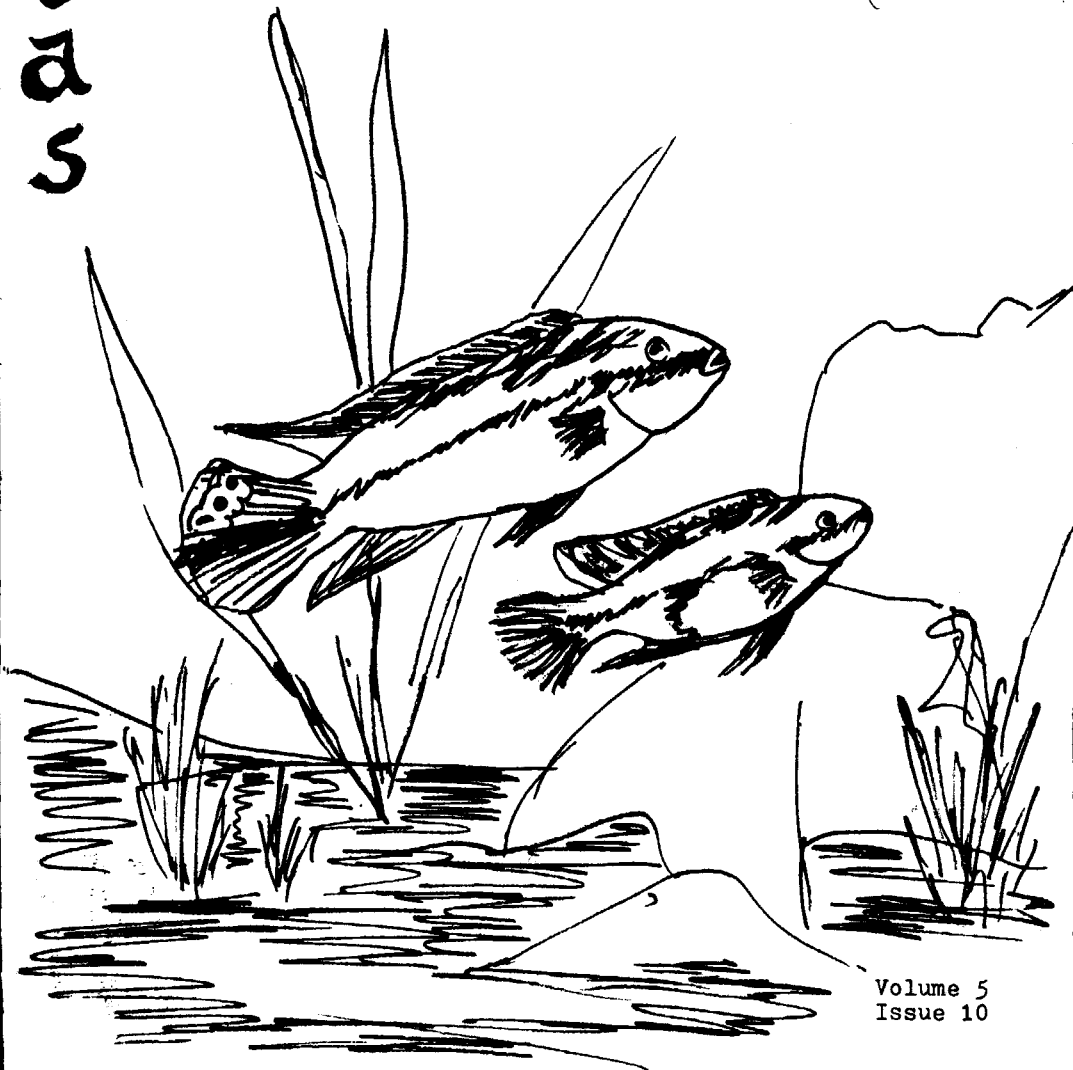


DELTA TALK

OFFICIAL PUBLICATION OF P.V.A.S.

