

AQUATICA



THE ON-LINE JOURNAL OF THE BROOKLYN AQUARIUM SOCIETY
VOL. 28 MARCH ~ APRIL 2015 No. 4



Six-Barred Distichodus, *Distichodus sexfasciatus*



104 YEARS OF EDUCATING AQUARISTS

AQUATICA

VOL. 28 MARCH - APRIL 2015 NO. 4

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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 ~ 2015-2016

2015

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

APR 10 Todd C. LaJeunesse ~ Coral Physiology, Ecology, Symbiosis and Evolution ~ 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 ~ (Tropic Marin USA) Basics of Reef Chemistry ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

JULY/AUGUST - NO MEETINGS

SEPT 11 Rick Borstein ~ 60 Tips in 60 Minutes ~ 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.

NOV 13 Bob Fenner ~ Reef Stocking ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

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

• Fish Bingo & Prizes • BAS awards presentations.

2016

JAN 8 Jeff Bollbeck ~ Getting Rich Breeding Fish ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

FEB 12 Joe Caparatta ~ Triton Method ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

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

APR 8 Speaker TBA ~ Marine fish, aqua-cultured corals, freshwater fish, plants & dry goods auction.

MAY 13 Giant Spring Auction ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods, including a new 55 gallon tank & stand.

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OCT 14 Giant Fall Auction ~ Freshwater fish, plants, marine fish, aqua-cultured corals & dry goods, including a new 55 gallon tank & stand.

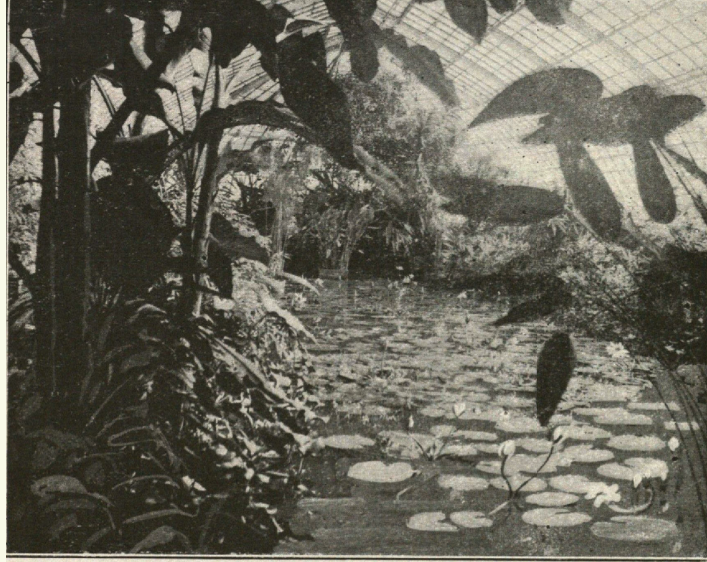
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This 97 year old article is from The Brooklyn Aquarium Society's archives.
It was written by **Charles L. Tricker** in *THE AQUARIUM BULLETIN*, March 1918

Photo by H.DeNike



Lily Pool in the Phipp's Conservatory, St. Louis, Mo.

The Culture of Water Lilies

BY CHARLES L. TRICKER

The easy culture, quick results and wonderful beauty of water lilies and aquatic plants are fast making their charms a necessity in every garden - little or big. The culture is extremely simple for three things only are essential to their growth, namely, sun, water, and good soil. Nature will supply the first, the second is easily procured and the third can be supplied with little trouble. A water garden, even in its humblest beginnings, soon becomes fascinating for, when beautified by the plants and inhabited by fish, a spot, that would otherwise be obnoxious, can readily be transformed into a very attractive place.

Your first attempt at a water garden may be in a half-barrel or two or you may make a concrete pool such as is described in

detail in a booklet mentioned in the advertising columns of this issue. If one follows these directions carefully (they were written by an expert on that subject) one can, indeed, have a very beautiful pool. Of course, a natural pond or one made by digging out a certain spot which would be filled by a small stream would be ideal. I am convinced that the lilies, in their varied colors, will give greater satisfaction than any other plants of equal or even greater cost.

As regards soil, the best obtainable is none too good. An excellent soil can be prepared by mixing three parts of good garden soil or rotted sod with one part of well rotted cow manure.

Unless the manure is very old and thoroughly rotted, it will ferment and discolor the water. An acceptable substitute for manure would be ground bone which can be obtained at any seed store. The proportion to use would be about one quart of the bone to one bushel of soil.

A barrel sawn in two or any water-tight receptacle will be satisfactory for a miniature garden. These would make a better appearance if sunk in the ground almost to the rim. An artificial pool should be made as large as possible and two feet deep, allowing for one foot of soil and one foot of water. In some localities where clay is very abundant, it is possible to make a good lily pool by lining the excavation with six inches of puddled clay, well pounded until the whole mass becomes uniform. Except in formal gardens, it is desirable to make the pool as natural as possible, hence stern lines and apparent masonry must be avoided. A few clumps of moisture-loving perennial plants, bamboos or ornamental grasses, will help to make a suitable frame for the loveliest of all the water lilies.

The depth of water most suited to *Nymphaea* is one foot. Of course, many will adapt themselves to shallow water, but only a few will stand very deep water. A continual flow of water must be avoided for all the lilies prefer a still and warm place and a continual flow of fresh water would have the tendency to keep the water cool. All that is necessary, after the pool is once filled, is the replenishing of that which has evaporated. An occasional sprinkling late in the afternoon will supply such as will wash dust and insects from the leaves.

When setting out the plants in natural

ponds where the water does not exceed a depth of two feet, the roots may be planted directly in the mud by pushing the rhizome (the hard, fleshy part of the root) horizontally into the mud until the crown (the growing end) is just beneath the mud. If the root shows a tendency to float to the surface, put a flat stone or brick on the root to hold it down. In depths of water exceeding two feet, the best plan would be to plant the lilies in boxes filled with soil and then submerge them in the pool. If necessary, stones may be placed under the boxes to support them to the desired depth.

For artificial pools, unless they are very small, I always recommend planting in boxes two to three feet square and one foot deep, as in this manner the plants can be shifted at any time if not exactly where they are desired. In very small pools, one foot of soil can be spread over the bottom of the pool. All soil used in artificial pools should be covered with about one-half inch of clean sand to prevent discoloration of the water.

For tub culture, fill the tub two-thirds full of soil, cover with sand and full with water.

Hardy lilies may be planted as soon as growing season begins and until August. The shipping of hardy stock begins about the middle of April to points south of New York and to the Pacific Coast and, as the season advances, shipping is governed by weather conditions.

Tender lilies cannot be safely planted out until warm, settled weather is assured. Around New York, it is usually the end of May before such conditions exist.

When planting the lilies, it is well to allow from three to five feet in either direction for the plants in small pools. In large ponds

or lakes, a very effective way to plant is in groups of six or more plants of one variety. The plants may be 18 to 24 inches apart and the groups 20 to 25 feet apart. In ordinary tubs, only one plant can be accommodated and that must be a plant of some moderate growing variety; these will be found carefully marked in the booklet referred to.

Hardy lilies need no further attention in the winter if in such a place as not to be actually frozen at the roots. A sufficient depth of water will furnish this protection. When it becomes advisable to drain a cement pool for the winter, the pool can be filled up with leaves which will give ample protection to the roots. If the water is left in the pool, a covering of boards and at least a foot of leaves should be provided, making sure that the leaves will not be blown away during winter. Tubs may either be treated as pools or removed to a cool cellar for the winter.

Tender lilies should be dug up as soon as they have been slightly frosted and placed in a tub of water in a warm greenhouse or very light cellar.

As soon as the leaves have dried off, the tuber, which will form at the crown of the plant, may be removed and stored in damp sand for the balance of the winter. However, if one has not the proper facilities, it is better not to attempt the wintering of tender varieties, but rather to replace each year as is done with bedding plants.

The price of water lilies is based entirely upon the supply. In some cases, the stock is exceedingly short and there is no place where more can be purchased. Naturally, the price of these will be higher than those of which the stock is complete. Even the very highest priced ones, when the space covered and the

number of flowers produced is considered - to say nothing of their distinctive beauty - will be judged cheaper than other garden flowers or plants.

To further beautify the lily pool, an assortment of aquatic and subaquatic plants may be planted around the edges. In the booklet mentioned will be found a list of such perennials and marginal plants as will thrive under conditions which exist on the edges of streams, ponds and pools and, when judiciously used, they form a charming addition to the pool. Even a tub used for one lily will look ever so much better if surrounded by a few such plants. I would call the attention especially to the hardy *Asters*, the *Astilbes*, *Heleniums*, *Hemerocallis*, *Hibiscus*, *Iris*, *Lobelias* and *Spiraeas*.


The mosquito problem is solved very easily as a few fish in the water will devour all the wrigglers and larvae of other insects. Goldfish are not only useful for this purpose but are ornamental as well, one or two fish in a tub being plenty, while a dozen would stock a pool 15 feet in diameter.

Fortunately, the enemies of water lilies are very few. The black fly, or aphis, is perhaps one that will be found most often. It is a little black insect that gets on the surface of the leaves, especially when the foliage is crowded. Of course, it is impossible for the fish to reach them, but they can be dislodged with a strong stream of water when the fish can get them. Green scum, arising usually from new soil, is particularly troublesome in May and June, but usually disappears after that time.

