrimp looks like it can fit in a fish's mouth, then the fish will probably eat it."

So, with this in mind, let's take a look at some of the best types of tropical fish for our shrimp aquariums:



Neon Tetras



These little fish are actually some of the best types of freshwater fish for keeping in large communities, as they don't seem to harm anything. On top of that, the spectacle of these little guys swimming around together in a school of 7 or 8 can be an awesome sight. Peaceful and small fish, they are highly unlikely to bother your shrimp, and they are very adaptable as well, being able to live in a pH range from 5.0 to 7.0 quite comfortably. These types of fish are a beautiful addition to any shrimp tank and come well recommended.

Glow-light Tetras



Much like their neon cousins, the glow-light tetras are ideal types of tropical fish to keep with your shrimp because they are small and peaceable. They act in much the same way as their cousins as well, though they are perhaps a little bit more shy, and will take time to adjust to a new tank. During this time, you can expect them to be hiding out with your shrimp.

Harlequin Rasboras



These small, intensely colorful fish are great types of tropical fish for your shrimp tank. They can be kept alone, or in shoals, or even with groups of other peaceful fish. Harlequin Rasboras generally prefer water that is slightly acidic and soft, but they can be kept in neutral or even so slightly alkaline water without too many health problems. Note that they do like to eat live food, as well as flakes, and so if you are trying to breed shrimp then keeping them together is not such a good idea when the babies start popping out.

White Clouds



Extremely beautiful types of freshwater fish, don't go making the mistake of assuming it looks like the white clouds that you see up in the sky. They take their name not from the clouds in the sky, but rather the mountain in China in which they were first discovered – the White Cloud Mountain.

They used to be known as a "poor man's tetra" due to the coppery stripe that runs lengthwise along its body and the fact they have a similar


body shape. These types of fish are not actually tropical fish, although they are often labeled as such, due to the way they do so well in tropical aquariums. These types of freshwater fish are ideal for keeping with shrimp – they are peaceful, happy enough to eat flake food and leave your shrimp well alone.

Glassfish



A delightful and incredibly unique type of tropical fish, the glassfish gets its name from its distinctive translucent flesh. You can see right through them, making out their bone structure, internal organs and more.

There are several different types of glassfish, but most of them act and look similar enough. They are usually quite shy fish, and will spend a lot of time hiding out. Non-aggressive, they are unlikely to bother your shrimp too much, and usually they never grow to a large enough size to be much threat to them.

Don't be put off by their false reputation for being difficult to keep alive. It's said that these types of tropical fish need brackish water to survive, but in the wild they are actually estuaries. So long as you keep them in true freshwater, you should have no trouble with them. 



Mike Hellweg CFN (Certifiable Fish Nut) – MASI
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The Dwarf Egyptian Mouthbrooder

Pseudocrenilabrus multicolor



It may seem hard to believe, but before the East African Cichlid invasion of the 60's and 70's, when the multitude of Malawian mouthbrooders entered the hobby, mainstream belief was that mouthbrooding was an unusual method of breeding. In fact, it was considered so unique that when the diminutive cichlid *Pseudocrenilabrus multicolor* entered the hobby about a century ago, "mouthbrooder" was strange enough that it became part of its common name.

How times have changed! Today, for many folks the word "cichlid" is synonymous with mouthbrooding! But back before the 1960's, when a hobbyist mentioned "mouthbrooder," the diminutive Egyptian mouthbrooder (*Pseudocrenilabrus multicolor*) likely was THE fish they were talking about. The dwarf Egyptian mouthbrooder is a dwarf cichlid that comes to us from the rivers and lakes of Eastern Africa. It is found from Egypt all the way down to Tanzania, though some of these locations will likely wind up being described as separate species as time goes along. They are found living among the stems and leaves of aquatic plants in shallow, slow flowing or even stagnant waters. Since they are small, they are not comfortable out in the open; keep this in mind when setting up an aquarium. They make excellent additions to the lower regions of

a planted community tank. The more plants you add, the happier they will be and the more often you will see them. Dwarf Egyptian mouthbrooders are not picky in regard

to water parameters. Our local St. Louis water seems to be fine for them with no modifications. Just be sure to keep up on those water changes! They are happy with temperatures in the midupper 70s F. They can be a bit domineering with other fish around spawning time, but usually only to the point of chasing them away from the lower part of the tank. A small group of one or two males and several females would be perfect in a planted community tank of 30-gallons or more where they will happily go about their business without damaging their tankmates or the tank décor.

They have no special food requirements. Both adults and youngsters will eat most commercial foods without problems. It is best to occasionally give them some meaty foods. You should also give fry newly hatched brine shrimp daily for the first several weeks to get them off to a good start.

At a maximum size of just over three inches, this fish certainly qualifies as a dwarf cichlid. The colors of the male dwarf Egyptian mouthbrooders are vivid and have helped made this fish popular for many decades, but it is the tiny female that



has laid the claim to fame for the dwarf Egyptian mouthbrooder. During spawning, she takes the eggs into her buccal pouch and holds them until they hatch.