OCTOBER 1974

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DELTA TALE is published for the benefit of the Potomac Valley Aquarium Society (formerly the Potomac Valley Guppy Club), a non-profit organization, established in 1960 for the purpose of furthering the aquarium hobby by disseminating information, encouraging friendly competition, soliciting participation in its shows, and promoting good fellowship. Correspondence should be addressed to Secretary, P.V.A.S., P. O. Box 6219, Shirlington Station, Arlington, Virginia, 22206. Original articles and drawings may be reprinted if credit is given the author and DELTA TALE. Two copies of the publication in which the reprint appears should be sent to DELTA TALE which will forward one copy to the author.

All materials for inclusion in the DELTA TALE must reach the editor no later than the Saturday after the monthly Monday meeting.

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1974 MEETING DATES

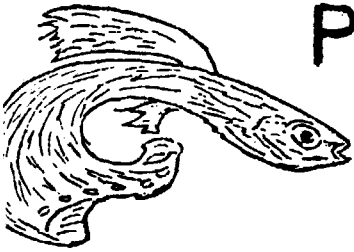
January 14	May 13	September 9
February 11	June 10	October 14
March 11	July 8	November 4
April 8	August 12	December 9

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COVER

A pair of *Pelmatochromis kribensis*.



POTOMAC VALLEY AQUARIUM SOCIETY

FROM THE PRESIDENT

Dear Fellow Members:

Since this is October, I hope I'm not rushing the holiday season by directing your attention to next year, but that is my main subject for this month. The PVAS Nominating Committee has recently met and selected a slate of officers for 1975. In November we will have a chance to elect our officers from those that are nominated by the Committee and those nominated from the floor. You have another chance to make feelings known.

Actually that statement is not quite true. Historically you won't have any choice at all in November. You can anticipate having one candidate for each position. That says something to me, but I'll let you make your own conclusions. Maybe it's time for each of us to re-evaluate our interest in the Society and the activities of the Society.

Michael T. Sprague

Membership

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Things

The major item of interest this month is the report of the nominating committee. The nominating committee, chaired by Steve Siska, was made up of the following members;

Ted Walsh Carl Hardy Sue Sprague Genny Story

The Committee has met and selected a slate of candidates. The Candidates have been contacted and are willing to run. The candidates nominated by the committee are:

John Jessup	-	President
John Wolcott	-	Vice President
Gene Sergent	-	Treasurer
Ruth Brewer	-	Recording Secretary
Chuck Story	-	Corresponding Secretary
Ted Walsh	-	Board Member
Loren Wilson	-	Board Member

Additional nominations can be made by the members from the floor on October 14, at the general meeting. Be sure to attend the November meeting and vote for the candidate of your choice.

We would like to welcome the following new members to P.V.A.S.:

Glen Sherbondy Bill Mosteller Mr. and Mrs. Larry Wilson

The following memberships expire this month:

Robert Brunelle	Bob and Dee Smith
Jennie Hardy	Mike and Susan Sprague
Steven Keller	Lee Merker
Alex and Sharon Melnick	Craig Tingen

Please complete the enclosed renewal form and mail with your check to P.V.A.S., P.O. Box 6219, Arlington, Virginia 22206.

RESEARCH INDICATES: CALCIUM OXALATE STONES
IN FISH HEAVILY FED ON SPINACH

By: Tony Benages
Reprinted from Fin Features,
August 1974 ✓

Having concluded experiments and study on sex reversal in the Poecilidae (live-bearing tooth carps) and the Cyprinodontidae (egg-laying tooth carps), I decided to experimentally induce sex reversal on Goodeidae, specifically Xenotoca eiseni.

In preparation for the experiment, I conditioned 20 unsexed fry of X. eiseni on a beef heart and spinach blend with a special emphasis on additional spinach in order to fulfill the requirement for a vegetable matter in their diet. They were fed three times a day on this diet and the water in the aquarium was changed 25% weekly. Within three weeks, I was able to separate the males from the females in order to maintain virgin females for my experiments.