Lovers of fancy fish are realizing more and more the necessity for keeping their fish out of doors during the warm, summer months and the culture of water lilies in their

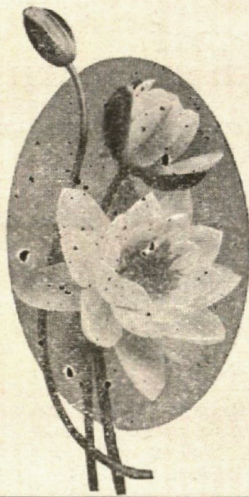


tanks and pools has become a charming, almost necessary, adjunct to the fancy. To the man who is interested only in beautifying his grounds, the growing of water lilies and other aquatic plants opens up a branch of Nature from which the maximum amount of pleasure and charm will be derived from the minimum amount of labor and expense. Attractive though a garden may be, its beauty will

be enhanced ten-fold by the addition of a touch of Nature in the form of even a small pool of aquatic plants. To the city dweller who is accustomed to gazing upon brick walls and asphalted streets, a beautiful pond from the fields of the country to a sunny spot in his own back yard should issue an appeal too strong to resist. 

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THE AQUARIUM BULLETIN



Fish and Water Lilies ARE A GOOD COMBINATION

I will send you, upon request, a copy of my catalog.
It shows how to build a pool and tells all about the lilies.

WILLIAM TRICKER

BOX X

ARLINGTON, N. J.

William Tricker, Inc. is still in business after 123 years.

You may not be able to get the booklet mentioned in the article, but you can get a free printed catalog or view their online catalog or get Tricker's Book, "**1101 Water Gardening Questions and Answers**" which discusses the history of water gardening with the pioneer water gardener's inventions and the history of William Tricker, Inc.® Just go to their site:

<http://www.tricker.com/Category/free-catalog>.

By the way Charles L. Tricker (1890–1961) was an early member of the Brooklyn Aquarium Society.



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BREEDING CHECKERBOARD BARBS LIVING JEWELS

This is one of my favorite barbs, and is not commonly seen anymore. The Checkerboard barb, *Puntius oligolepis*, is a jewel in the aquarium. This is the first egglayer I spawned. Checkerboard barbs are small, peaceful, beautiful and easy to keep. Breeding them is also easy.

Checkerboard barbs grow to about 1 1/2 inches in length. The females are brown with white belly, irregular black markings and yellow tinged fins. The males are gorgeous, shimmering in shades of purple, red and black with red and black fins. Their color is extremely intense



when courting and spawning. Their bellies are also white.

This is one fish which seldom shows its best in a pet store. So usually they go unnoticed, but buy some and you'll be surprised. They are very peaceful and good in community tanks. Water quality is not critical, except they require

good, clean, oxygenated water. For temperature, they like 74° to 78°F. They spawn at 78°F. Do not let their aquarium temperature fall below 70°F; at cool temperatures, they become susceptible to ich.

These barbs do not bother most plants, but will nibble on very soft leaved plants. They are omnivorous and eat any standard aquarium fish food. I condition them on frozen bloodworms and tubifex. They love aphids from your garden, if you have a garden.

Breeding them is easy. I spawn them one pair to a 5 gallon aquarium. I use a sinking yarn spawning mop. You could easily use bunch plants too. The tank should contain aged tap water and a biologically active sponge filter with low aeration - temperature set at 78°F.

Condition the breeders by separating the pair and feeding them heavily for 10 days. Introduce the pair into the spawning tank at night; they will usually spawn the next morning. Sun light stimulates spawning, although they readily spawn under aquarium lights too. They are typical egg scatterers. A normal spawn is about 150 eggs. If the pair doesn't spawn, raise the temperature +2°.



Female



Male

Remove the pair immediately after spawning. They are egg eaters. The eggs will hatch in 2 to 3 days, depending on the temperature. The fry are very small and look like tiny slivers of glass. Do not light the tank brightly at this time; use a flashlight to view the fry in a dim aquarium. Keep the aquarium shielded from light.

Once free swimming, feed rotifers, liquid fry food and infusorians. Most fry are too small for brine shrimp *nauplii* initially. Some will eat baby brine shrimp, but most fry need something smaller to start with. Within several days of initial feeding, switch to newly hatched brine

shrimp *nauplii*.

Growth is rapid from that point, provided regular water changes occur. I change 10% every other day. Do not do large scale / percentage water changes on fry; they are very susceptible to sudden death if the water quality changes suddenly or becomes poor.

It does take some conscientious attention to water quality management to raise the fry, but the efforts are well worth it. Soon you'll have your own aquarium full of these living jewels. Happy fishkeeping.



Tony

John Todaro - BAS

SPECIES PROFILE

Scientific Name: *Puntius oligolepis*

Family: Cyprinida

Common Name: Checkerboard Barb, Iridescent Barb, Chequer Barb.

Origin: Asia: Sumatra, Indonesia.

Distribution: Small pools, rivers & streams.

pH Range: 6 - 8.

Temperature Range: 75° to 80°F.

Water Hardness: Not critical.

Life Span: 2 to 4 years.

Size: up to 2 inches.

Temperament: Peaceful, schooling community fish.

Diet: Omnivorous; flake, frozen, livefoods.

Sexing: Males are larger and brighter colored with red-brown fins edged with black. Females are more yellow-brown.

Breeding: Fill breeding tank with acidic water (pH 6.0). The temperature should be 79°F. Keep a low

water level, 4-6 inches. Cover bottom of the tank with mesh to protect eggs from parents; they are egg and fry eaters. The tank should contain fine leafed plants or spawning mops. Separate male and female to condition them. After about 3 weeks, the fish should be ready, if given a varied diet with lots of frozen and live food. Move them to breeding tank. The pair usually spawns the next morning. If the breeding tank is placed near a window with morning sunlight, it can help trigger spawning. Remove parents once spawning is completed; remember they are egg eaters.

Raising Fry: The fry hatch in 24-48 hours. They are very small, so feed the fry infusoria or liquid fry food when free swimming. Switch to newly hatched brine shrimp *nauplii* when they become large enough to eat them. The fry grow very fast and can reach adulthood in 4-6 months.





Anthony P. Kroeger - BAS



Stunning aquarium fish come from around the globe. This one comes from our own backyard. Rarely seen in the aquarium trade in the U.S., the Northern Redbelly Dace are highly prized in Europe and Asia.



Northern Redbelly Dace *Poxinus eos*

In the U.S., Northern Redbelly Dace are found in New York, Michigan, Minnesota, Pennsylvania, particularly in the upper Missouri and Mississippi river drainage and drainages into the Great Lakes.

Northern Redbelly Dace are stunning!

This fish has 2 horizontal black lines running from head to tail with a gold line between them. Basic body color is brown/gold. Females have a yellow belly. Breeding males have fire engine red on their under side from the head to the tail and beautiful red fins. Remember to check with the local state department of natural resources before collecting native fish. You may need a permit.

Red bellies are easy to keep. They come

from clear, cool, neutral-alkaline water that is highly oxygenated. They eat any fish food offered.

I keep mine at a temperature of 68°-72°F all summer. Their tank is unheated. In the winter, I keep them cooler, and I do a 20% change of water twice a week. These fish do not tolerate nitrite well. They are peaceful schooling fish that grow to 3 to 4 inches, rarely larger. A 20 gallon long will easily house a school of about 10 adults.

I use fine leaved plants like Hornwort, *Ceratophyllum demersum*, and a powerhead with a outside power filter to provide water circulation. I also use an airstone in their tank.

They spawn barb style over plants or gravel. I've used a 20 long tank to spawn them.



I condition my breeders separately, feeding them a large amount of frozen foods 10 days prior to spawning. I keep my fish cool for a month before putting them in the spawning tank to "chill" them. They can tolerate cold water, coming from the Northern U.S.

Spawns are large, 30 plus eggs. Spawning occurs at first light and lasts about 4 hours. However, sometimes the fish will wait a day or so to breed. I spawn them at 75°F. The eggs hatch in 9 days at 75°F. The eggs are non-adhesive.

I use Hornwort and breeding mops placed over marbles with an airstone in the breeding tank.

I treat the eggs with methylene blue to prevent fungus. Remove the parents after spawning; they are voracious egg-eaters.

Use only sponge filters with the fry. When the fry hatch, they swim to the surface to feed. They are small and need green water, infusoria, powdered fry food, etc., at first. They grow fast and can take baby brine shrimp *nauplii* in about 2 weeks. The fry are easy to raise from that point.

Try some Redbelly Dace! You'll be glad you did. 

Tony

John Todaro ~ BAS

SPECIES PROFILE

Family: *Cyprinidae*.

Scientific Name: *Phoxinuseos*.

Common Name: Northern Redbelly Dace.

Origin: Northeastern United States and eastern Canada.

Distribution: Can be found in lakes and small streams.

pH Range: 7.0 - 7.5.

Temperature Range: 65° - 75°F.

Winter Temperature: 45°F - 50°F.

Life Span: 8 years.

Size: Up to 3 to 4 inches.

Diet: They are omnivorous, consuming algae, aquatic insects, and zooplankton.

They will accept frozen and flake foods

Temperament/Behavior: Peaceful schooling fish; keep in groups of 8 to 12 fish.