Today a hobbyist might yawn and say that's not so special, but unlike most of the more popular mouthbrooders, mama Dwarf Egyptian Mouthbrooder also provides a hiding place for her fry for several days after release. As the release day gets close, the fry actually become large enough that you can make out the individual fry. It's pretty cool to see a hundred tiny eyes peeking from her throat in the days before she releases them. Another nice thing is that you don't need to set up a special spawning tank for them. If they are well fed and happy in the main tank, they will spawn regularly without having to do anything else. The males seek out an area of open gravel or sand about four inches in diameter, so it's a good idea to give them a couple of secluded spots like this around the tank. Here they construct a shallow round courting and spawning pit.

The male will put on his best and brightest colors and swim out to a group of females trying to entice one of them back to his pit. If his little dance impresses a female, she follows him. He begins circling around the pit almost laying on his side, shaking and dragging his anal fin on the bottom. He's trying to catch the light and show off his suitability as a mate. He's likely also releasing pheromones into the water to signal his readiness to mate. In many fish species, these pheromones also stimulate ovulation in the female.

A ripe female will enter the pit and follow in the circling behavior, nipping at the male's flank near his anal fin. Soon she begins laying eggs a few at a time, picking them up in her mouth and continuing to nip at the male's anal fin. This is when he fertilizes the eggs. The circling dance is repeated several times until about 80 - 100 or so eggs are laid. The female then swims off and the male goes in search of another mate.

After a day or two, it is best to remove the



brooding female by gently dipping her into a bowl or catch cup and moving her to a small tank where she can brood on her own without interference. I put a couple Zoomed floating logs in the tank and when I see a female or females inside the log, I use that as a cue to move the female by gently dipping a plastic shoebox around the

floating log and moving the whole thing to another tank. A small, slowly bubbling sponge filter and a small cave to hide in are all that she needs in the brooding tank. She will not eat at all while brooding.

After release, like most other cichlid moms, she guides the fry around the tank hunting for food. Like many mouthbrooding cichlid dads, the male is nowhere around. She provides them shelter in her buccal pouch at night and whenever danger threatens. It is comical to see the pile of juveniles all try to dash back to their mother's mouth when "danger" threatens. I've seen juveniles that had outgrown their mother's mouth still try to get in, and even the ones that do get in there have tails sticking out her mouth and heads protruding from her gills!

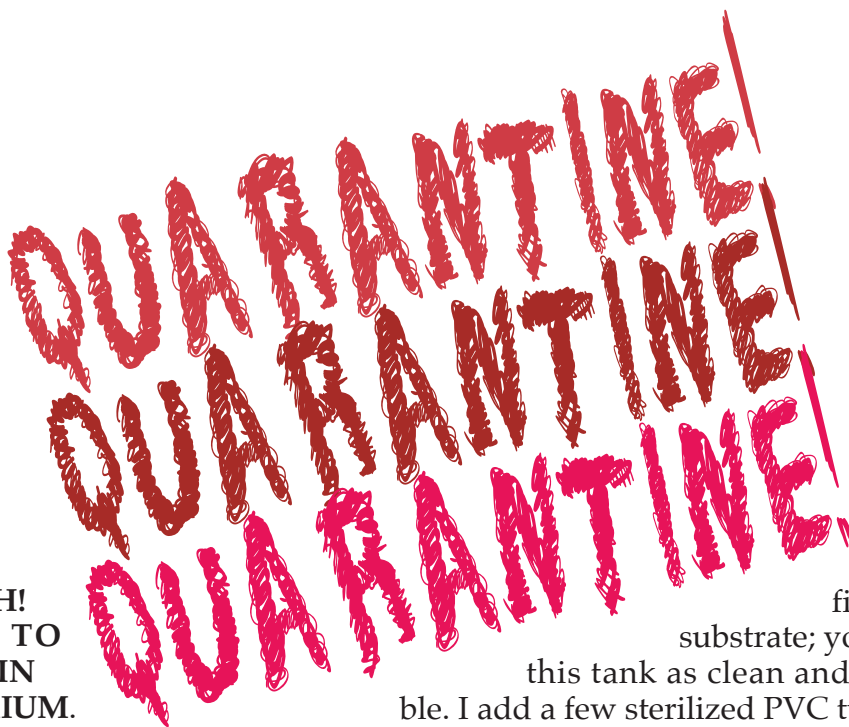
At this time it is a good idea to move the mother to a separate tank for a few days to give her time to eat and recuperate from brooding since she may have gone almost three weeks without a meal. If you don't have a separate tank, one of those Marina Hang-On Tank brooders works well. Just add a small cave or clump of plants so she can feel secure. When returned to the main tank, it's not unusual to find a female holding again within a day or two.

If you get a chance to pick up a group of *P. multicolor*, it is worthwhile giving them a try. They are peaceful, active and attractive and you will get a chance to see what captivated aquarists three or four generations ago when these then mysterious fish first arrived in the tanks of hobbyists in the USA. 🐟



IS MY FISH SICK
FISH DISEASE TIPS

The Quarantine Tank



**I CANNOT STRESS
THIS POINT ENOUGH!
IT IS THE BEST WAY TO
PREVENT DISEASES IN
YOUR HOME AQUARIUM.**

But how do you do it? And why is it necessary?

Quarantine is necessary because fish diseases, like many other diseases, have initial time frames where an infected animal shows no sign of being ill.

For some diseases, this may be as short as 24 hours. But for other fish diseases, this it could take 2 weeks or more for the initial symptoms to appear.

I think of quarantine as preventive medicine and I approach it as such.