The fish were maintained on this diet when at 8 weeks I began to notice curvature of the spine on a few of the fish. Since treatment with hormones had not yet been started, and none of my other fish were showing these symptoms, I had to assume that something in their diet was the cause for this anomaly. An autopsy of the affected fish revealed two things. First, as was expected, the bone structure was not as firm as the bone of the fish not affected by this ailment. Secondly, upon observation of the organs, I notice that the kidneys looked somewhat "gritty". Closer observation revealed an abundance of kidney stones. The ventral tubules of the kidneys seemed to have the greatest concentration of stones.

At this time, I decided to temporarily halt my work with sex reversal and attempt to find the cause of the curvature of the spine and kidney stones. Since I did not have any extra X. eiseni to spare, I set up four five-gallon aquariums with 15 common guppies in each. I used tank #1 as a control tank in order to better evaluate the findings of the other three tanks. The fish in tank #1 were fed commercial staple fish food flakes and water changes were made three times per day. All four tanks had water changes conducted with the same frequency. In the #2 tank I duplicated the original conditions feeding the same beef heart/spinach blend. Tank #3 was fed only spinach and all other conditions remained the same. The fish in tank #4 were fed only a beef heart blend with no spinach added.

While waiting for the results, I attempted to find out from

other sources the reason for the curvature and the stones. Almost miraculously, during conversation with a professor of biology at Indiana University, the subject matter came up in discussion. He mentioned that similar findings had occurred with the leopard frog (Rana pipiens) and laboratory rats, when fed foods that had high amounts of spinach in the diet. Wanting to know the reasons, I asked him if he could obtain the papers for me.

Meanwhile the guppies had been maintained for two months under experimental conditions. Slight curvature of the spine was noted in tanks #2 and #3. All the fish were sacrificed and comparisons were made with the spinal columns and kidneys. Fish from tanks #1 and #4 showed normally developed spines with no curvature. Their kidney were normal except for 1 which had three noticeable stones.

In the guppies from tanks #2 and #3, a considerable number showed curvature in different stages and all but two in tank #2 had in excess of 20 stones. The two in tank #2 had 7 and 10 respectively. I was still without an explanation, however, until I received the papers which I had asked for.

I received a paper reprinted from The Journal of Experimental Zoology, Vol.90, No.3, August 42 called SOME EFFECTS OF SPINACH FEEDING ON RANA PIPIENS TADPOLES, by Robert Briggs and Margaret Davidson. Their observations paralleled mine except that they were observing the leopard frog (R. pipiens) and I observed it in the common guppy (P. reticulata).

The explanation for the deposition of the stones in the kidneys and the curvature of the spine is that spinach has a high concentration of oxalic acid. The oxalic acid renders much of the Calcium in the diet unavailable, resulting in the formation of kidney stones (Calcium oxalate) and faulty bone formation due to the absence of Calcium so necessary for proper bone development. Utilization of lettuce instead of spinach remedies the situation since there is relatively no oxalic acid in lettuce.

Ed. Note: I thought this was an important article especially for those of us who may use spinach in the homemade formulas we have for our own fish.

NOTE NOTE I am putting in a Trading Post next month so if you have anything you want to sell, trade, or want please let me know by the Saturday after the monthly meeting.

"SO YOU WANT TO BREED BETTAS!"

By: J. C. "Doc" Neil
Reprinted from The Potomac
Bulletin, May, 1960 ✓

During the past ten years we, at our house, have spawned and reared thousands of Bettas. When we started the project, we considered ourselves fortunate if we raised ten percent of the fry. By trial and error we learned that by carefully selecting our breeders and furnishing them with the proper surroundings we were able to save at least ninety percent.

For the benefit of those who have tried and failed and for others who would like to breed Bettas, I will attempt to answer the questions usually asked, and also explain the method which has worked successfully for us.

