THE FILTER

Tampa Bay Aquarium Society

St. Pete/Tampa Florida

April 2021
Volume 30 Issue 8

Betta splendens
Betta Giant Short Tail Male

TBAS . . . Since 1992

Mike Jacobs photo 2021

TAMPA BAY AQUARIUM SOCIETY

"THE FILTER"

Tampa/St. Pete, Florida

TBAS

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TBAS

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President's Dharmesh Patel Stuff

Hello Tampa Bay Aquarium Society friends! I hope you all are well! If you missed it, we all enjoyed a casual get together at the Clarion Inn in Brandon. We enjoyed a couple raffles and a lively auction as well as each others company. Many thanks to the Board and members for their assistance. It could not been done without them. It was very nice to see some members we have not seen in the past year. Many could not join, but we hope to see them on April 12 at the same location. Until then, be safe and we'll see you all soon!

Dharmesh

Dharmesh Patel, President TBAS

Symphysodon Aequifasciatus

Marlboro Red Discus

Photo by Mike Jacobs 2018

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Part 3 Fish Nutrition

by Joe Gargas www.aquaresearchcenter.com

NATURAL SOURCES OF VITAMINS

Vitamin A: egg yolk, green algae, fish liver, small crustacea
Vitamin D: earth worms, tubifex, zoo plankton, algae, egg yolk, snails, shrimp, fish liver
Vitamin E: green algae, lettuce, egg yolk
Vitamin K: beef liver, lettuce
Vitamin B_1: green plants, gravel algae, yeast, egg yolk, beef heart, fish flesh
Vitamin B_2/B_6: beef heart, beef liver, yeast, kidneys, muscle tissue
Vitamin C: green algae, lettuce, water plants, beef heart, fish roe (eggs)
Niacin: yeast, liver, kidneys, muscle tissue

WATER SOLUBLE VITAMINS

In the vitamin B group, there are various vitamins and factors that overlap and have opposite effects - their multiple biological limits are often difficult to determine.

Vitamin B_1 is important in the breaking down of carbohydrates; a deficiency has little effect, since it is formed through the activity of bacteria in the intestine. During a large increase in metabolism though, one must pay special attention to the vitamin B_1 requirement, which is widely found in green plants.

Vitamin B_2 is best thought of as ''B_2 complex" since there are other factors involved. During a deficiency, there is a cessation of growth and lenticular turbidity. The content of this vitamin is particularly high in wet and dried yeast.

During a deficiency of Niacin (nicotinic acid amine), diseases of the skin and stomach and inflammation of the intestine occur. The same is true for Vitamin B_6 and Panthothenic Acid. Once again, yeast is rich in these vitamins.

Vitamin B_{12}, or animal protein factor, has the effect of a growth factor. During a deficiency, bacterial synthesis in the intestinal tract is impaired. A deficiency can also cause inadequate blood formation.

A heavy addition of vitamin B complex is necessary when fish are treated with antibiotics, tetracycline or oxytetracycline, since the intestinal flora are extensively killed off by such treatment.

Myo-Inosit (Meso-Inosit) is a biological factor that is necessary for the

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growth of various micro-organisms together with other factors. As a liver-protecting agent, it restricts fatty degeneration of the liver from toxic substances.

Vitamin C (ascorbic acid) occurs in green plants and water plants as well as in the intestinal tract contents of feed animals (plant plankton). Plant-eating fish may be capable of generating some of their vitamin C requirement. It is a growth requirement and it develops the defenses against infection. A deficiency can lead to deformation of the gill flap, among other things.

There is still only a little known about how or what the composition of a vitamin affects. A vitamin can be rapidly oxidized by irradiation with light and become ineffective. Filtration over fresh activated carbon should be avoided, and UV lamps should be shut off when a vitamin complex is given in the food or water, since loss of the vitamin can occur.

When purchasing food for tropical fish, pay attention to the vitamins that are added to the food. Watch for the type of vitamin C that is added, since it should be stabilized. Remember that any vitamins added to frozen meats must have a protective coating, otherwise the enzymes in the meat will break the vitamins down and render them ineffective.

Normally, fish do not suffer from vitamin deficiencies if they are given a varied diet that is enriched with vitamins and minerals by the manufacturer. There are also many vitamins on the market that should be given now and then.

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Killifish Video

Fundulopanchax gardneri

6 MINUTES AND 31 SECONDS LONG!

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20-40 second "load" the **FIRST** time!!!