For quarantine, I use a 10 or 20-gallon tank with a sponge filter. I tape black construction paper around 3 sides of the tank and the bottom. This helps me see any small white or yellow

spots on the fish. Do not use substrate; you want to keep this tank as clean and sterile as possible. I add a few sterilized PVC tubes for the fish to hide in.

Heat the water to 86°F. This temperature will kill ick and greatly diminish other disease's ability to replicate and multiple. 86°F is not harmful to most fish once they are acclimated to it. Even fish like white clouds will tolerate it even though they clearly do not like it. Use an airstone to provide extra oxygen to the water. For most fish, I add 1 teaspoon of salt per gallon of water as a preventive. Do not add any salt to a quarantine tank containing catfish or loaches...it will kill them.

I also add formalin or copper at one half the recommended dose to the quarantine tank.

Unless your fish appear ill, do not use medications in full dose. By using half a dose you minimize stress on the quarantined fish.



Cover all quarantine tanks completely. Fish with minimal decor as in a quarantine tank will jump from the tank.

Feed fish in quarantine 2 small meals a day, siphon out any leftover food immediately. You want to maintain a sterile environment. I change 25% of the water in my quarantine tanks daily. Nothing helps a fish to recover faster than fresh water. Be sure, however, that the temperature of the water you add as replacement exceeds the 86° F in your tank by a degree or two. You do not want to ever chill a fish in a quarantine tank because this can open it to potential diseases.

Observe your fish closely during its time in quarantine. If it has a disease or does not feel well, you'll be able to see it. Keep all new fish (or sick fish recovering from a disease) in quarantine for at least 14 days for freshwater and 21 days for saltwater.

The progression of common saltwater diseases such as ick and oodinium is slower in saltwater, hence the need for a longer minimum quarantine time.

Realistically though, if you add another week to each of the times listed you will be safer yet.

If a disease becomes visible during a fish's quarantine, then follow the manufacturer's dosing instructions for both amount of doses or number of times (duration of treatment) exactly.

Skipping doses or shortening the treatment time risks having the disease involved be knocked back but not killed by the medication. This results in the pathogen developing resistance to the medication you are using. Once this happens, it will come back with a vengeance and the medication you are using to treat it will be useless.

Also note medication has properties in water too!

Heavy medicines like copper will "settle" to the bottom. You may have a desired amount at the surface and a toxic and lethal amount at the substrate level. Fish such as corys, gobies, loaches, catfish and all bottom dwellers are especially susceptible to this. Always follow manufacture's suggested dosing amounts.

Quarantine is an essential tool for keeping your aquarium fish healthy. Use it! every time! Happy fishkeeping. 

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QUARANTINE!
QUARANTINE!
QUARANTINE!



Starfish See Pretty Well in the Deep Ocean.

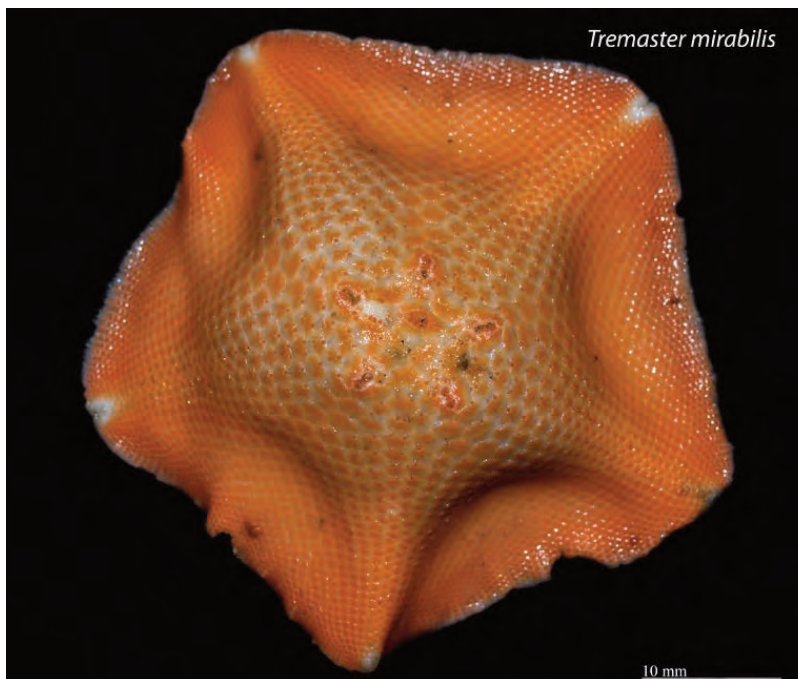
By the Way Starfish Have Eyes.

Look at a starfish in a tidal pool and you may think: ah, there's one of those pretty, multi-armed sea worms that crawl around and don't do much. But look deeper and your views might change.

Hundreds of feet below the ocean's surface, some starfish make their own light. And they can look right back at you too, with a teeny eye on the tip of each bendy starfish arm.

Scientists, who didn't even know if deep sea starfish had eyes, did not expect to find this.

They collected starfish from Arctic waters off Greenland's coast to determine which species had eyes, and for those who did, how well they could see. The researchers found that some starfish are far more biologically complex than previously thought, after looking



Tremaster mirabilis

The *Tremaster mirabilis* starfish, one of several species of sea star living in deep waters off Greenland's coast that have surprisingly complex eyes.

Credit Olga Zimina, Greenland Institute of Natural Resources

at the structures of their eyes, their behavior in a simulated environment, whether they glowed in the dark and what tasks in the wild would make eyesight useful.