Required Equipment

- A five gallon aquarium
- A sheet of glass or plastic for the partition
- Sand sufficient to cover a sub-sand filter
- A bunch of Cabomba, Water Sprite or any other bushy plant
- A cover for the aquarium
- Some type of sub-sand filter

Tank Preparation

- Clean sand and tank thoroughly - boil sand if there is any odor
- Put filter into place and cover with sand
- Fill tank with aged water to a depth of 5"
- Set plants in one corner of the tank
- Put partition in place
- Bring the temperature to 80°
- Introduce the female into the planted side
- Introduce the male into the other side; sometimes, a floating plant is used to help anchor his nest

Spawning

At 80° F the male should start building his nest. When we have a slow starter, we have transferred bubbles from his bowl or from another male's nest; this conveys the idea to him. During his bubble blowing the male will often dash over to the partition, showing his most brilliant colors, to entice the lady over for a little love making. Following this performance, the female will

come out of hiding and meet him - that is, if you have selected a female that is ready to spawn.

When the bubble nest has reached a diameter of a couple of inches and the female appears ready, take the partition out. It is best to stay with them for a while because the male may be rather pugnacious and give the lady quite a beating. Ordinarily the male will make a couple of passes and then go back to his nest and permit her to follow. All being serene, the first embrace will take place. Usually there will be no eggs dropped until they have embraced several times. When the female does drop her eggs the male, sometimes with her help, will gather the eggs and blow them into the nest. The spawning may take 90 minutes, during which time as many as 300 eggs will be dropped.

Should the male continue his rough tactics and refuse to let the female under the nest, it is advisable to replace the partition or remove the female and try another. Sometimes you find a pair that are not compatible. When the spawning is over, the male will drive the female away from the nest. If she is not removed immediately, he will beat her to death. Taking care of the nest is his job and he will stand for no interference. After about 40 hours, the eggs will begin to hatch and the fry will start dropping from the nest. Papa will gather the babies in his mouth and blow them back. As soon as the babies are able to return to the nest under their own power, usually in 36 hours, take papa out. He may become hungry and his offspring will disappear in no time.

Feeding The Fry

After the yolk sacs in the fry have been absorbed, begin feeding with fine foods, such as infusoria or egg yolk (Gerber's baby food). We use Liquifry - the red tube obtainable in most aquarium and pet shops - and we found it to be very satisfactory. We feed a little at a time, but often. We switch to larger food as soon as the fry are able to eat it. As a rule of thumb, use a food no larger than the eye of the fish. Following the infusoria, we feed microworms and micrograin, a little at a time, but often. The fry are always hungry and all they have to do is eat.

After removing the male, and when the fry are free swimming, connect the air hose to the filter. Bettas are labyrinth fish and require plenty of oxygen in the water until they start going to the surface for air. We find it best to leave the fry in the spawning tank for at least three weeks; they are then moved into a larger tank where they have plenty of room to develop. We have found that we lost many of the babies if they are moved too soon.

The temperature must be kept constant; at least 80⁰F. Drafts must be avoided - a current of cool air over the surface of the water is sudden death to the babies.

If you keep them warm and feed them right, they will grow and become the pride of your aquarium.

Remember - other methods are used successfully. If the fish are ready, willing and able, they will spawn in pint jars, 100 gallon tanks, or the bath tub. Our own method has been the most successful for us. We sincerely hope that it will be successful for you. Try it.

DIARY OF A MAD FISHWIFE

By: Susan P. Sprague

On Sunday, Sept. 15, 1974, Mike and I started out for York, Pa. at 8:30 a.m. with Robert safely ensconced at a neighbor's house for the day. Our purposes were to see some friends introduced to us by Sue O'Meara, and to attend one of their monthly meetings.

We arrived at Tony & Connie Rizzuto's around 10:45. They supplied us with a very welcome cup of coffee. After this pick-me-up, we progressed to the combination rec room-fish room. I was sorry to see that his 125 gal. saltwater set-up had been torn down after being set-up for two years. He did have a 30 gal. tank with assorted fish, anemones, and crustaceans. For you saltwater buffs, he used to have a breeding pair of cinnamon clownfish, but the parents and fry had died. Tony also has a very impressive 50 gal. tank of J. ornatus and J. marlieri breeding and raising fry quite happily together with a few unpaired J. transcriptus. Their collection also included assorted killies, cichlids, and anabantoids. VERY NICE!!