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BLACKWORMS SINCE 1968

by Mike Jacobs

I have been handling and feeding blackworms to tropical fish since about 1968. I was a young kid (23) working at a fish store while going to Purdue University and we had been using and selling the red tubifex worm to the hobbyist for 1-2 years . . . and then all of a sudden there were these “monsters”. The black worm is not a black “red tubifex worm”. It is simply another type of worm that someone thought would be of some use in the hobby. Boy, talk about an understatement.

The red tubifex worm tended to spoil easily and really make a mess in the tank and the container in which they were kept. The black worms seemed not to be this tremendous mess so they were an instant success. Black worms are about twice as big as the tubifex worm but after a while you don’t seem to notice the difference and most people became less squeemish very quickly.

The discussion of the possibility of disease will be saved for a later article. Let it suffice for the moment that I have used them for some 30 years and can count on 2-3 fingers the number of fish I think I lost to these worms. So let’s find out how I treat them before I feed them to the fish.

I get the worms from the fish store in a bag . . . generally about a fist full but get what ever amount you wish. Put them in a long, low, flat container (see the picture) . . . and rinse the be-goobers out of them. The first day I’ll rinse them 5-6-7 times until the water coming off them is perfectly clear. I then put the container in the refrigerator and clean them the next day. I rinse them 4-5 times each time I get them out to clean them. I run the sprayer over them so that they “boil” in the stream of water. When the container is full of water I set it down until the worms all go to the bottom and then I pour the water out of the container. I do this every day for at least 4-5-6 days until the water at the first of the cleaning is as clear as the last water I rinse them in . . . it will happen. I usually have one container I am feeding from and one container I am cleaning. I have had good clean black worms last up to a month without feeding them . . . until I fed them all to the fish . . . they seemed perfectly clean and healthy the whole time.

Breeding: This is a reprinted article from the South Carolina Biological

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Supply House

"California blackworms can be cultured and easily maintained in a small aquarium or deep pan filled with 23 inches of spring water (or aged tap water). At room temperature in the laboratory, populations double in about 34 weeks or less. Using a disposable plastic pipette, transfer a few dozen, undamaged, healthy worms into the aquarium. Never attempt to handle or transfer worms with forceps or hooks. They are easily injured by these instruments. Next, add enough strips of brown paper towel to just cover the bottom of the container. The towel serves as a fibrous substrate of decomposing material, both for the worms and for numerous microscopic organisms that may cohabit the culture, such as bacteria, protozoans, rotifers, and ostracods.

Add sinking fish-food pellets as the primary food source for this simple aquatic ecosystem. Start by adding one or two pellets. After a few days, add one or two more, but only if the others have been consumed. Do not overfeed, since decomposition of uneaten food may contaminate the aquarium and cause a mass die-off of worms. Worms are not harmed, however, by irregular feeding or long periods of starvation.

Replace water lost to evaporation by adding spring water (or distilled water). I recommend continuous, gentle aeration, and this becomes increasingly important as biological decomposition of the paper occurs and as the worm population increases.

As the paper towel disintegrates and waste residues accumulate, replace the culture water regularly (about every two weeks) by slowly decanting it down a drain. Be careful not to lose remaining paper and worms at the bottom. After rinsing the paper and worms again with spring water, and decanting, refill the aquarium to the original level and add new pieces of towel. I suggest the occasional "harvesting" of surplus worms; these can be used for classroom experiments, as live food for fish, or for starting duplicate cultures. I strongly advise the maintenance of at least one duplicate culture. If you follow these procedures, the worms reproduce continuously by asexual reproduction (fragmentation), and cultures may be sustained for years."

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100 Cardinal Tetras: VIDEO

3 MINUTES AND 11 SECONDS LONG!

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S O M E T H I N G T O S E E ! ! ! Part 4

Betta splendens,
Fancy Plakat Red

Oryzias latipes,
Youkihi Medaka

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Geophagus argyrostictus,
Geo Blue Lip

Mikrogeophagus ramirezi,
Wild Caught Rams

Astronotus ocellatus,
Red Tiger Oscar

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Rineloricaria sp,
Red Lizard Catfish

