



# THE FILTER



**Beckford's Pencilfish**  
*Nannostomus beckfordi*



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**TBAS . . . Since 1992**

Photo Mike Jacobs . . . 2019



# TAMPA BAY AQUARIUM SOCIETY

## "THE FILTER"

Tampa/St. Pete, Florida

# TBAS

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# TBAS

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As the editor of the TBAS FILTER I just wanted to take a second and thank someone . . . Joe Gargas!!!

Joe has been with the club for some 10-12 years now and has TOTALLY unselfishly giving us the use of his immense article collection. I consider Joe as one of the ABSOLUTE BEST aquarists I have ever heard when it comes to water chemistry but also he is one of the best aquarist I know of who breeds DISCUS and other fish! Make no bones about it folks, breeding discus is not just a matter of putting 2 fish in a tank and hoping they breed . . . like most of us do. His knowledge of discus breeding goes way back into the 1990's when only Jack Watley and a few others were pulling off the trick.

In addition to that I have never heard of Joe turning down a request to come to his house to see his fish or to just talk.

TBAS is EXTREMELY FORTUNATE to have Joe in our group . . . Joe - THANKS A MILLION MY FRIEND!!!!



*Mike*

Mike Jacobs, Editor TBAS Filter

*Betta splendens*

Red Male Betta

Photo by Mike Jacobs 2019



# A GENERAL GUIDE ON KEEPING DISCUS



by Joe Gargas

## INTRODUCTION

This article will attempt to cover the start-up of a discus hobby for the novice but will contain some valuable information for the commercial breeder as well. After ten years of experience as a breeder I have found that the majority of people entering this hobby make the same mistakes . Due to their large size and somewhat specialized water requirements, successful maintenance of this species demands that the aquarist have the proper knowledge to deal with them.

## Initial Purchase of Fish

When purchasing discus you must always decide whether to purchase a mated pair of adult fish or whether to purchase several juvenile fish, and then wait 10 to 24 months for these fish to reach sexual maturity and pair off. The



Photo by Joe Gargas

time required to reach sexual maturity will vary depending upon the strain of fish. In my opinion it is better to start up with at least ten juvenile fish of the same color strain than to spend several hundred dollars on a mated pair of fish when there is no guarantee that they will successfully spawn for you. Professional breeders are very reluctant to sell their most productive pairs as the profits from one successful spawning would be at least equal to the cash

value of the adult pair. For this reason it is very difficult to obtain good mated pairs of discus on the open market. A very informative article was published on the subject of purchasing discus in the August 1987 issue of FAMA under the title "Starting with Discus." Most of the German strains such as the various Schmidt

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Focke strains as well as the brilliant turquoise, etc., are not available through local pet stores.

The majority of the discus available in the pet stores are those that originated in Southeast Asia. These fish are shipped through a trans-shipper to a wholesaler from where they go to the local shops. Many of these fish have had their water treated with methyltestosterone or have been fed this hormone or other compounds to increase their color. The increased color will fade in approximately 45 days. Excessive hormone treatments can result in sterilization of the fish. In this country there are a few breeders who have health juvenile specimens of the various German color strains available which have not been hormonized.

### Tankage and Utilities

The first thing to do is establish the proper tank set-up for housing discus which are quite large as far as aquarium fish go. They are gregarious by nature, territorial when breeding and they display strong parental behavior. The author recommends the use of smaller aquariums, 20 gallons for housing breeding pairs, 55 gallons for housing 10 to 12 adult fish. Ten juvenile fish, the size of a U.S. quarter coin, should be housed in an aquarium no larger than 10 to 20 gallons. When they reach the size of a 50¢ coin they can be placed in a 55 gallon aquarium if half the water is removed to keep the fish school congregated near their food. The required utility items would be: a large capacity sponge filter such as the Jungle Goldfish Cloverleaf along with a submersible heater rated at sufficient wattage to maintain the temperature at 86 to 88 degrees Fahrenheit, 30 to 31 degrees Centigrade. Aside from this the tank should be bare; however, it is recommended to paint the outside of the glass walls on the rear and the sides as well as the bottom. The author recommends any spray enamel, the colors marlin blue on the side and flat black on the bottom are preferred by this author as this complements the colors of the fish quite well.