A little later Vaughn Silar, who used to live in York until he was transferred to Altoona, Pa., came over. He later did quite a good job as auctioneer at the Greater York Aquarium Society meeting.

After much fun talk, we drove over to Mark & Joy McMaster's. Mark has quite a collection of S. American cichlids, mostly dwarfs. He also is becoming more and more interested in killies. Joy is an anabantoid fan. She has a few Ctenopoma and various gouramies, etc. She also has a spawn of Black Paradise fry. Quite a feather--

We got to the GYAS meeting after much bagging of fish for the auction and plenty of fish and plant talk. The McMaster's have quite a collection of house and aquatic plants. The meeting was quite informal and lots of fun. They discussed the show they had just put on at the York Fair and how much work it was with very little return financially. There was a small bowl show and the main emphasis was on an auction. Mike and I became the proud owners of two male Bettas, a trio of Aphyosemion gardneri, three orange chromide fry, and three P. elongatus. The club made \$57+ on the auction. I think it is something to consider for a periodic money maker in our club.

After the meeting we all stopped by Lonnie Langione's house to see his fish room. He is basically into African cichlids and has a nice fish room.

Around 5:00 p.m. we arrived back at Tony's for the food. It was scrumptious! Thank you Connie and Joy.

We finished eating and over our coffee viewed some of Tony's slides of the Pittsburg Aquarium and various fish collections. He also had a group of slides of many different killies--I thought cichlid names were difficult! We hated to run but it was 9:30 and we knew we had two hours on the road ahead of us plus acclimating our purchases to their new homes.

This has got to be a great way to spend a Sunday. There was much good fish talk and a chance to really get to know other people in the hobby. I suggest everyone should try to cultivate new friends with similar interests. Such great new ideas come about. After all, it got me to write an article, didn't it?

* * * * * Oct. 14, 1974 * * * * *

Guppy: Multi, 2 matched males, AOC
Cichlid: Cent. & S.Am.(med.), African dwarf,
Open
Other: Tetras, Characins, Open

NEW AFRICAN SPECIES IMPORTED

By: Jerry Meola

Traditionally the summer is the time for hibernation in the fish industry. This year, however, importing interests turned to bringing into the country small quantities of rare species.

Approximately one hundred *Tropheus duboisi* were imported this summer for the first time. With each shipment of ten to twenty fish the price had a nasty habit of increasing to where a full grown adult will cost over two hundred dollars retail today. The value was enhanced recently when for the first time they were spawned in this country. The spawning method used was unique and I pass it along to anyone raising *Tropheus* species. It was originally used with Mooreis. A large tank is used to gang breed a number of adults since sexing the fish is impossible. The tank was first modified by adding panels of plexiglass vertically in the tank at various places inside the tank. The plexiglass did not partition the tank, the fish could swim around them, but they created invisible barriers at random locations. All *Tropheus* species are rough on their own kind but when they attached in this tank they often hit into a divider rather than the other fish. After a few collisions the fish tend to settle down and coexist better.

The first shipment of *Duboisi* came with a fish shipped as baby *Frontosa*. It was a month later before the purchasers, myself included, realized that they were not *Frontosa* but a new species identified as *Lamprologus sexfaciatus*. The fish is white and black striped vertically with pale blue fins. It has the elongated body of a *Lamprologus*, a large wide mouth and green eyes. It has never been spawned but is probably a substrate spawner which will eventually reach a length of five to six inches. P.S. Since the fish was properly identified, the wholesale price has doubled. It created a sensation at the ACA convention last month.

The last shipment I saw from Tanganykia contained a new *Julidochromis* species never before seen. The fish has a yellow to tan colored body with a dot pattern similar to a *Marlieri* only smaller dots connected by a horizontal bar pattern similar to *Regani*. This is the fifth *Julidochromis* species discovered and with only twenty-five specimens the price will flirt in the hundred dollar range for a while. Incidentally, one hundred *Regani* were recently available in New York. This is the largest quantity yet available and prices were ranging between forty to sixty dollars. The fish is white with five to six closely spaced hori-

zontal bars.