"Even in places where the sun doesn't shine, it's far from dark," said **Anders Garm**, a marine biologist at the University of Copenhagen who led the study published Wednesday in *Proceedings of the Royal Society B*. "There are animals there making their own lanterns and finding their way."

In deep sea habitats, life-forms acquire bizarre adaptations

to living under high pressures and without light. By the time you get to the bottom, most fish and crustaceans lose their eyes and rely on other senses. Or they modify them, sacrificing a



sharp picture, for a bigger one — kind of like what we see when our eyes adjust to a dark room.

Scientists thought deep sea starfish would also be eyeless, or at the most have very simple eyes. But as they examined specimens they retrieved, they found that many starfish had unexpected visual tools.

They sampled 13 species of starfish, which were representative of the diverse ecologies of underwater life. They found that all but one species that burrows in the ocean's sediments had eyes. Two from the deep glowed in the dark. One,

Novodinia americana, had a whole body that lit up when stimulated, and its eyes, with bigger pupils, were capable of detecting even sharper images than their shallow water relatives.

Because their eyes are on the underside of their arms, starfishes must do some aquatic yoga to direct their gazes, the researchers found. Some starfish bent their arms like a periscope at a 90-degree angle. Others, from the twilight zone, bent

their arms completely backward, as if looking up to gauge day or night.

But why go through the trouble of making light and creating better eyes for detecting it when most starfish navigate using their sense of smell.

Different tasks place dif-

In the deep sea, starfish may make light for a few tasks.


Starfish often find mates using pheromones. But in the deep sea, a starfish even just a few inches upstream from a potential mate won't know it's there. So they may light up to signal to each other, while

remaining invisible to scent-detecting predators.

Seeing light could also help them locate glowing food sources or hide from bioluminescent predators.

In order to better capture this light, just as you would widen a camera's aperture to take a photograph of a dark place, starfish species deeper down have

larger pupils to collect light from a larger space.

While they appear to be communicating with light, "who knows what they're saying," said Dr. Garm. To find that out, he plans to observe deep sea starfish in the wild with cameras on a remote operated vehicle. "If we can show that they communicate with light in the deep sea, that would be pretty astonishing." 



The *Novodinia americana*'s entire body lights up when stimulated, and its eyes have bigger pupils with better vision than starfish in shallower, brighter waters.

Credit Olga Zimina, Greenland Institute of Natural Resources.

ferent demands on the eye, said Dr. Garm. And tuning eyes for only what matters in an environment saves energy.

In shallow water, the Crown-of-Thorns Starfish uses vision alone to travel short distances to the coral they eat. But its sight is slower than any other observed in the animal kingdom and lacks detail. Shutter speed doesn't really matter when it's trying to locate a stationary reef.



John Todaro - BAS

From the Brooklyn Aquarium Society's publication

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

Frozen Seafood Chowder

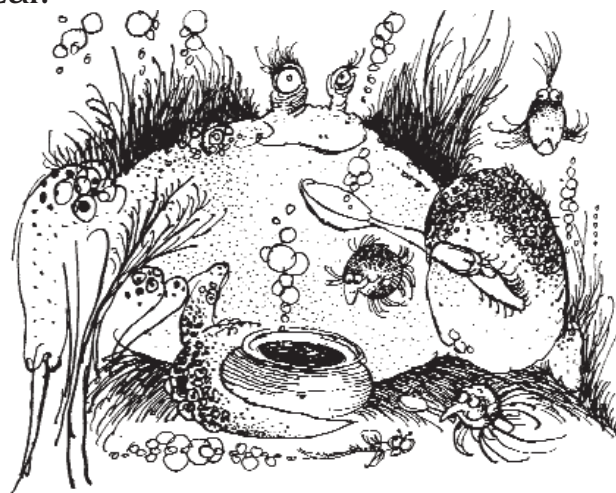
Are your marine fish costing you small fortune to feed? If your answer is yes, here's a recipe developed by the well known marine authors and speakers, **Anthony Calfo** and **Steve Pro**.

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:

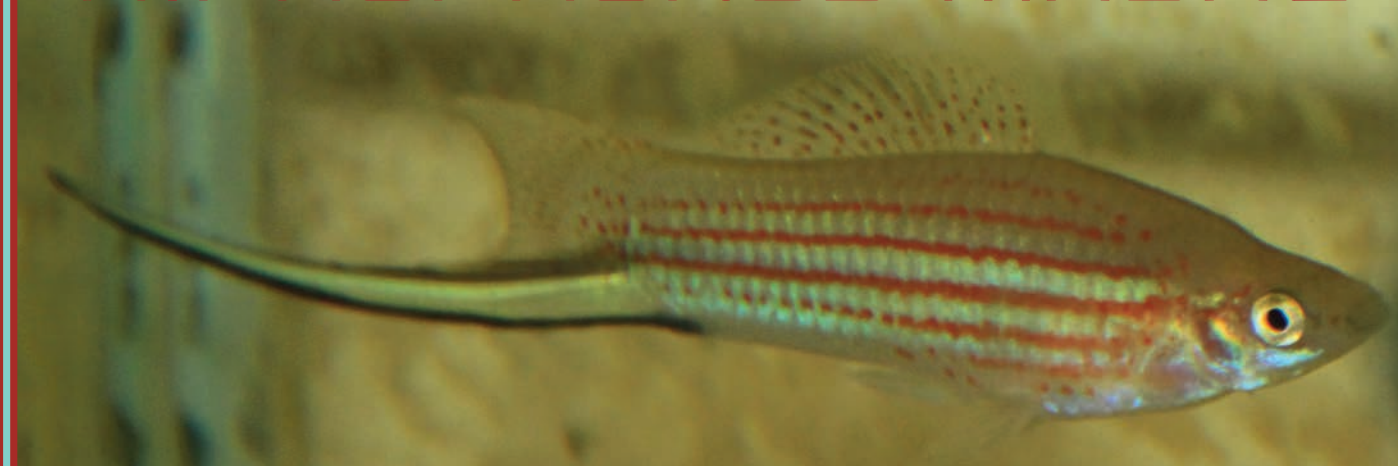
Dissolve gelatin in 10 ozs. of boiling water then let cool down a bit. Mix the other ingredients in a blender to the consistency of puree. Slowly, add the dissolved gelatin water to the mixture until it is all added. If you want the food to float longer, blend until you get many air bubbles in the mixture, 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 left overs.