This author has a total of 15 breeding tanks, all of which are 20 gallon highs. Each tank is placed immediately adjacent to another tank so that the fish in each of the tanks can view the fish in the adjacent tank as the sides are not painted. My opinion is that this stimulates the territorial behavior of the parent fish which leads to more protective parental behavior and, therefore, more successful

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rearing of the hatchling fish by the parents.

## Feeding

Some considerations will be necessary when deciding what to feed these fish. The historical debate has always been whether to feed live or prepared foods. I believe that both can be used in various stages of the development of these fish.

### Prepared Food:

## Fat Free Turkey Breast Recipe

Now weigh out 1 pound at a time put it in the blender with 1- 2 cups of DISTILLED water. NOTE: You Must Use Distilled Water  
You may need to add more water to prevent blender from burning up. It all depends on how powerful your blender is.

Add. 10 mls of menhaden oil (fish attractant – bait shop) A full tablespoon  
Then 2 jars of Gerber strained garden vegetables. – Blend.

Then add 1/4 tsp of Carophyll Pink 10% Astaxanthin  
(Brine Shrimp Direct ask for Victoria 1-801-782-4700) -  
Blend for 45 seconds to a minute.

Last thing add 1/2 Tablespoon of my binder make sure blender is covered  
or else the beef heart will float. Blend no more than 45 seconds I blend on  
liquefied to get a consistency of pourable mayonnaise.

Pour the mixture in zip lock freezer bags or ice cube trays let set out room  
temp for 2 -3 hours before freezing it as this will give the binder time to  
work.

**You're done!**

Because the binder is cold setting you will not destroy the vitamins  
in the food. I sell the binder - its \$35 and is enough to make about 10 lbs of  
food. If you use less water you may be able to use less binder.

**Live Food:** Live foods will generally produce faster growth rates, and will bring  
fish into spawning condition quicker; however, there is always the danger of  
introducing parasites or bacterial diseases this way. Approximately three to five

days after the fry become free swimming, but while they are still feeding from their parents, newly hatched brine shrimp is added to the tank three to four times a day. Enough is added to produce a dense cloud through the entire aquarium. This is continued until the young are approximately one month old. The young are removed from the parents for ten to fourteen days after they have become free swimming and are transferred to a 10 gallon aquarium where for the next month the lights will remain on for 24 hours a day.

Some other live foods include Daphnia Magna and live black worms. I raise my own live Daphnia outside during the early spring and fall in a water-filled plastic garbage can. Black worms I purchase from California. These worms are, in my opinion, one of the best foods available for these fish and will produce very high growth rates when used in conjunction with other foods, and at least 50% water changes are made daily.

### **Spawning**

In approximately ten months, depending upon the strain of fish, the onset of sexual maturity begins. At this time, pair bond behavior starts. Two fish will break from the school and will establish a territory of their own in preparation for spawning. These two fish should be removed to their own tank. Attempts to spawn will generally commence after a two-day period during which the fish clean the surface of some object upon which they intend to deposit their eggs. Spawning almost always occurs during the evening hours. The eggs will normally hatch approximately 54 hours after spawning at a temperature of 86 degrees Fahrenheit. For 72 hours after hatching, the alevins will remain attached to the substrate upon which their parents have placed them. They next become free swimming and begin to feed from their parents.

### **Water Requirements**

It is necessary to reduce the water hardness to approximately 50 ppm. This can be accomplished by several methods.

**Rain Water:** While rain water produced excellent results in inducing spawning and the hatches were good, for fish the size of discus it is generally too difficult to collect enough water unless you have a rain cistern.