Sexing: Mature in 2 years. The lower sides and belly are white, silver or yellow. Females have a yellow belly. During breeding, males' sides become brilliant red.

Breeding: In the wild, breeding season is from

May to August. In captivity, males will drive females up and down the length of the tank. They stay side-by-side with quivering motions for 30 to 60 seconds and eggs are released.

Remove parents after spawning; they're egg eaters.

Care of Fry: Between 8 and 9 days, the fry will become free swimming. They can be fed commercial fry food at first (an egg preparation, "Liquifry"); after several days, live, newly hatched brine shrimp *nauplii*.

Notes: The Northern Redbelly Dace likes spring-fed streams with lots of vegetation and woody debris. They have a very strong habitat preference for sluggish, spring-fed streams with a lot of vegetation and woody debris. They can also be found in small, spring-fed lakes and bogs. 

Reference:

nanfa.org/articles/acredbelly.shtml
Wikipedia.org.



The Practical Plant

PROPAGATING *Didiplis diandra*

D*idiplis diandra* is a stem plant. It can grow fairly tall, but is tolerant of pruning so it can be kept as a midground plant. With regular pruning, the plant can get fairly bushy. The plant is not a fast grower by stem plant standards. This is the only member of this genus native to North America. It likes a well lit aquarium, but the light does not need to be very intense. The plant is basically a light green, but grown with sufficient light the plant will start to take on reddish tones, especially the vegetative tip. The plant will regularly develop tiny dark reddish/brownish flowers at the base of the leaf at the stem nodes.

I keep it in a twenty gallon long. I am using Caribe Sea's "eco-Complete" as a substrate. I have a Whisper 30 hang-on power filter. The aquarium is heated to 78° to keep my Tetras happy, but this plant will tolerate fairly cool water. I keep the GH about 60 (but the plant will tolerate medium hard water) and the pH is 6.8. Since the aquarium is only 12" tall, I chose a fixture made by Coralife called the "Aqualight T-5 double." I would describe the lighting on this aquarium as the "upper" end of moderate. The system is CO₂ enriched as well. Since the bio-load in this system is fairly heavy, and many of the other plants in

this tank are slow growing species (like Java Fern, *Bolbitis*, *Anubias* and others), I only supplement

this aquarium with potassium and trace elements to deter algae growth from excess nutrients, a common problem with slow growing plants. To propagate this plant, just take some stem cuttings and insert them into the substrate.

I have seen this plant sold under the

name "Bloodstar Grass." The leaves are linear about 15-25 mm long, opposite each other and arranged cross wise. The stem nodes are extremely close together so the leaves are very dense.

Overall, this is a great plant. It is attractive and versatile. It will thrive in moderate to intense lighting, soft to medium hard water and tropical to temperate temperatures are fine. The only negative criticism I have is that

the plant is a little prone to extraneous roots growing on the lower stem nodes so this plant looks its best with something shorter in front of it. 🐟



Izzy



Sy Angelicus - BAS

CATFISH CONNECTIONS

BOZO WITH FINS.

The clown catfish



Gagata cenia

We're off to India this issue. Every family has a clown in it.

Mine is no exception.

My brother-in-law is the Clown catfish, *Gagata cenia*, hailing from India and Burma's high mountains streams. He grows only 2 3/4" inches. He's very peaceful and active all day.

He loves to school just above the substrate with friends. He's not happy without friends, so always keep him with 2 or 3 of his buddies. Not a common catfish, but a cool one.

There is no doubt how he got his clown name. He dresses the part. A brown body, white belly and large black polka dots all over his body, he's really pretty.

He likes acid to neutral water that's soft. He loves strong currents, so use a powerhead to create them. Not picky at chow time, he likes to eat at buffets: flake foods, micro pellets, frozen brine shrimp, basically anything small that will fit into his mouth is good for him.

Clown catfish come from mountain streams and they like cool water 68° - 72°F. They do

very well with white clouds. Too much heat and they get very lazy and lethargic.

My Brother-in-law has not found a lady friend to suit him and has not bred in the aquarium. If you know of any potential ladies, call his cell #BOZO 111!


He loves to swim in and out of plants with his friends. So no problem with plants. You can offer him caves, but usually when he's tired, he prefers to rest on driftwood and survey his realm from above.

He tries to imitate my athletics of swimming upside down at the surface, occasionally, to eat. But he certainly does not have my skills. Good luck with catching up with me on that one, buddy.

His fins are spiny, so if

you're going to use a net to move him, use a fine mesh brine shrimp net. It is much better to use a plastic or glass container. He really dislikes getting tangled in nets and getting him out is always such a royal pain. He used to pole vault at Silverside high school, so keep his tank covered and be sure to seal all small holes. It's amazing the tiny spaces he can launch himself thru.

That's what happens when you hang around spiny eels. Clown catfish are pretty, peaceful, active and just plain fun to watch. What more can you ask for?

Put Bozo and his buddies in your tank. Until next time. 

Sy



SPECIES PROFILE

Scientific Name: *Gagata cenia*.

Family: *Sisoridae*.

Common Name: Clown Catfish.

Distribution: Ganges Delta and Indus River.

pH Range: 6.0 - 7.1.

Temperature Range: 64° - 72°F.

Water Hardness: 6 - 16 dGH.

Breeding Temperature: 69° - 77°F.

Life Span: 5 - 8 years.

Size: Up to 6 inches.

Temperament: Peaceful.

Diet: Not a fussy eater will eat; flake or sinking pellets for the staple diet. They will also require live or frozen foods. Bloodworms, brine shrimp and Mysis are ideal. These fish are most active in the evening; try to feed them at these times.


Identification: Dorsal with dark saddles extending ventrally only to lateral line. Caudal fin with transverse black bar across peduncle and round or square black spot on middle of each lobe. Dorsal fin with black spot on distal part of anterior

rays. Anal fin with 4-5 simple rays, 9-11 branched rays. Upper jaw and 4th ceratobranchial toothless; lower jaw with few conical teeth in pocket or depression near symphysis. Snout tip acutely pointed in lateral view, with tip separated from the rest of the snout by distinct notch.

Sexing: There are no visible differences between the sexes.

Breeding: No reported cases of *Gagata cenia* breeding in the aquarium

Notes: A sandy / gravel bottom and enough rocks / driftwood to partially deflect the current and for the fish to hide in.

They require well oxygenated water. 

Reference:

- Wikipedia
- <http://www.aqua-fish.net/show.php?h=clowncatfish>
- http://www.planetcatfish.com/common/species.php?species_id=573



John Todaro - BAS

From the Brooklyn Aquarium Society's publication

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

Beef Liver Pâté & Beef Liver Soup

This interesting recipe by **Tom Farrell**, a member of the **Nassau Aquarium Society** was found in their society publication *The Wet Pet Gazette*, March, 1981.

The interesting thing is that it can also be used as small fry fish food.

You can take a small amount of the "Liver Pâté" and make an emulsion by adding it to a cup of water. Mix the pâté totally with the water. Using an eye dropper, carefully drop only enough Pâté Soup that your fry can eat in a couple of minutes.



Make sure you do water changes often when feeding this high protein soup. **Uneaten food will foul the tank.**

When the fry are large enough, begin feeding them brine shrimp *nauplii* and other foods they can eat. A varied diet is best for fish fry.

How would you like to eat nothing but chopped liver, without even a cracker. Oy Vey! 

R E C I P E

INGREDIENTS:

1 lb. of beef liver
20 tbsp. of baby cereal
1 tbsp. Kosher salt

OPTIONAL:

Wheat germ may be added.

PREPARATION:

Remove veins and chop liver into 1/2" squares. Place in blender and add baby cereal and Kosher salt. Blend adding just enough water to produce a thick lump free paste. Pack the paste in ZipLok bags to about 1/4" inch flat and store in freezer.

FEEDING:

Feed by breaking small or large size chunks, depending on fish size, into tank.

You can also make it into a soup by adding a small chunk to a cup of water and mix until you have an emulsion of "Liver Soup." Feed fry with an eye dropper. Be careful not to feed more than they can eat in a few minutes.

Make sure you do water changes, they're essential when you rear fry on the "Liver Soup" diet.



Distichodus sexfasciatus

**Long Name!
Awesome Fish!**

I'm a fish fanatic! I cannot think of a fish that I don't like. But admittedly the six bar *Distichodus* (pronounced Diss-ti-koe-dus) is my absolutely favorite fish. I have a history with this fish.

I first saw a photo of it in a book by Earl Schneider. I went to the library and checked it out, I was in the 3rd grade. In the back of the book was a section on "new" African fish. *Distichodus sexfasciatus*, *Nannocromus nudiceps* and *Polypterus ornatipinnis* were all pictured. To this day these are 3 of my favorite fish.

I knew I'd have a "six bar" someday. I finally got one my junior year in high school. I had a summer job and saved money from it. One day on entering my local fish store, there it was: the mystical six bar and its price was jaw dropping too... \$51.99 -OMG!!

My father used to think I was insane for buying marble hatchets at \$1.79 each. Yes, I have been an aquarist for a looonngg time. No matter, \$51.99 or not, I had to have the "six bar." So I bought it and I bought a glo-lite for \$1.49 on a separate receipt. when my father asked me what I bought I showed him the six bar and the \$1.49 receipt for the glo-lite.