Trigonostigma heteromorpha,
Purple Rasbora

Pimephales promelas,
Rosy Red Minnows

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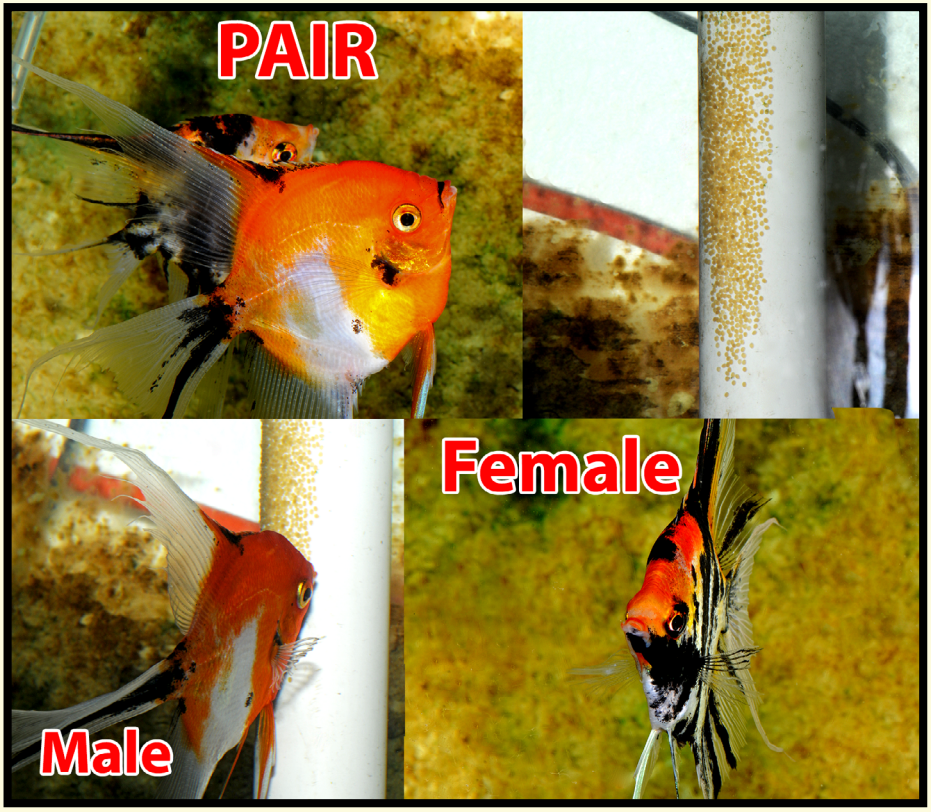

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The Secrets of the Wonderful Wet-Dry

Recently I had the great fortune to set up not one, but TWO wet-dry filters for a couple of members of the club (not the hang-over-the-back-power-filter-type). I have been using a wet-dry filter for the past 7 years and currently own two of them. One is up and running on my 110 gallon goldfish tank and the other is waiting for the 70 gallon tank I am setting up. I realize that this is a confusion filter system even for experienced hobbyist. Most people think of this filter as a saltwater filter only, but I find it works very well on freshwater and I highly recommend them to anyone.

Because I think I have had everything go wrong that could go wrong, I thought I would pass on my experience to help someone else.

The standard wet-dry has two main parts: the pre-filter and the wet-dry. The pre-filter is the output and the water flows over the top of the inside chamber through a pad, then through the overflow tubes to the back chamber. The pad inside chamber catches bubbles before they go into the overflow tubes. Without the pre-filter pad the bubbles will build up in the overflow tubes and break the siphon. The outside chamber has a reservoir built in so in cases of power outage the siphon won't be broken. Some pre-filters are drilled into the bottom of the tank usually in the corner: there is a stand pipe and sometimes a panel sealed across the corner of an overflow. But, no matter how it is built they are pre-filters.

The second part is the wet-dry filter. So why do they call it a wet-dry? The first chamber of the filter is above water making it the "dry" part. This chamber is usually filled with bio-balls or DLS material. With the water

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flowing over the filter medium, instead of through, there is a large surface area providing continuous oxygen for the nitrifying bacteria and no dead spaces. Under the dry chamber is the “wet” chamber usually filled with a heavier medium like lava rock or bio blocks. This area still gets oxygen because the water is sprinkled into it. Sometimes there is another chamber that is also “wet” provided for carbon, Chemipure or for a protein skimmer (another article). Then comes the reservoir - this is where water is added and the level is checked. If it is too low, then the pump will suck in air. It makes a sound that will wake me out of a dead sleep. If it is too full then it will overflow when the power is turned off. The pump can be a power head or a water pump attached to a hole in the side. Anything that will pump the water back into the tank will work. At the top the water goes in with an angled tube to allow the water to flow across the surface. This tube can be the source of a few headaches.

When my friend was building my first wet-dry he flooded his living room twice before he installed a siphon breaker. This is a little hole drilled at water level that will suck in air if the power is turned off preventing the reservoir from overflowing. His wife was very happy when I picked up the wet-dry. Another time, after the tank had been up for a couple of years the hole became blocked with algae and overflowed in my living room.

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***Badis badis* - Blue Badis**

photo: Mike Jacobs 2017

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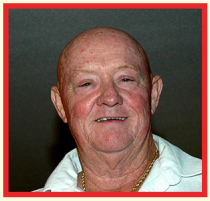

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