**Sodium Ion Exchange:** This is the familiar household water softener which requires the use of softening resin to reduce the hardness of water. This resin is regenerated by salt. The softening process replaces the metal ions in the feed water for sodium. As a result the hardness falls, however, the resultant water is

high in sodium. If the initial hardness of the water is too high, the eggs remain clear; however, there is almost no larval development probably due to the high sodium concentration in the softened water. Also if the sodium is too high, after about one month the fish will develop pinholes in the region of the head. If the initial hardness of the feed water is not too high, partial sodium softening to equal about 80% of the feed water may produce good results. There have been reports of this working successfully with Lake Michigan water.

**Peat Softening:** The best place to obtain peat is a greenhouse where the peat is sold in bales. The most acidic peat available will be the most chemically active in that it will reduce hardness the fastest. The acidity of the peat will be indicated on the bale and I have found the best to have a pH of 3.5 to 4.0; approximately one pound of this placed in a canister filter will soften 55 gallons of Lake Michigan water down to 40 ppm calcium carbonate in a 48 hour period during which time the pH will fall from 7.4 down to 6.0 to 6.2. Peat acts as a natural ion exchange resin, however, it does not exchange only sodium for the metal ions in the water as it is primarily exchanging the acidity of the humic acid present in the peat. Peat produced very favorable results for me in that I obtained good hatches. However, for large scale use I find it too time-consuming to use.

**Deionization:** I rented this equipment from a water treating company. I used the two-step process which involves a cation removal bed followed by an anion removal bed . I had the strong acid cation resin which removes all the cations followed by a weak base anion resin which removed all the anions with the exception of the bicarbonate ion. The effluent pH was 6.5 and the hardness was zero; however, this water was high in dissolved carbon dioxide produced by hydrolysis of the bicarbonate ion. Even after mixing this water with three or four parts of tap water the carbon dioxide was still too high to allow immediate introduction of fish. It was necessary to allow this water to degas for at least six hours under aeration. The danger of carbon dioxide asphyxiation made this impractical for my use.

**Reverse Osmosis:** While this method is comparatively slow to produce water and it has the disadvantage of a low yield of desalinated water as most of the feed water is wasted to brine reject, it is by far the simplest process for the hobbyist. Depending on the water needs of the hobbyist, units are available with outputs ranging from 10 to 20,000 gallons per day. I have been distributing these units for four years and the most popular units are the 50 and 75 gallon per day units. These size units utilize a 1/4 horsepower feed water charge pump to boost the



feed water pressure from 40 psi to 200 psi. With higher feed water pressure across the membrane, less of the feed water will go to brine reject and the yield of desalinated water will be higher. This is needed in units with an output of 25 gallons per day or more.

## Conclusion

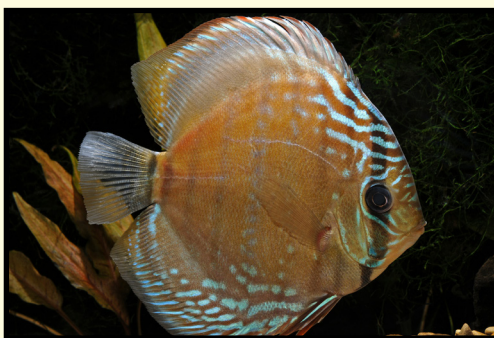
With the proper care and commitment the discus fish can give you years of enjoyment. Great strides have been made in the ability to raise and propagate this spectacular fish in home aquariums in the last two decades with most of these advances having been made in the last ten years. The future will probably bring an increased emphasis on the development of certain color strains.

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This author is willing to answer any questions regarding the species discus or on the use of reverse osmosis in water treating. I may be contacted -

**Joe Gargas: Email: [joegar@tampabay.rr.com](mailto:joegar@tampabay.rr.com)**

**Website: [www.aquaresearchcenter.com](http://www.aquaresearchcenter.com) Phone: (813) 641-7941.**



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# MEMBERSHIP DUES!!!!