No one ever knew how much I paid for my "dream" fish. it's a good thing as I would have been "grounded" for spending \$50 on a fish!

Since that time I have imported and owned many "six bars." Let me tell you about them and how I care for them.

Six bars are a member of the tetra (*Characin*) family. They grow big. At least 14 inches. Some sources say 40 inches. Think of them as pretty pacus.

Their color pattern is like clown loaches or tiger barbs. Dark navy blue strips on a red/orange body with red fins and eyes. As they grow, they lose their color; mature adults are grey. I've never seen a grey adult. The biggest I've ever seen was about 14 inches and it had a faded barred pattern. Six bars are really gorgeous.

This is a high bodied, thin fish that is laterally compressed like a discus or altum angel. Six bars come from the Congo River. In nature, its water is soft, acidic and warm. It can adjust to most tap water. It should be kept at 77° to 80°F.

This fish needs space. It's usually sold at about 2 inches long. I recommend a minimum of a 55 gallon aquarium to give it a bit of room to grow.

Six bars are omnivorous. They eat plants and animal materials and they are greedy eaters and will also eat pellets, flake and frozen foods. They need fresh vegetables and fruit in their diet to maintain their best color. Mine love fresh green beans, pineapple, strawberries, kale and peas. Bananas and orange slices are special treats. Both seem to improve their coloration.

Six bars can be aggressive, but both space and the particular situation impacts their aggressive levels.

**Let me explain:**

I have kept both small schools (6 fish) and individual six bars in various African cichlid tanks. All worked well. But if you remove 3 of the 6, you will get a bully that will kill the 2 remaining fish. The cichlids seem to keep the six bars on their watch, they're too busy keeping an eye on the cichlids to tear each other up.

Space also plays a role, I never keep a six bar in less than a 55 gallon tank, they become very aggressive if crowded in a small aquarium.

I have kept a six bar with clown loaches and tiger barbs in a 125 gallon tank. That combo worked well until the six bar

grew to 8 inches; then it had to be removed because of its fin nipping.

Never try to keep more than one six bar in anything smaller than 120 gallon tank, but if you do, keep a school of 4 to 6 six bars to diffuse their aggressive nature. If you buy only 3, it's a guarantee you'll eventually have only one unless you separate each to its own aquarium.

Your best bet is to keep a small school (4-6) with your African cichlids, or better yet individually with cichlids.

To my knowledge, six bars have not been bred in the aquarium. But I plan on experimenting towards that end as soon as possible.

Forget about any soft

plants when keeping six bars. They love fresh salad. I'm told *Anubius* can withstand their nibbling, but I've haven't tried to test that statement out. *Anubius* are too expensive in my book to be used as salad!

Six bars are not easy to find in retail stores,, they're not a common fish. Nor are their maintenance needs the easiest. But their colors, attitude and interesting behavior in the aquarium more than make up for the extra effort needed to be put forth by the hobbyist.

A six bar *Distichodus sexfasciatus* is a gorgeous fish that will always draw attention.

Try one, you'll be glad you did.

 **Tony**

John Todaro - BAS

SPECIES PROFILE

Scientific Name: *Distichodus sexfasciatus*.

Common Name: Six-bar *Distichodus*.

Distribution: Africa, Congo River, and in Lake Tanganyika.

pH Range: 6.0 to 7.5.

Temperature Range: 70° to 79°F.

Water Hardness: 10° - 20° ppm.

Life Span: 10 + years.

Size: Up to 16 inches. or more in aquariums.


Temperament: Unpredictable. Some specimens remain peaceful with similarly-sized species, others can become spiteful as they mature.

Diet: Omnivorous, will accept most foods. It must be fed a decent proportion of vegetable matter to keep it healthy. Live, frozen foods, earthworms, prawn, mussel, peas (remove the shells), and blanched spinach.

Sexing: No visible differences between sexes.

Breeding: Has not been bred in captivity.

Note: Not good in planted tanks. It will eat most plants. Furnish tank with smooth rocks and driftwood branches. Sand or gravel as substrate. It's a jumper; have a tightly-fitting cover.

Do not buy unless you have the space to house it, a 50 gal. tank or larger. It's usually seen for sale at 2 inches. At this size it's an attractive orange and black striped fish w/bright red finnage. The color and patterning fades as it grows. 

Reference:

- <http://www.seriouslyfish.com>
- <http://www.tropicalfishsite.com>



<http://www.utilaecology.org/research/lionfish.php>

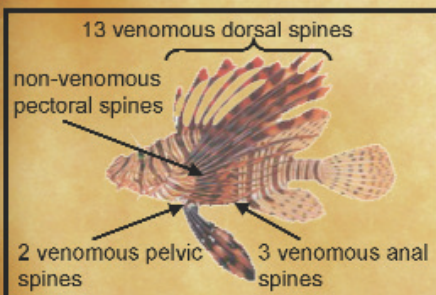
This was submitted by longtime member and past board member **Tom Miglio**.
Thank you, Tom



MMM... YOU CAN EAT ME!

Mmm...YOU
CAN EAT ME!

INVADING CAPTURING



Suggested Method of Capture

*Position a hoop or square net behind the fish and then drive the fish into the net with the use of a trident - made from a stick of wood, 3 long nails and cable ties

- *Once captured in the net it can be speared safely
- *Exercise caution when carrying the lionfish in the net to avoid spines
- *Lionfish can be line caught too

SAFETY & FIRST AID

- Not sure...? DO NOT TOUCH
 - If stung by one of the venomous spines...DO NOT PANIC
 - Immerse wound in hot water (100-110 °F or 38-43 °C) for +20 minutes OR apply an instant heat pack
 - Be careful not to burn skin
 - Repeat heat treatment if necessary
 - Seek medical attention as soon as possible
- PLEASE REPORT ANY SIGHTINGS TO UCME OFFICE ON UTILA OR ON THE CAYS

Website: <http://www.utilaecology.org/research/lionfish.php>

LIONFISH HANDLING & PREPARATION



- *Handle with extreme care
- *Use thick gloves
- *Hold head to avoid spines
- *Removing the spines and cooking them makes them safe to eat



Remove the anal and pelvic spines by cutting from the base using a sharp knife or scissors



Remove dorsal spines by cutting into the flesh along each side of the row of spines.



After loosening the spines pry them off completely.

Fillet the fish as usual and enjoy... they are delicious!

Photos: Jared Dilke, Department of Marine Resources, The Bahamas





2 Trunks are better than 1

THE DOUBLE TRUNK ELEPHANTNOSE



GNATHONEMUS TAMANDUA

I like **weird** fish! The double trunk elephant-nose sure meets that criteria. It has a big head, a long backward, downward curving double snout, dorsal and anal fins set way back on its body and a very skinny caudal peduncle with a tail set on as an afterthought.

This fish's color is basically black and gold marked. The eye is surrounded by a radiating star pattern.

Double trunks are hard to find, rarely available and demanding in their upkeep. These fish come from the Congo and use their well developed electrical navigation system to move around their turbid water home in Africa.

They are active at twilight and are nocturnal. Double trunks are a fairly large fish. I've seen ones that were 9" inches, but have heard of fish that are 11" - 12" inches long.

This fish loves heat! Keep them at 78° - 80°F. They are very sensitive to ick below 78°F, plus their smooth bodies negate the use of most dye medications (ex. Malachite) on them. If they do catch ick, raise the water

temperature to 88°F and aerate heavily. Use copper or Formalin as a last resort.



For a large fish, it has a small mouth. It feeds solely on the bottom, preferably on frozen or freeze dried worms and usually will starve to death before eating flake foods. Live bloodworms, tubifex and blackworms are eaten with gusto!


Never keep these fish in pairs or trios. Keep one or a school of 4 to 6+ fish. They're grouchy with each other. But given

room, they will generally accept conspecifics, but be aware that can change at any time.

They are peaceful with other species of fish, (Ex Congo tetras).

They prefer a soft sandy bottom with caves, driftwood and floating plants. To help cut down light, I use watersprits. *Ceratopterus thalictroides* and perhaps some rooted *Anubias* suffice for their needs.

To my knowledge, they have not spawned in the aquarium as yet. Though I know some recent success has occurred with *Mormyrids*, so hopefully it will happen soon.

For a real weird-o-fish try some double trunks! They're worth the effort.  Happy fishkeeping.

Tony



CALIFORNIA NANO NANO

Small marine fish and nano tanks are now all the rage. Let me introduce you to the perfect inhabitant for one:



Meet the Catalina Goby *Lythrypnus dalli*

N

ative to California, this fish is said to grow to 2" inches.

but I have never seen one much bigger than one inch.

Catalina Gobies are stunning! The entire body is fire engine red with neon blue vertical stripes extending over the top of the fish's eyes to about 1/2 way down its back.

This could be the perfect marine nano fish!

The Catalina Goby readily eats flakes and micro-pellets. It is peaceful and loves the company of its own kind.

Several can easily be kept together in a nano tank.

Catalina Gobies are active fish and are always visible to put on a show for you. Their typical Goby hops and fin displays to each other are always entertaining. They love to perch on a small coral or live rock and survey their domain like a longnose hawkfish does. Always keep several Catalina Gobies together.

This fish tolerates normal water conditions and is very hardy. However, keep it cool! Room temperature is fine! It does not need a heater.