A new Petrochromis species arrived from Tanganykia. It was five to six inches long, clearly capable of growing larger, and very heavily bodied. The fish was a yellow brown when unpacked but could possibly color to a bright yellow with conditioning. The head was almost one inch thick with a mouth that went clear around giving it a somewhat comical look.

Cyathopharynx furcifer arrived in quantity (50) for the first time, not that the quantity will be sufficient to lower the price any. The fish was silver not showing any of the blue coloration attributed to it. This is not uncommon for wild fish before they become acclimated. They were five inches long and possessing long ventral fins almost the length of the fish. The male develops yellow tassels at the end of the fin for a graceful appearance in any tank. Unfortunately, the price appears to be staying in the hundred dollar range for some time to come. The fish creates a huge sand nest in nature and may be difficult to breed in any but the largest of aquariums.

Two new Moorei species are to arrive this month. The long rumored yellow/green variety and a species the exporter describes as yellow banded. I'm a little sceptical about this second description and I'll wait and see. The price on both will be far above the price range of anyone not on an unlimited budget.

Early in the summer two pair of a new Aristochromis species were shipped by Davis from Malawi. Three arrived dead and the fourth did not last long. Two months ago six more arrived alive this time and a year from now the newest sensation will possibly be available. The fish has the same stunning blue coloration of the Peacocks and Trematocranus. The dorsal is trimmed in white. The fish is much more elongated then the other two species with a long pointed head. Last month they bred for John Lombardo of African Fish Imports and possibly next year they will be available.

With each new shipment of extremely rare fish, I must wonder when it will end but each shipment brings new buyers willing to pay even higher prices to own them. I have seen at least ten new fish this summer retailing in excess of one hundred dollars. Fry from these fish may be the next most demanded item retailing for twenty to fifty dollars for "fry".

P.S. In my previous articles I mentioned a super African show runoff. Unfortunately the rush of new species and the convention in Texas did not leave enough time to organize the show and it it now in the indefinite catagory.

I described using vitamins in my last article but did not realize the different potencies of "High Potency" vitamins. The ones I used were ten mg for each of the B complex vitamins at one capsule to fifty gallons. I recently received vitamins five times this strong and thought I had better pass the information along. Over dosages of vitamins will probably not hurt the fish but bacteria thrive in the vitamin water as well as fish. I cut back my dosage to once every ten days for twenty four hours without carbon in the filtration.

Further use of Furanace by me calls for some further caution. The instructions warn against overdosing and I have taken to limiting treatment to one hour. The cell culture experiments done on the medicine show approximately 80% of its effectiveness to be available in the one hour treatment. A fifty percent overdose treatment on my seven inch Hemitilapia oxirynchus put the fish into distress in two hours. Changing two-thirds of the water at that point cured the distress and the single treatment still went on to cure a bloody ulceration one inch in diameter over the course of the weekend. With this caution it remains my favorite medicine.

A N N O U N C E M E N T S

The next month's scheduled meetings are as follows:

Salt Water Group
Oct. 11 - 8:00p.m.
Neal Harrington's
4343 Old Lee Highway
Arlington, Va.
RSVP 243-7077

Board Meeting
Oct. 1 - 8:00p.m.
Chuck Story's
482 N. Owen St.
Alexandria, Va.
370-3593

There will be no Cichlid Group meeting in October due to the show being the following weekend.

For those of you interested in joining a specialty group of some kind, here are some more I have come up with.

North American Native Fishes Assoc.
Contact Harry Abrams
RR #1, Box 76
Greenwood, Indiana 46142

American Cichlid Assoc.
Jonathan & Lee Pierce
15019 N. 21st Place
Phoenix, Arizona 85032

Int. Fancy Guppy Assoc.
Midge Hill, Editor
9903 Candia Dr.
Whittier, Calif. 90603

Quality Aquarium Plants
129 S.W. Linden St.
Stuart, Florida 33494