**Membership Dues for TBAS are due on the anniversary of your sign-up date every year. Please make sure you check the “sign-in” list on the table at every meeting to check your “Dues-Date” . . . Thanks!!!**

**USE PAYPAL ON THE TBAS WEBSITE . . . TBAS1.COM . . . !!!!!**



Saltwater tropical fish are not immune to parasite infection caused by a sudden drop in temperature. The most common parasite is the dinoflagellate *Amyloodinium ocellatum*. It acts very similarly to the freshwater infestation, so most

marine hobbyists call it white spot or ICK. Saltwater ick attaches to the gills and skin of its host and will impair respiratory functions and can suffocate the fish. The fish will rub against the decorations and the bottom trying to get the parasite off, and the breathing rate will increase as the fish tries to get enough oxygen. In the wild, the number of parasites on a given fish is usually low and does not kill the fish. However, in a closed system, like an aquarium, the number of parasites can multiply unchecked to the point of killing the fish in as little as twelve hours.

There are several different treatments that can be used on the fish depending on the situation. A freshwater dip for 5 to 10 minutes will bring quick relief to the infected fish, however, in large, heavily decorated tanks, catching the fish may not be feasible. In fish only tanks, copper treatments can be used. The drawback to copper is that it is a slow-acting medication and it will bind with the coral or any calcium-based material like crushed coral gravel. This makes it very difficult to remove from the tank after the treatment is done. Formalin medications can be used and are faster acting, but they reduce the amount of oxygen in the water and the fish are already having a hard enough time breathing.

The best medication that I have found to fight saltwater ick is a Tetra product called TetraMedica Marin-Oomed. It is a non-antibiotic, Quinine-based treatment that can even be used with live corals and invertebrates. Dosage dilutions vary according to the type of livestock in your tank . . . inverts, hard coral, soft coral, etc. Be sure to follow the manufacturer's instructions.

A few years ago I had a 75 gallon reef tank with hard and soft corals and several fish in it. I noticed my fish scraping on the corals and I did a

quick water change, but they continued to scrape. Soon they began to lay at the bottom of the tank, breathing rapidly. Catching the fish was out off the question because of all of the corals in the tank. The Tetra Marin-Oomed had only been on the market for a couple of months and I had not tried it before. I read the instructions (which at that time were not as detailed as they are today), and treated my tank according to the manufacturer's dosage for corals. Lo and behold, by the next day, my fish were remarkably improved and in a few days they were back to normal. The medication has a Quinine hydrochloride dihydrate base and has proven very effective. I have since recommended it to other people and they have had very good results. Oomed is not recommended for use with some sea urchins and sea cucumbers species which can release toxins into the water when stressed.

With or without invertebrates in a marine tank, I would recommend using Tetra Marin-Oomed for saltwater ick. It has less problems than the other treatments and it does not disturb the filtration in the tank. Until next month, keep those fish happy and healthy.