This fish's natural environment is fed by the cold north - south flowing California

current. Heat is no good for this fish. 65° to 68°F is fine; above 73°F, it stops eating. I have lost specimens to the heat of 80°F. So keep Catalina Gobies cool!

These fish have spawned in the aquarium. They spawn in a manner similar to Neon Gobies. But the fry are much smaller and need the smallest rotifers as their first food.

These fish seem to be relatively short lived; usually they live about 12 to 18 months, sometimes 2 years.

They are easy to sex; males have longer dorsal fin spines/extensions.

This fish has an unusual "bunching" habit. They like to



physically “bunch” up together, so close that they touch. They often do this, especially at night.

I believe this is a defensive mechanism. More eyes to look for predators. This is a very small fish after all, are surely a very tempting snack to predators in the wild.

Catalina Gobies seem to do fine with small shrimp. But I would advise you not to keep them with crabs, as they will catch and eat your Catalinas if given a chance.


Perhaps very small blue leg hermits and other micro-crabs would be okay,

but that’s about it.

Realistically, due to their small size and cool temperature needs, Catalina Gobies are best kept in a species tank with live rock. Their colors and entertaining antics more than justify their

own tank.

California Catalina Gobies are usually only available seasonally in stores, and even then you will have to look to find them. Their collection, like that of most California marine species, is regulated by the state. However, these beautiful and entertaining fish are well worth the effort to find.

Catalina Gobies are hard to surpass for a marine nano tank. Try some! 



John Todaro - BAS

SPECIES PROFILE

Scientific Name: *Lythrypnus dalli*.

Family: Gobiidae.

Common Name: Blue-banded goby, Catalina goby.

Distribution: Gulf of California, Eastern Pacific Ocean.

Reef compatibility: Yes.

pH Range: 8.1 to 8.4.

Temperature Range: 64° to 71°F.

Water Hardness: 8° - 12° dKH.

Specific Gravity: 1.020 to 1.025.

Life Span: 2 to 3 years.

Size: 2 1/2 inches.

Sexing: Males are normally larger and have a longer dorsal fin with black tips on the longest dorsal fin rays.


Temperament: Peaceful. Can be territorial.

Diet: Carnivore. Will accept most small, meaty prepared or frozen food, include frozen mysis shrimp and vitamin-enriched brine shrimp. Once accustomed to the

aquarium, it will also accept sinking pellets or flake foods.

Breeding: When ready to breed, a male chooses a cave in which to care for his brood. He lures the female inside, where she will attach her eggs to the walls of the cave. He will care for the eggs there until they hatch.

Note: One of the most interesting aspects of the Catalina Goby is its reproductive behavior. Each Catalina Goby has the reproductive tissues of both genders. If it finds itself unsuccessful as one gender, it can switch to the other.

They have spawned in captivity, but rearing of the fry has not been successful. They spawn frequently during the summer. The fry are 2.5mm long. 

Reference:

- liveaquaria.com.
- wikipedia.



HOBBY HAPPENINGS

I've had some spawnings of fish quite unrelated to one another. One was an anabantoid, one a new world cichlid and one "oddball" (in the North Jersey AS specialty classification). Once again, these fish spawned on their own as long as I provided acceptable conditions and good food. Many times I obtain fish serendipitously and always try to spawn all of these fish. I guess you could call me an "opportunistic" fish breeder.

The anabantoid was a spike tailed paradise fish (*Parosphromenus cupanus*). **Josh Weigert** of Batfish Aquatics had come to our September auction and delivered pre-ordered fish to customers. He did, however, forget a box of fish and asked if he could ship them to me for distribution at our next Raleigh AS club meeting. I agreed as Josh is a good friend and supporter of our club and the hobby in general. To my surprise, Josh sent along a pair of fish for me as a thank you. I had spawned another spike tailed paradise fish (*Parosphromenus dayi*) in NJ, so I had some knowledge of their behavior.

I housed the pair in a 2 ½ gallon plastic tank for quarantine. I added Java moss, a small breeding cave and an airline. They fed eagerly on a diet of live baby brine shrimp, live black worms, frozen blood worms and even took some flake food. I noticed the female took on a dark coloration and later saw the male sitting in the breeding cave. With a flashlight I could see several dozen eggs on the floor of the cave.

Several days later I noticed, with difficulty, the incredibly tiny fry had hatched. I then removed the male and female to another 2 ½ gallon tank to raise the fry separately. I sprinkled Golden Pearls powder (less than 50 micron size) on the surface and added some murky water from an infusoria

culture I tried to start. Later, as the fry got larger I tried feeding some live baby brine shrimp. Two months later at least a half dozen fry remain, but are still only about a quarter inch in length. The parents spawned again, but I left the fry in with them and I don't see that any have survived. I'll have to take the fry if they spawn again to get enough fry to turn in to all my BAP clubs.

In October 2013, **Robert Sanderford** and I journeyed northward for the NJAS 60th Anniversary weekend. We went up on Thursday as the monthly meeting was the night before the workshop at the same venue. As I was on line to turn in my BAP entries, fish friend (and outstanding breeder) **Kathy Muraca** was turning in several bags of a South American cichlid (*Laetacara araguaiaae*). She asked me if I had ever spawned these fish and, when I said I hadn't, she presented me with a bag of 6-8 fry. I thanked her profusely and she told me she had gotten the adults from **Paul Loiselle**. (Paul can see the grandchildren when he visits my fishroom while speaking at next February's Raleigh AS Workshop).

The fish survived the stay in our hotel room and the ride back to North Carolina and were housed in a ten gallon tank on the bottom rack for grow out. It was a bare tank with some Java moss and floating plants and a few caves for shelter. They were fed the normal diet of flake, live baby brine and, when they got larger, frozen bloodworms and live blackworms. I kind of forgot about them as the year went on (as often happens with bottom rack tanks) and I got very busy with speaking engagements and family activities.

In early November I was doing my annual assessment of the fishroom and noticed that the



Laetacara had grown to adult size. I was going to be away for half the month of November for two speaking engagements, a wedding, and a Thanksgiving trip to Illinois to see my son and daughter-in-law (thank heavens for **Rick** and **Maggie Poole** who feed my fish when I'm away). I decided to move the remaining five cichlids to the top row of a rack (warmer, as I heat the whole room rather than individual tanks). I often used this technique in my NJ fishroom as I found the increase of a couple of degrees can trigger a spawning. The *Laetacara* shared a 20 gallon long tank with three *Aspidoras spilatus*, a spawning group of *Corydoras axelrodi*, and a few *Oryzias* sp. "danang" that I had gotten at a Pittsburgh meeting auction when I spoke there in June. The tank was equipped with a Poret foam matten filter and had a sand substrate. There were some spawning caves, Java moss and some floating plants.

When I stopped home the week before Thanksgiving I noticed that the *Laetacara* had spawned on top of one of the caves and a male was guarding the spawn. Three days later the fry hatched (the day before I was leaving for a week in Illinois). I left word with Rick to feed the fry

Golden Pearls powder while I was away freezing and getting my fill of snow in the winter wonderland of Rockford, Illinois. Upon my return, after thawing out, I noticed that the *Laetacara* fry had survived and were free swimming. I added live baby brine shrimp and finely crushed flake food to their diet. Hopefully I'll be able to bring the fry to the Atlanta meeting for points in February.

When I spoke in June at the Pittsburgh club (GPASI), they had a BAP auction as well as a general auction at the meeting. There were quite a few interesting species bred and offered at these

auctions. I obtained a bag of young rice fish (*Oryzias mekongensis*). I had gotten a few fry of this species years ago from Brooklyn AS president **Joe Graffagnino**, but I was not able to raise and spawn them, so I thought I'd try again. They were housed in a five gallon tank on the top rack that had some L187 *loricariid* fry that I had gotten from **Eric Bodrock** when he spoke at our last workshop. The tank was bare bottomed, but chock full of Java moss and floating plants, such as hornwort and water sprite. The rice fish took some flake but really relished live baby brine shrimp.

This is quite a small species. I could tell I had males and females as the males had red coloring on the inside of their forked tail and the females got plump bodies. I never saw spawning,

but during one water change when I lowered the depth of the water I could see tiny fry swimming. I let them go for a while and the fry got bigger. I took a fine net and caught some of the fry to move them to a 2 ½ gallon plastic tank. I had caught more than I thought as the fry were of different sizes with some so small they were difficult to see. I fed Golden Pearls powder and squeezed a used



Laetacara araguaiae

sponge filter (sponge grunge) into the tank. I later added live baby brine shrimp to the mix. The adults are small, so you can imagine how small the fry are. They have been growing quite slowly. I have seen other fry in the parental tank as they spawn continuously. I'll probably be able to harvest more fry for other BAP entries.

I'm planning to stay home in December and January and set up more fish to spawn. I'll close by wishing everyone a happy holiday season! 🐟



TOO TOUGH TO KILL

A Column for Beginner Marine Aquarists

#1 TOUGHIE

With this issue we are starting a new column, "Too Tough To Kill," which will be devoted to beginning marine aquarists and will focus on those fish which, in my personal opinion, are the hardiest of the hardiest. These fish are tough to kill and tolerate even the worst beginners mistakes. Not all the fish covered in this column will be listed as beginner's fish by other authorities.