XIPHOPOHORUS MAYAE




The Mayae swordtail is the largest and most full-bodied fish in this species. This beauty hails from Central America, specifically Guatemala and Honduras. The males can grow 6 - 7 inches with the sword, while the females grow to 4 ½ inches. They love hard water on the cool side with a temperature range of 70 – 77° degrees Fahrenheit. They have a pale green body with orange lateral lines throughout and spotted orange dots in their dorsal fins. The male's sword is gorgeous with its colors of green, blue and yellow.

I was given a trio of these beautiful swordtails during a meeting at the North Jersey Aquarium Society by a good friend and fellow fish breeder, **Frank Nell**. 11 days after I placed them in a heavy planted 15-gallon tank, one of the two females dropped 20 fry into the tank. It is hard to tell if the female is holding because they always appear to be pregnant; however, the dark spot on their lower abdomen never gets darker or larger, so it is difficult to identify when they will release their young. Five days later, I moved the

babies into a 10-gallon tank. In a few days, none survived... was it not enough acclimation time or was the water not hard enough for them?

Two months later, I found 17 babies hiding in the floating grass. I had a 10-gallon waiting for them with the same water as in the tank they were born in and I had coral pieces in the 10-gallon tank to maintain hardness. The fry did well, eating a varied diet of crushed flake, baby brine shrimp, and frozen mosquito larvae. They grew fast.

I highly recommend this species as a hardy and beautiful addition to any aquarium. The females do not do well in breeder traps due to their large size. I suggest keeping them in a 10 to 20-gallon tank that is filled with plants and check it daily for any fry. You will find the babies near the top of the water. Net them out and have a tank ready for them or simply remove the adults to another aquarium you have prepared in advance. I know that you will enjoy them very much. 

The Practical Plant

PROPAGATING

Najas quadalapensis

I recently acquired a specimen of this plant at a club auction. I'm always game for trying out a new plant that I haven't kept before.

The plant is a dark olive green in color. This is a plant native to the Americas. It is a stem plant which can reach a length of 1 meter. The leaves are slender and blade shaped with a slight downward curve. According to my reading, this plant will flower easily in the aquarium, although mine has not done so.

I planted this new acquisition in my Guppy tank. This set up is a 25 gallon tank where I keep all the males. The pH is about 6.8 to 7.0, temperature is kept at 78° and the GH runs about 60. This aquarium has 130 watt Compact Fluorescent lighting (Coralife "Aqualight" double strip) and CO₂ enrichment. A Fluval canister filter (model #204) with the output being directed through a submerged spray bar is doing my filtration. I use the Estimated Index system of fertilizer dosing. This means that once a week I perform a large water change (50-75%). This is usually done on Saturday. Don't worry about the large volume of water being replaced, your fish will love it. This large water change is

necessary to reset the system. Then on Saturday, Monday and Wednesday I dose the macronutrients, and on Sunday, Tuesday and Thursday I dose the micronutrient. Friday I take the day off. The

lighting is timer controlled and is on for 12 hours a day.

Under these conditions the *Najas* exhibited explosive growth. It grows at a rate that I have to consider a nuisance. This fast growth and heavy feeding habits make it a great plant for newly established systems to combat algae. To propagate this plant, just take a cutting and insert into the substrate. It's that easy. The plant will also work as a floating plant, and a cutting just left



to float in the water will grow as well. This plant has an annoying trait in that it is extremely brittle and tends to fragment easily at the nodes. Because this plant grows so fast, and branches prolifically, it is really not a suitable choice for a planted display tank. Although I can't recommend *Najas Quadalapensis* for a planted display tank, it would be a great choice for a breeding set up. 🐟

9334



Tony Kroeger – BAS

5

TIPS FOR SELECTING POOL PLANTS

Mid-winter is here as I write this, but Spring is just around the corner. With Spring comes another pool season! Hooray!

Time to add new and more plants to our pools. But how do you select plants that will do well in your pools? Here's some tips to follow and things to look for.

1 COLOR.

Pool plant leaves come in many shades of green and even some other colors. But one color that usually indicates a problem is brown. This indicates dead or dying vegetation or injury. Avoid buying any pool plant with brown on it.