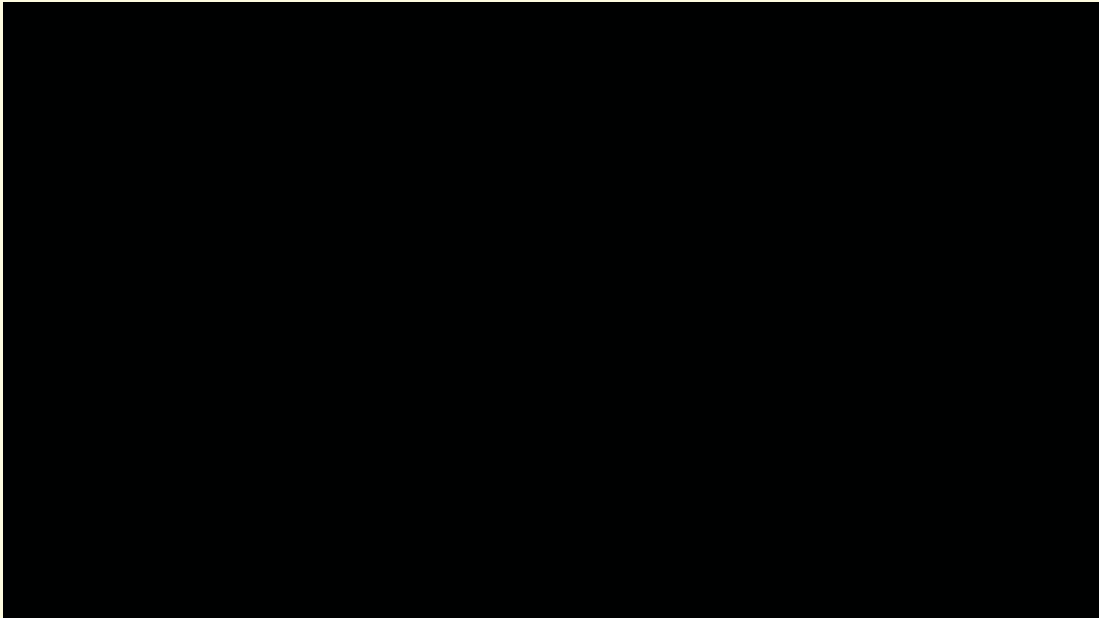


**Young *Vieja hartwegi* . . . Tailbar cichlid** photo: Mike Jacobs 2019



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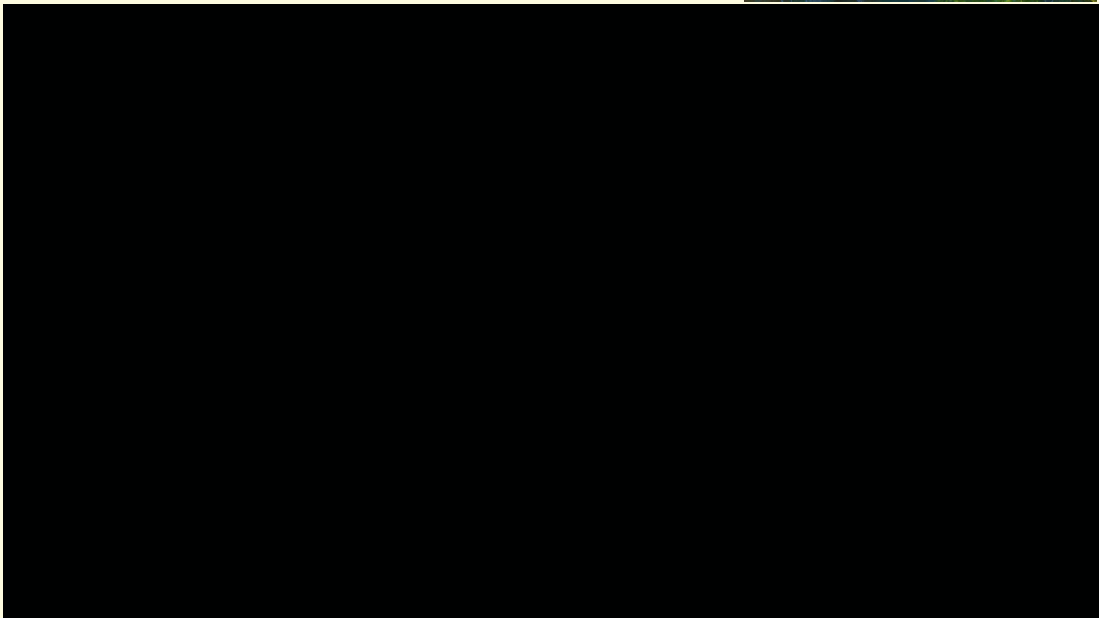
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## **THE BEST KOI ANGELFISH IN THE UNIVERSE**

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# Spawning Adolphi Catfish

by  
Mike  
Jacobs

Some years ago the *Corydoras adolphi* catfish hit the aquarium scene with a large furor...and even today the price of the “Adolphi” commands quite some respect. About a year and a half ago the TBAS had as it’s guest speaker the son of the gentleman the Adolphi catfish is named for..... Adolph Schwartz Jr. and