The fish covered are based on my personal experiences as an importer. These fish have survived some of the worst possible conditions either in transit or in aquariums and survived. The fish I cover have handled high nitrite, high ammonia, low pH, low temperatures, over feeding, you name it!

However, do not ever intentionally subject them to such conditions thru lack of proper care. If you make a mistake or something goes wrong, chances are these fish will handle it and survive!



Number one in my book as the toughest marine fish is the Tomato Clown, *Amphiprion frenatus*. I use them these fish to cycle new tanks. Yes, I do use some Damsel species, but not the ones usually suggested. These fish will be covered in future columns. Tomato Clowns come from the Pacific Ocean and grow to about 3" inches. They are a beautiful



Tomato red color with a white vertical stripe behind the eye. As they grow, their color deepens.

Many are imported from the Philippines or Indonesia and they are very hardy. Tank raised specimens are commonly seen for sale. These fish are bullet proof.

Tomato Clowns eat any food offered. Temperature from 72° - 80°F, pH 8.0 and ideally no ammonia or nitrate. Salinity 1.020 - 1.022.

But in cycling tanks, that is not always the case.



I have had Tomatos survive lethal levels of ammonia and nitrite. They are great indicator fish for the health of your aquarium and its water quality. A stressed Tomato Clown turns black and will lay on the bottom (sometimes sideways) and breathe slowly, if your ammonia or nitrite is too high. If this happens during cycling, do a partial (20%) of the water and the Tomato will recover.


Tomatos are relatively cheap to buy. Tomato's can be quarrelsome; if you want to keep two together, choose a large one (usually a female) and a small one (usually a male) so they will live together peaceably.

Tomatos breed like cichlids. Tomato clowns love Anemones, but Anemones are not beginners animals and Tomat's do just fine without one.



I have had Tomatos arrive from overseas in pH 6.2 and 49°F water and still survive.

Tomatos are easy to acclimate. Float the bag to equalize the temperature, add some of the tank's water to equalize salinity, then pour them into your tank. That's it! Bring on the Clowns!

In my opinion, the Tomato Clown is the best beginners fish there is. Start your tank with one and welcome to the marine hobby. 

Tony

John Todaro - BAS

SPECIES PROFILE

Scientific Name: *Amphiprion frenatus*.

Common Name: Tomato Clown, Red Clown, Fire Clown, One bar anemonefish.

Family: Pomacentrida.

Distribution: Western Pacific.

pH Range: 8 - 8.4.

Temperature Range: 72°F - 80°F.

Specific Gravity: 1.020 - 1.024.

Life Span: 6 to 18 years in captivity.

Size: Up to 5". Females are larger than males.

Temperament: Peaceful but may become aggressive if other fish approach its space.


Diet: Eats algae, zooplankton and small aquatic crustaceans.

Sexing: Female is larger than the male.

Breeding: They have been bred in captivity, but it is usually better to buy a tank raised fish because it will adapt better in the home aquarium. A pair of tomato clownfish will

mate for life. However, if one partner leaves, then the other will find a replacement for its lost mate. All fish are born male. The sexual metamorphosis occurs when the female of a group leaves. This will trigger the largest male to switch sexes, the largest juvenile will become a mature male.

Fry: Beginning as an egg, tomato clownfish will take about 1 week to hatch and become larvae. After hatching, larvae will drift for about 16 days in plankton-rich waters. At the end of this, it will look for anemone of its own to inhabit.

Note: Avoid mixing various clown species; they will fight. 

Reference:

- animaldiversity.ummz.edu/accounts
- fishlore.com/profiles_tomato_clownfish.htm



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.

WINE RED SHRIMP



Scientific Name: *Caridina cf. cantonensis*.

Other Scientific Names: N/A.

Common Name: Red Wine Shrimp, Wine Red Shrimp.

Other Common Names: N/A.

Origin: South East Asia.

Found in the wild: No.

pH Range: 5.8 - 6.8

Ideal pH: 6.2.

Temperature Range: 62° - 72°F.

Ideal Temperature: 68°F.

Hardness Range: 2 - 10 dkh.

Ideal Hardness: 3 dkh.

Life Span: 1 - 2 Years.

Diet: Omnivore.

Gestation Period: 30 Days.

Size: 1" - 2" inches.

Wine Red Shrimp History

The Wine Red Shrimp is the selectively bred and very rare variant of the Bee Shrimp.

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 with Dwarf Shrimp in it.

Ryan



THE AFRICAN PENCIL FISH

Nannocharax parvus

When one thinks of African tetras the Congo tetra immediately come to mind. But in reality Africa has many other interesting and beautiful tetras.

One of those is *Nannocharax parvus*. This fish is rarely available commercially, but when it is, it is usually sold under the trade names African pencil fish or African broad band darter tetra. Its habits are not like South American darter tetras.

This fish does not rest on plants or the bottom. Its behavior is very pencil fish-like for the most part.

The African pencil fish forms loose schools. This fish moves in spurts. A healthy fish always has its tail bearing down. A fish which consistently has its head down is ill.

The African pencil fish comes from Niger and rivers which flow out of that country. Nigerian exporters sometimes offer it. A small (2 inch) peaceful fish, does well in a community tank of other quiet fish. Do not put this with fast moving fish such as danios. It does very well with other pencil fish and rasboras and similar fish.

The pencil fish needs plants in order to feel comfortable and show its best colors. Peat or oak leaf extracts improve its colors. Their coloration is subdued but beautiful. Females have a white belly, a broad black rough edged band running from nose to tail and a tan upper body; the dorsal



Female is in foreground, male behind.


rays are black.

Males have a golden orange body, black edged scales nose to tail forming a band along the lateral line, black dorsal rays with an orange base, orange ventral, anal fins and caudal peduncle extending to the tail. The effect is very beautiful. The upper iris in both sexes is a metallic yellow/silver.

Neutral water, low to moderate hardness and a temperature of 72° - 80°F is preferred. Heavy current is **not** appreciated by this fish.

Flake food, small frozen foods, micro pellets and algae is readily accepted. Pencil fish usually feed off the bottom, but will feed at the surface once they become accustomed to it.

This fish breeds in typical tetra style. The fry require very small live food (ex: microworms). They grow quickly, reaching 1 inch in about 70 days. You may have to look hard to find African pencil fish, but the effort is well worth it.

Try some; you'll be glad you did. 

Happy fishkeeping.

Tony



SPECIES PROFILE

Scientific Name: *Nannocharax parvus*.

Common Name: African pencil fish, African broad band darter tetra.

Family: *Distichodontidae*.

Distribution: Niger to Ogove.

pH Range: 6.5 - 7.5.

Hardness: 25 dGH.

Temperature Range: 72° - 79°F.

Life Span: 6 to 18 years in captivity.

Size: Up to 2" inches.


Diet: Will eat flake foods, small frozen foods, micro pellets & algae are readily accepted.

Temperament: Peaceful, likes small schools and places to hide. Do not keep them with overly robust fish.

Sexing: Male is more slender when viewed from above. The two body bands of the male appear straight, on the female they appear curved.

Breeding: They have been bred successfully in captivity with daily feedings of bite size live foods.

Fry: The fry require very small live food (ex: microworms). They grow quickly, reaching 1" inch in about 70 days.

Note: Provide lots of light for algae to grow which is an important part of their diet. Most *Nannocharax* (African) cannot be distinguished from a *Characidium* (South America) with the naked eye. However, the African genus has ctenoid scales, while its South American cousin has cycloid scales. (see *Baensch Aquarium Atlas* Vol. 1 page. 164) 

Reference:

• *Baensch Aquarium Atlas* Vol. 2, Hans A. Baensch & Dr. Rüdiger Riehl, Tetra Press, 1993



Jason Shaw

First published in *"The Fishy Times,"* Campbell River Aquarium Society.
Aquarticles



FISH HEALTH

PART I

After doing a little more thinking about our newsletter and dealing with some of my latest problems, doing a fish health column was really making sense. In no way am I a doctor or an expert on fish disease, but I do have a few fish health classes under my belt and feel that if a club member has a particular problem which they would like to know more about, I could do their homework for them.

To kick this column into gear, I figured a little history might be in order, followed by some general precautions.

Fish disease has been around as long as there have been fish, but, believe it or not, we've only taken it seriously for the last thirty years.

There are a few notes that date back to the 1800's, but nothing to any detail. Of course, the technologies of today have opened a whole new world. It wasn't until the early 1970's that some real progress in fish health was made. With increasing industrial wastes and pollution, fish populations have really taken a beating, leading to high disease problems.

Fish disease is directly related to stress: sound familiar? The first step in fighting disease is prevention. It does sound a little obvious, but is often overlooked. Knowing in detail the species of fish you are keeping and its requirements is very important. Without this information, you are doomed from the beginning. There are many water quality parameters that are very different for each species: pH, temperature, water hardness, salinity and many other trace elements. If one of these parameters is sacrificed, this leads to stress, which leads to...you got it!!

One of the most exciting parts of keeping fish is feeding time. A fish's diet is of most importance. Once again, it may vary from species to species. Some require a high vegetable diet, while others



need live insects, high in protein. Once a fish starts lacking in nutritional requirements, its immune system struggles to operate efficiently. A poor diet will result in a stressed fish, which leads to...now you're getting it.