2 FEEL

Feel the leaves of the plant you are buying. The leaves should feel firm and not mushy. Rub your fingers over the leaves; your fingers should slide easily over the leaves. The leaves should not feel stickily, nor should the leaves feel slimy. There is one exception to feeling slimy, that is water lilies (*Nymphaea* species). Water lilies should not feel slimy but rather slippery instead. Water beads off a healthy water lily leaf. Water lily leaves are covered in a natural protective coating. This coating is very slippery and your fingers will certainly notice this. But it is not slimy, rather just very slippery.

3 ALGAE


Always inspect every plant you buy for algae growing on it. You don't want to introduce hair algae and other undesirable, hard to get rid of algae to your pool thru the plants you buy.

4 NEW GROWTH

Look for new growth on the plants you buy. The more vigorous and extensive the new growth, the stronger the root system of the plant, the faster the plant will adjust to and resume growing in your pool. In the case of plants like lilies and lotus, a larger stronger rhizome also indicates the plant will have a greater likelihood to overwinter successfully next fall if it is a hardy species of lily to begin with.

5 PLANT STRUCTURE

Just like tomatoes and plants we put in our gardens, water plants can become spindly and straggly if conditions are not right.

It is always best to buy a more compact plant compared to a leggy one. Even if the compact plant is smaller, it will grow and adjust better. 

Follow these five tips for healthy new plants this season.

Happy pool planting.

70n4



TheShrimpFarm.com is the place to go for freshwater shrimp. The new owner is **Ryan Curtis**, with a new mailing address: The Shrimp Farm USA, 2401 East Washington St, STE 200 A2, Bloomington, IL 61704 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 Freshwater Aquarium Shrimp.

Ideal Freshwater Aquarium Plants For Your Shrimp

For all aquarists, freshwater aquarium plants are an essential part of your tank, and not just because they make it look nice and give your shrimp and fish a good place to hide. Live aquarium plants also do some very important work – they keep the tank clean, oxygenate the water, and maintain the correct pH balance in the water.

You need plants in your aquarium, but which live aquarium plants do you choose? Some plants can be very difficult to care for, requiring the right degree of light and special care to stay alive, while others can be very easy to look after. Simply plant them in the tank and forget all about them.

So let's take a look at some of the most common freshwater aquarium plants and see what we need to do to care for them.

Java Moss

These are very popular freshwater aquarium plants, and are also a firm favorite of shrimp lovers as they provide great places for them to hide in. Java moss is best attached to ornaments in your tank, such as driftwood or rocks. To do so, you'll need to use rubber bands or something similar to give the live aquarium plant a hand while they slowly root themselves to the ornament.

Java moss plants like slightly dimmed light. Indeed, they will absolutely flourish in lower light, but beware if the light is too strong or the opposite effect will happen. Bright light will stunt the growth of Java Moss and could see it being plagued by green algae.

Java Fern

Similar to Java moss, the Java fern is another freshwater aquarium plant that is popular with shrimp. These plants also prefer low light, and they grow best of all when their rhizome (green stems which the leaves grow from) are tied around the rock or ornament they are attached to. If you have larger size Java Fern, then you can instead bury its roots underneath the gravel, but you have to be careful when you do this that the rhizomes are not buried.

Java fern are easy live aquarium plants to grow, as they release spores from the tips of their leaves when ready to propagate. These spores will simply float around until they find something to attach themselves to, and then they will grow very rapidly.

Anubias & Anubias Nana

These freshwater aquarium plants are probably the most common plants for aquarists, because they are so easy to keep, cheap to buy and extremely abundant. The most popular variety is the Dwarf *Anubias*, or *Anubias nana*, although the most interesting are amongst the number of larger varieties.

Anubias are similar to Java fern – their habits and method of planting themselves are very similar. One of the key differences though, is that it's possible to take cuttings from rhizome of these live aquarium plants when they begin to propagate.

Extremely popular, Anubias freshwater aquarium plants are almost invincible to being eaten by the creatures in your tank, thanks to its large, rubber-like leaves that even the most hostile of aquarium inhabitants can't stomach.

Cryptocorynes

Generally referred to as Crypts for short, these live aquarium plants can vary wildly in shape, size and color. Crypts come in all different kinds of varieties, from scruffy looking *Wendtii*, to the pink-shaded *Petchiis*, yet no matter how they look, they are all very popular with our shrimp.

These live aquarium plants are considered by experienced aquarists to be the “next step up” from Anubias and Java fern. They still prefer dimmed light, but they need a little more care due to their complex roots – they need to be buried at a depth of 2 inches deep on the gravel, though you must take care to ensure that the crown (where the leaves are), is kept well above the gravel.

You need to be careful with Crypts as they are quite vulnerable freshwater aquarium plants. They can experience what is known as the “Crypt Melt” condition, which usually occurs when you first introduce them into your aquarium. What happens is the sudden parameter change of the water often shocks the Crypts, and the result is that they often lose all of their leaves. Try not to worry though; this is very common and almost never fatal for the plant.

Dwarf Lilies

These are very fragile plants, and very slow-growing. Although shrimp seem to like them, they can easily be damaged so it may not be a good idea to plant these if you have too many shrimp running around.

Dwarf lilies look like small arrowheads, and their thin stems can break very easily. If you do want dwarf lilies in your tank, you would be better off buying older ones that have had time to grow. This way, they will be less likely to break and you’ll also avoid buying any freshwater aquarium plants that are sterile.