Adolph Schwartz Sr. of course is the gentleman for whom the nifty little cory is named. As cory’s go it seems to be very typical. Smallish...with the males being smaller and more slender than the females but I got very “tuned-in to the C. adolphi the more the Adolph Jr. told us about the little cat. Well at the end of the talk there were some *C. adolphi*

that were brought from the wild by Adolph Jr. and it cost me a pretty penny to end up with what turned out to be 8-10 females! Boy did a TBAS member come to my aid. John Peterson, who breeds catfish realized I didn’t have any males and graciously gave me 2-3 males for 2-3 of my females. What a great deal! Not a month or so after the introduction of John’s males they spawned! The water was all wrong.....hardness and pH....and there were only just a few eggs but I tried to take them out but alas nothing happened.....they all fungused.

I was more than a little excited because in all of the years that I have been keeping and breeding fish it was the first catfish I had spawned and it was the Adolphi! For the next few months I kept thinking that I better get to those Adolphi’s . . . it would be neat to get some fry from them, but time went buy and “stuff” happened and I never got the water to the point that they liked it. I had put in a little bit of RO water but not enough to make much of a change . . . I thought.

Another night....another TBAS board meeting at my house.....and Mike Lobello is hollering . . . “ . . . they’re spawning again!!!” and sure enough 3-4-5 of us watched them spawn a second time. This time I was ready however! I took each of the ohhhh 12-15 sticky eggs out with my fingers and put them in a small “covered butter dish” with some tank water and Bingo-Bango in several days there were say 10 little catfish fry wiggling in the bottom of the dish. All went well with the small cats, and they got to looking like real catfish at about 3-4 weeks of age as they were scurrying around the 2 gallon plastic tank they were in and then I had an operation . . . and broke BOTH feet . . . well to put it shortly . . . it was a month or so before I was in shape to deal with my fish and the little cats were gone . . . Ok, we start over again!

Well, it has been almost a year and I finally got around to treating the cats like they should be treated and they spawned again and it was on another TBAS BOD meeting at my house and a bunch of people again got to watch again! I got about 30 eggs and after

picking them out I put some acriflavine in the water and checked them each day for fungusing eggs and maybe 5-6-7 fungused . . . but there seemed to be a problem . . . it was the fourth day and not a sign of hatching . . . no fungus and they were developing but no hatches - fifth day and none hatched . . . oh man what do I do . . .



I remembered what Jim Cormier said he had done with some kind of catfish . . . he had picked the hard egg cases apart and the fry swam away. Well . . . nothing to loose. I got out the wife’s tweezers and away I went. I very carefully broke open the egg casing on all of the eggs and by goodness there were 7 that made it. Most all of the eggs had developed with fully developed fry in them but they had died in the egg casing . . . it was really sad! . . . but the good news was that I had 7 little Adolphis that seemed to be fine. Well after 3-4 days of feeding microworms to them I now had 5 left . . . and to this day there are 5 left and here are the 6 week old pictures. My guess is that the stories about some fungus inhibitors are true . . . they harden the eggs casing to the point that the fry can’t get out. I guess the fungus inhibitors should be changed after the first day or two . . . what do you folks think? . . . **CATFISH ARE FUN!!!**



Young Black Piebald . . . *Paralabidochromis Chromogynos*

photo: Mike Jacobs 2019



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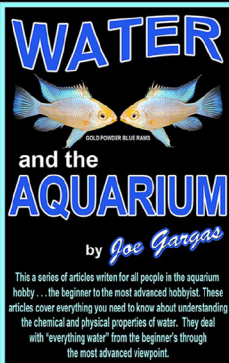


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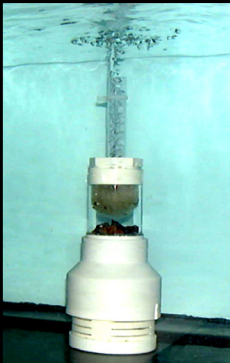


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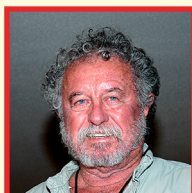
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