One of the best things you can do for your fish is WATCH THEM! That is why you bought them. They will always give you signs if they are stressed. They will do such things as: swim listlessly around the tank, hover in a corner, clamp up their fins, stop eating, scratch up against objects or just about anything that looks abnormal. These are your warning signs and should be acted on immediately.

One last thing to keep in mind is that your fish are at your mercy. They have to live in the same environment that they (do their business) in, so it is up to you to keep their living space clean. Monthly water changes of 20% are a good rule of thumb.

Hopefully this has given you a little more insight on disease prevention. Next month I will talk more about prevention, remedies and purchasing that new fish.

FISH HEALTH

PART 2

Last month I talked a bit about disease prevention and what to look for.

Sometimes no matter how well you think you are doing with your collection of aquatic buddies, things just go wrong. There could be many causes and a lot of times you may not figure it out. My last dealing with disease was very hard to diagnose, and I'm still not positive what happened. Maybe I could have avoided this situation if I had a hospital (quarantine) tank set-up.

Most people, including myself, don't realise how necessary it is to quarantine new arrivals. Even healthy looking fish can be carriers of disease pathogens. Adding a new species to your flourishing community of fish is a disaster waiting

to happen. The first step in adding new fish begins at the pet shop, assuming you have done your homework on the species you want to add to your community. Make sure you spend some time observing the fish you are interested in. Look for signs of distress. Don't be afraid to ask the shop employees questions about the fish. When did these arrive in your store? How do they seem to be doing? Are they being treated for disease right now? Also be sure that your tank parameters match those of the shop owners. If you are unsure to make a decision, that's ok! You would be much better off to come back next week when the new arrivals have settled in. One's perception of what to look for in a fish can vary. It basically comes down to your purpose for the purchase, whether it be for breeding, or for viewing pleasure. Just be sure that your specimen has all its proper finnage and is in good physical condition.

Once you have your new buddy home, there are many precautions to take. Place your new friend in its own isolated tank. Leave the fish in its bag, floating for fifteen minutes to equalize temperatures. Then undo the bag and allow some tank water to mix with the bag water, allowing it to float for five minutes. This will help acclimatise the fish to the pH of the tank. Once this time period is over, undo the bag and allow it to float freely. This will allow the fish to exit the bag when it feels comfortable. Once your fish is in the tank, be sure to keep it dimly lit and the temperature steady at that species' optimal range. Allow the fish twelve hours to become accustomed to the tank. During this time, observe. The next day, raise the temperature slightly and look for signs of any pathogens. It also would not hurt at this time to add one teaspoon of sea salt per gallon (unless the species is adversely affected by traces of salt). Over the next few weeks, observe for signs of disease. If something shows up, write the symptoms down in detail. Describe the fish's condition and its characteristics. You should then proceed to your favourite pet shop and discuss your problem there. They can then prescribe the proper treatment. Once your fish has passed its four week inspection and you feel the fish is free of disease, you can proceed with the transfer into its community. I know that this seems like a lot of



work, but it can save you time and money in the long run. You don't want to lose your whole family because of one sick fish, do you?

FISH HEALTH

PART 3

O.K. troops, last month I talked about fish selection and the use of a hospital tank. This month I would like to discuss "the process of elimination."


It wasn't that long ago that I suffered substantial losses in my fish room. It was a real drag, but what I learned from that experience will help me in the future.

There are many common diseases in the aquarium trade. The reason that pathogens do so well in this hobby is stress. If you think of it from a human standpoint, it makes sense. We all encounter stress in our lives and a lot of our health problems are caused by it. Fish are no different. So one of the main goals as a fish hobbyist is to relieve the stress. Most pathogens target the weak. They will then grow stronger and mount a bigger attack on healthier fish. As defense, fish have a few weapons of their own. Their first line of defense is avoidance. Fish will move out of harm's way when possible. Examples of this would be hot or cold fluctuations or a visible parasite such as a leech. Their second line of defense is a mucus coat. This is secreted from the fish to form a layer over its body. The healthier the fish, the thicker the coat. Their last defense is their scales. These overlap to form a coat of armour.

As you can see, the odds seem to be in the fish's favor. Unfortunately, pathogens are among the most opportunistic organisms on the planet: they have to be, to survive. Once a fish's defenses are down, many parasites are well adapted to prey on the wounded soldier. I know not many

of us are soldiers, but you should never leave the wounded to die. This is where you need to step in and fight back. Time is of the essence, so you must act quickly and accurately.


Now there is some good news and some bad news. Which do you want first? Most symptoms of many pathogens can overlap...meaning your listless fish might not be divulging much information. The good news is you may be able to force the enemy to rear its ugly head. The way to do that is crank up the heat. All living things have an optimal temperature at which they prosper best. By increasing the water temperature, you can speed up their life cycle and decrease their optimal range. This will also stress your fish further, but he's a goner regardless. Throw an extra air stone in to help with the oxygen level. Now not only does every living thing have an optimal temperature range, it also has an optimal environment. If I took away your oxygen, you'd know what I meant in a minute. So, by adding sea salt to your fresh water tank you may also discourage the enemy from further attack. After a few hours in the trenches, you should have a good idea what you're up against. Your next step is to find the proper medication for your fish's ailment. Your favourite local pet shop is your best bet. There are many medications on the market and you shouldn't have much trouble finding what you need. Be sure to follow the prescription fully.

Well, that was basic training. You may not always be able to save your buddies, but don't go down without a fight. 





So How Much Do You Think You Know About Fishkeeping?

1. Water that is neutral has a pH of _____.
2. An under gravel filter is classed as a A) mechanical, B) chemical, C) biological filter.
3. Plants give off oxygen through the day and carbon dioxide at night? (True____False____)
4. Algae is an active oxygenator? (True____False____)
5. Continually topping off an aquarium to make up for the evaporation causes excessively hard water? (True____False____)
6. Temperature influences the amount of food a fish can properly consume? (True____False____)
7. Is Daphnia a good fish food or an enemy? (Yes____No____)
8. Are Hydras a good food for fry or an enemy? (Good____Enemy____)
9. Would you use Methylene Blue as a cure with plants in the tank? (Yes____No____)
10. If your fish become puffed and the scales stand out at angles from their body, what disease would be the cause?_____.
11. If your fish dash about wildly, come to a sudden stop,exhausted what disease would likely be the cause? _____.
12. Mouth fungus is not contagious? (True____False____)
13. Does a Jack Dempsey have an adipose fin? (Yes____No____)
14. Does a Rosy barb have an asipose fin? (Yes____No____)
15. A small fleshy usually rayless fin found between the dorsal and the caudal fin on some fish is called? _____.
16. An unpaired fin in a ventral position between the anus and the tail is called? _____.
17. The tail fin of a fish is called? _____.
18. A paired fin in a ventral position in front of the anus is called?_____.
19. A paired fin behind the gill opening is called? _____.
20. The sense organ extending along both sides of a fish's body is called? _____.
21. An anal fin that has been transformed into the copulatory organ of some male fishes is called? _____.
22. An unpaired fin on the back of fishes is called? _____.
23. Having a density between that of sea water and that of fresh water is called? _____.
24. A fish that lays eggs is said to be _____. (scientific name) 

Answers on page 34



Greg Speichert

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THE 7 DEADLY SINS OF PONDKEEPING!



1 Making the pond too small, too shallow, or too deep.

Many first-time pond builders do not realize how many gallons it takes to make up a square foot of water. Two hundred fifty gallons sounds like a lot at first, but it is only enough to fill an area about 4 foot square and 2 feet deep. The best rule of thumb is to make the pond as large as you can for the space where you want it to go. If you really do want to start out small with an in-ground pond, then line the pond with EPDM rubber liner, so that you can add on when you decide to expand the pond or install a stream or waterfall. When it comes to depth, check with pond owners in your area to find out what works best in your climate. If the pond is too shallow, it will be difficult to care for fish or plants. The same is true if the pond is too deep.

2 Buying a pump that's too low in capacity or too high in electrical use.

Measuring proper pump size is another matter that should be given thought and consideration. A cheaper pump with lower capacity may seem like a bargain when you are in the store, but once you bring it home and it barely powers a little fountain, it will not look like such a good deal any more. Make sure to pay close attention to the energy use of the pump. Buying a cheaper brand that uses a lot of electricity will

end up costing you more money in less than a year's time. You will spend more money on your electric bill than you would have if you had simply bought a better pump. Invest in a good pump with a decent warranty. Avoid ones that are oil-cooled, since they can leak oil into the pond.

3 Making the waterfall or stream too big or too small for the pond.

Adding a running water feature to a pond is a wonderful idea. Unfortunately, it is not always easy to figure out how big to make the stream or waterfall. You have to keep in mind the amount of water that will be used by the water feature, because this will drain down the pond when the waterfall is running, and fill up the pond when the waterfall is turned off. There are excellent books on the market for waterfalls and streams. Buy them, borrow them from a friend, the pond club, or the local public library, and study them before you put in a running water feature for your pond.

4 Ringing the pond in stone so that it looks like a necklace.

A pond is not particularly attractive when it looks like it has been edged by the kind of jewelry that Wilma Rubble wore in the *Flinstones* cartoons. At our nursery, the display ponds have what we call "planting pockets." These are areas that are



scooped out along the perimeter of the pond, so that we can fill them with soil and plant water plants in them. Smaller sized stones are then placed over the soil. You can even build a bog garden at the edge of the pond, and then from there link the pond to your perennial border. Try to make your pond look like it fits with the rest of your landscape.