Vallisneria


Simply known as “Vals”, these are very tall, grass-like live aquarium plants. It can be good for your shrimp if you have a whole bunch of these, as it provides a great place for them to hide in. When fully grown, Vals are often much likened to green onions, due to the bulb like crown which

develops at the head of these freshwater aquarium plants.

Note that Vals can be quite difficult to look after, because they are so tall. Their leaves are not easy to trim, simply because cutting their long leaves will harm them, and so they cannot be recommended for smaller aquariums, except for the smallest variety known as the Corkscrew Val, which are very intriguing live aquarium plants. Certainly, unless you have a very large tank, you should stay well away from Jungle Val, which are known to grow in excess of 20 inches tall.

Water Wisteria

These live aquatic plants are known as “bunch plants” and are very common with shrimp keeping aquarists because they root into the gravel of your tank and make nice interesting places for our shrimp to explore. Water Wisteria is especially well loved for the shape of their leaves, which are most intriguing. Water Wisteria has very loose lighting requirements and will thrive in almost any condition so long as they have plenty of oxygen and they root well.

Water Wisteria is also one of the easiest freshwater aquatic plants to propagate, as all that you need to do is snip off a nice long stem and bury it in around 3 to 4 inches of gravel, and the plant will do the rest for you, quickly taking root by itself. 

Ryan





Don Kinyon – ACLC, PVAS, CCA, JRAS, RAS
Reprinted from *Tank Tails* June 2017 The publication of the
Aquarium Club of Lancaster County

The HY511 Tetra *Hyphessobrycon* Species

Candy Cane Tetra



One of my favorite pet shops is a very small independent store that stocks mostly the bread-and-butter varieties of aquarium fish, but every once in a while will have some more unusual stock for sale. As I was wandering through the place one weekend I found some fish that I'd never seen before. There was a tank full of tetras, similar in body shape to a bleeding heart or a rosy tetra, but more colorful and very eye-catching. Most of the bodies of the fish were a pinkish-white, while their bellies and heads were more gold. Their pectoral fins were almost clear, the tails were clear with bright red ovals on the upper and lower lobes. The anal, pelvic and dorsal fins were bright red near the body, turning white towards the tips. There was a splash of black on the dorsal fin as well. These were really good-looking fish!



Female

The fish were relatively cheap, so I took ten of them home and put them into a 40-gallon tank that had recently held some *Apistogramma* species. The water was set up for Amazon region fish, so it was soft, acidic, and brown: around 100 PPM TDS, 6.0 pH, and 76° F. Filtration for the tank was an outside HOT filter with a foam block on the intake to keep small fish from entering. Most of the tank bottom was covered with java moss with some java fern mixed in.

These fish would eat anything offered and it seems that they were always hungry. Most mornings they would get flake food and some newly hatched brine shrimp, and in the evening they'd have either live or frozen food: black worms, white worms, daphnia, mosquito larva, blood worms, or glass worms. The type of food didn't seem to matter; as once it hit the water it was history!



My HY511 tetras were fairly young when I first got them and the sexes were hard to tell apart, so there was not much to do but feed them and watch. Once the newness wore off, they were pretty much forgotten for a while. What got them back into the forefront of my attention was quite accidental. I often “spotlight” the fish after the lights go out for the evening to see what’s going on with them. It’s especially useful with Corydoras or other semi-nocturnal fish and shows behavior that the fishkeeper may not see during the daylight. When I was using this technique one evening, I happened to look into the HY511 tank and saw what looked like some tiny shards of glass in the java moss near the bottom of the tank. Once I put my reading glasses on, I could tell they were young fish: probably half a dozen or so, and very small.

The next day I prepared another tank for the adult fish and moved them, trying to disturb the rest of the tank and the fry as little as possible. Of course, that never works and I made a complete mess of the aquarium. That night I spotlighted the tank once again and found that about a dozen youngsters could be seen darting around in the moss.

The young fish grew fairly quickly and soon would take the same foods as the adults, though in smaller sized pieces. There turned out to be about twenty, not really as many as one would expect

from a group of tetras. When they were mature enough, I removed them to another tank and picked out two males and one female from the original adult fish to go back into the breeding tank. By now, the adults are very easy to tell male from female: the males have an extended dorsal and get larger than the females. They also tend to be more brightly colored. The females keep an oval-shaped dorsal fin, same as the young fish and the dorsal tends to have more white on it. They don’t grow as large as the males, but are thicker-bodied.

The breeders were fed at least twice a day

with live foods and soon the females were robust and all the fish were very active. One day during the evening feeding I noticed the female was no longer as stout as she was that morning; she’d lost a lot of weight! Immediately the breeders were removed and joined the rest of their group in an-

other tank. Then the waiting started. It was five days before any trace of young could be found, and there were only a few.... at first.