5 Neglecting to use enough plants to help balance the pond.


You may think that we recommend using plants just because we sell them. Ask any water gardener if more plants have improved the balance in their pond, and they will tell you that the plants have worked wonders. Oxygenators help reduce algae growth in the spring, and several marginal plants will help keep it to a minimum throughout the summer. Plants are also beneficial because they help shade the pond and keep the water temperature cooler through the heat of the summer.

6 Expecting the pond to look like a swimming pool.

North Americans are known for their cleanliness, and the same is true when it comes to their ponds. New pond keepers are aghast when algae starts to grow and the water clarity turns cloudy. This is normal, and a certain amount of algae is inevitable. You just have to know how to handle it and how to keep it to a minimum. You will never get rid of it completely, however. At least not if you want to have a pond with fish, plants and

other living creatures. For those who cannot tolerate a single particle of algae along the side of the pond, or who cannot stand the usual seasonal changes of water clarity, we recommend that they get rid of their fish and plants, and that they regularly add bleach. If they want fish or water lilies, we suggest ones made of plastic. Having a live pond is like having children – you learn to appreciate their core beauty and overlook dirt or untidiness around the edges.

7 Having either too many fish or not enough filtration.

Many gardeners decide to have ponds in their backyards because they want to have fish. The rest don't realize that fish are needed until after they have installed the pond. Putting too many fish in the pond, however, can be a disaster. It can seriously compromise the quality of water and place the lives of all of the fish in jeopardy. Too many fish can quickly foul the water, deplete the oxygen level, and change the ammonia levels to serious or even toxic. This is especially true in the middle of summer when pond temperatures rise during the day and drop at night. We use a conservative recommendation of one six-inch fish for every 100 gallons of pond water. If you want to have a lot of fish in your pond, then read everything you can find on fish health, maintenance, and water quality, and be prepared to add hard goods to your pond, such as filter units and ultraviolet sterilizers, to keep your pond water healthy for the fish! 



Answers to page 32 How Much Do You Think You Know About Fishkeeping?

1. 7.0.
2. (C) Biological.
3. True.
4. True.
5. True.
6. True.

7. Yes.
8. Enemy.
9. No.
10. Dropsy.
11. Flukes.
12. False.

13. No.
14. Yes.
15. Adipose fin.
16. Anal fin.
17. Caudal fin.
18. Ventral fin.

19. Pectoral fin.
20. Lateral line.
21. Gonopodium.
22. Dorsal fin.
23. Brackish.
24. Oviparous.





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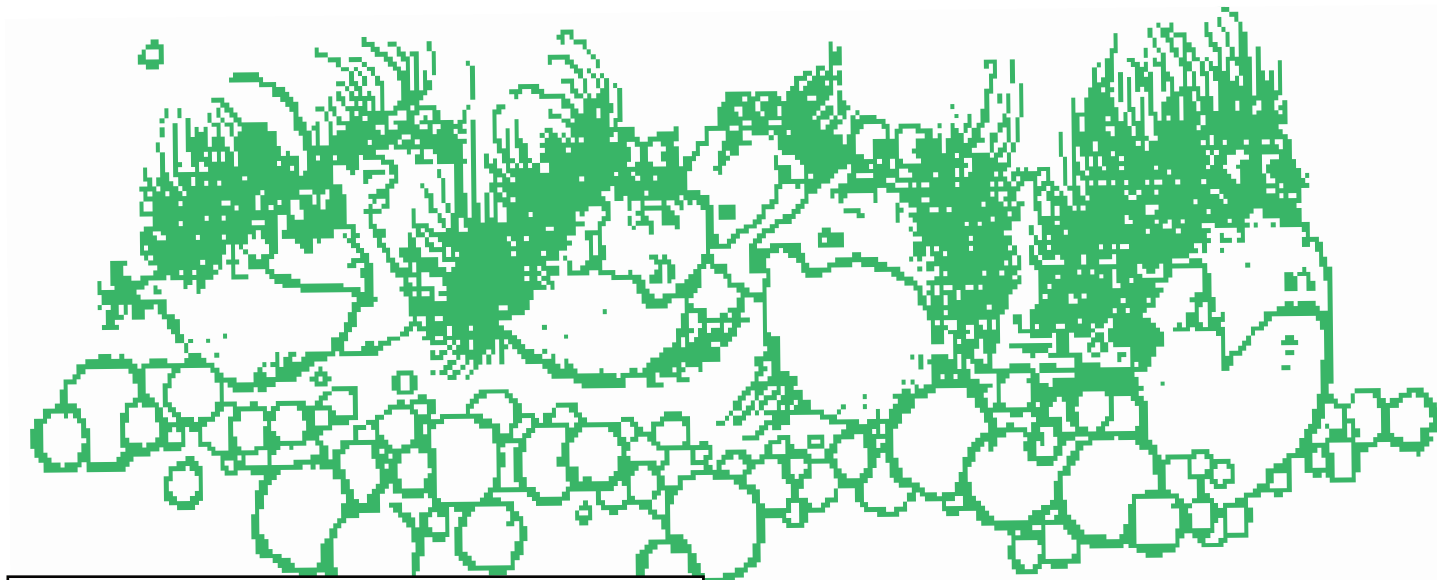
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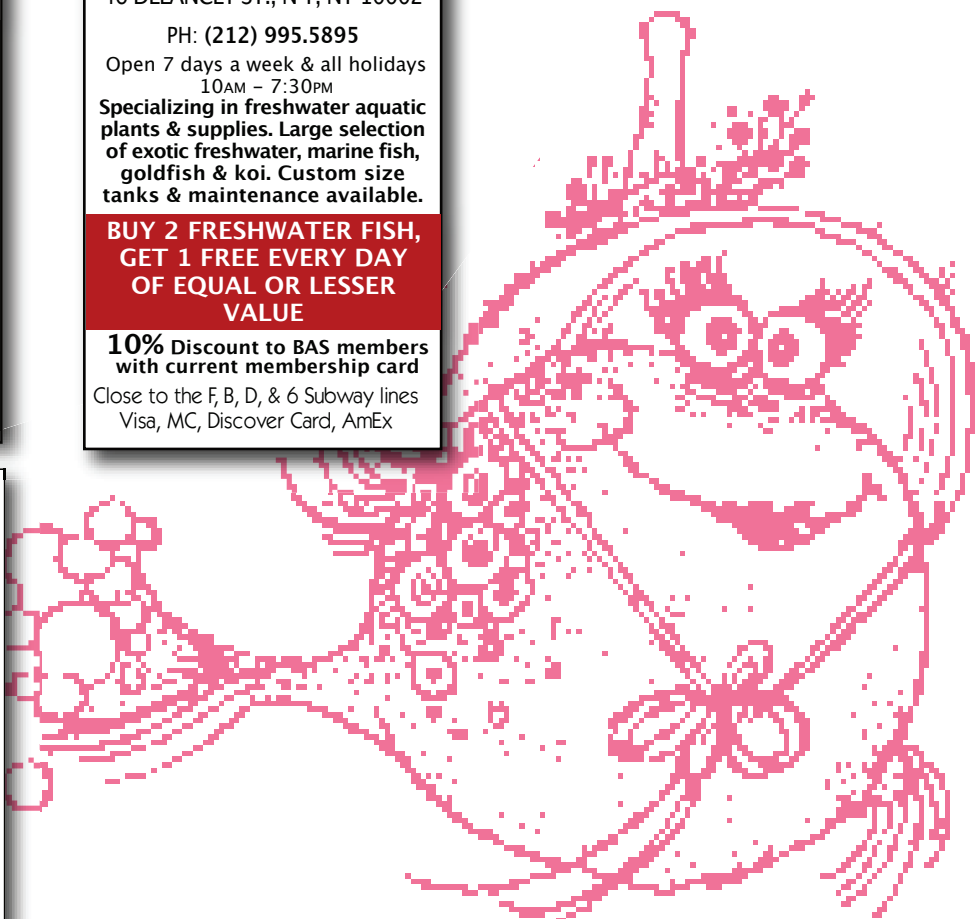
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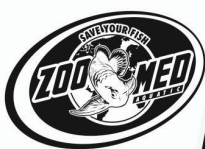
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P.O. BOX 290610, BROOKLYN, NEW YORK 11229-0011



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: WWW.BROOKLYNAQUARIUMSOCIETY.ORG

NAME _____ OCCUPATION _____

ADDRESS _____ CITY _____ STATE _____ ZIP _____

PHONE (DAY) _____ (EVE) _____ (FAX) _____

E-mail Address _____

TYPE & LENGTH of MEMBERSHIP: (CHECK ONE)

INDIVIDUAL

FAMILY

[] \$15 STUDENT 1YEAR

1yr.

\$20

2yr.

\$36

3yr.

\$51

4yr.

\$68

1yr.

\$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.

On occasion, the Brooklyn Aquarium Society uses its mailing list to send notices of interest to our members. If you **DO NOT** wish to receive these mailings please check here []

Official use

Member number: _____ Type of membership [F] [I] [S] Date
 paid: _____ Board approved date
 Amount paid: _____ Renewal/member since _____