By the next day there were more fry, and the following day; many more. Soon there were far too many to count. When I felt the young fish were mature enough to stand the stress I started daily water changes in their tank; first with rain water, then a mixture, then with well water. It did not seem to harm the fish at all;





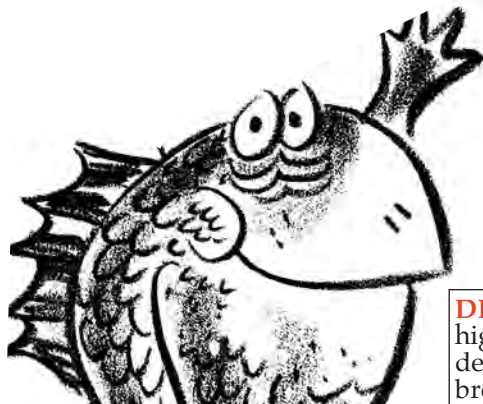
they grew faster with the constant fresh water. Soon fish from two other tanks were evicted from their homes in order to find more space for the young tetras and before it was over, the original 40-gallon, a second 40, a 55 and a 125 all had HY511 fry growing out in them. Even at that, there was some crowding. The fish room was being overrun! It's only a guess, but I'd estimate there were easily over 400 of them.

When no more than a few days old, the young HY511 would eat newly hatched brine shrimp until their bellies bulged a bright orange. They are ravenous even at this age. Growth was fairly rapid and at 10 days the fry had grown into the same ovate body shape of the adults. Finely crushed flake food was added to their diet about this time and they ate it with almost as much vigor.

When the tetras were around four weeks old and one half inch in length, I started selling them at aquarium society auctions, labeling them as "10 juveniles", but putting 15 or 16 in the bags. This made a lot of bidders happy and gave me some breathing room in my tanks. Once they were down to occupying only two tanks (one of them a 125-gallon), I slowed the sales to a more moderate pace. Pet shops won't give too much for most tetras, but I found that most local shops were happy to trade HY511 for at least some store credit. Finally, months and months later, things have calmed to normal and only one tank holds the now-adult remnant of the HY511 brood. This morning I set up two pairs in a 40-gallon tank with some java moss. 🐟



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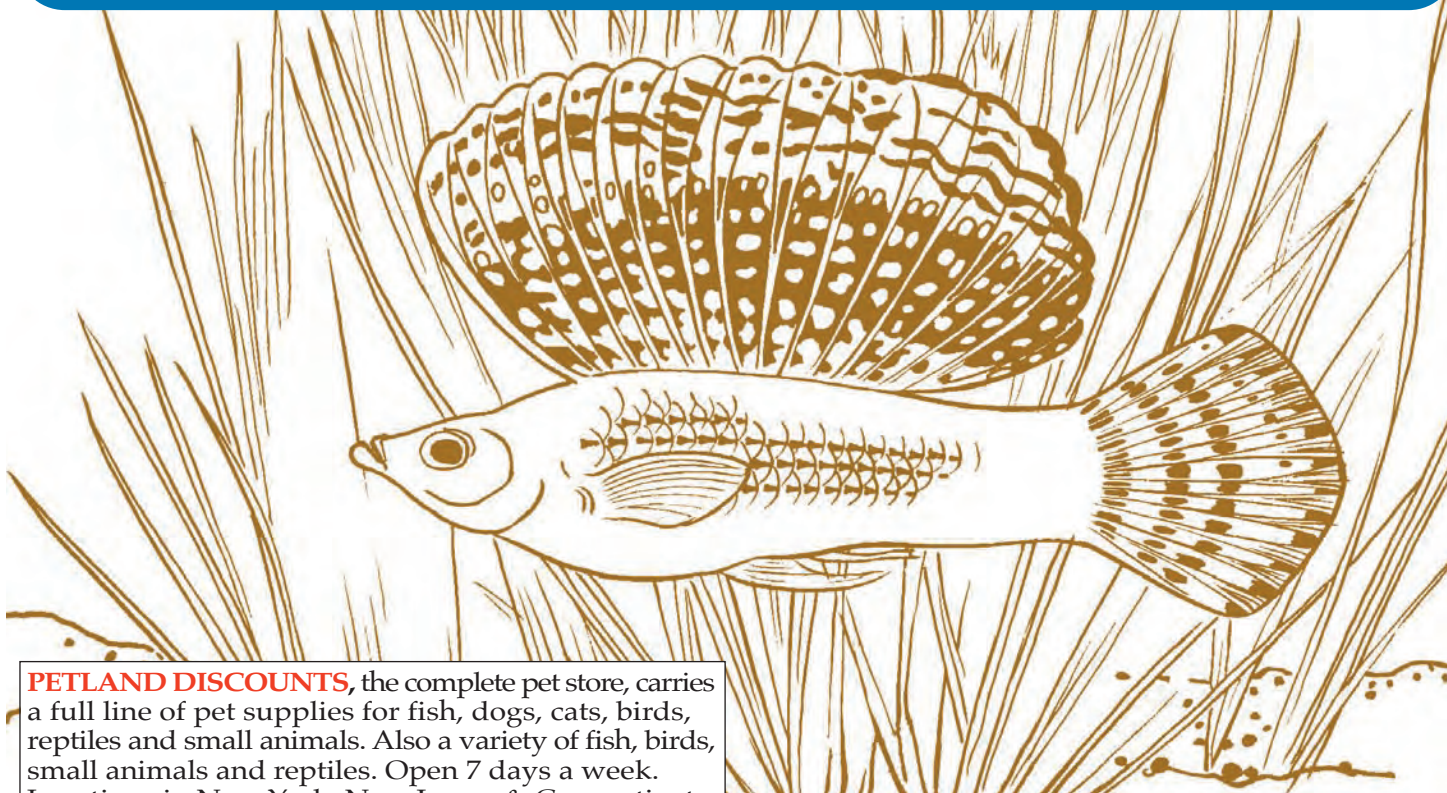
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