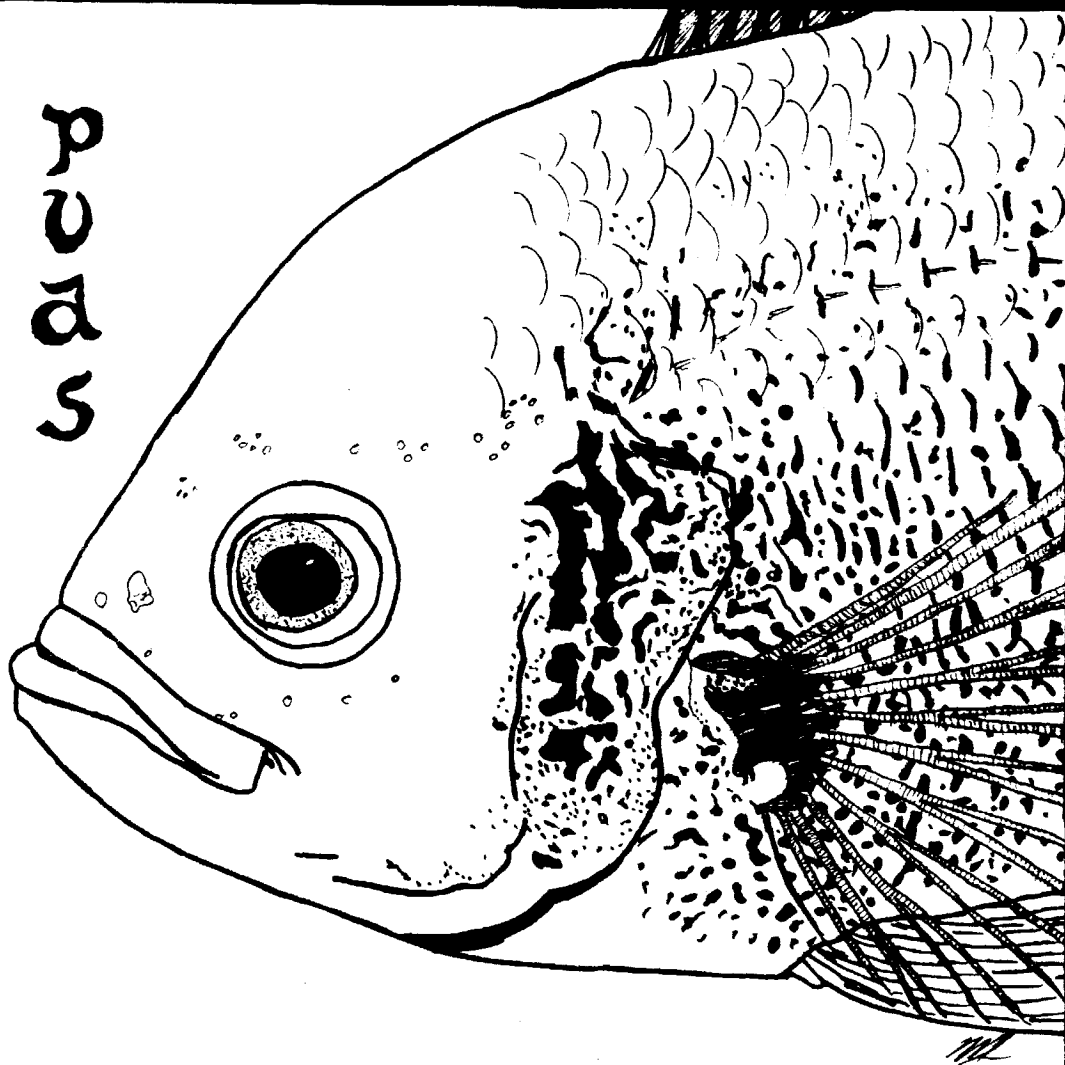


DELTA TALE

OFFICIAL PUBLICATION OF P.V.A.S.

JUNE 1976

PARAS



Volume 7

Issue 6

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 show, 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.

The Potomac Valley Aquarium Society takes no responsibility for the claims or statements made by advertisers in this publication. Complaints against any advertiser herein should be forwarded in writing to the Editor, DELTA TALE.

Editor: Ruth Brewer

OFFICERS FOR 1976

President	John Jessup	Corres. Secy.	Chuck Story
Vice-President	Carl Hardy	Treasurer	Gene Aldridge
Recdg. Secy.	Susan Sprague		

BOARD OF GOVERNORS

Ted Walsh	Craig Tingen
Bob Smith	Pete Tietjen
Warren Garnar	Dave McInturff
Ruth Brewer	Jan McInturff

TABLE OF CONTENTS

Volume 7

Issue 6

	<u>Page</u>
Spring Show Results.....	4
Bowl Show Results & Standings.....	6
BAF Report.....	7
Featured Articles	
BUILDING A TANK	
By Pete Tietjen.....	2
A TRIO OF SPAWNING REPORTS:	
I - Socolofi; II - Bristle-Nose Plecostomus;	
III - Angelfish	
By David McInturff.....	7
RAPPING IT UP: THE EYES HAVE IT...OR DO THEY?	
By Alex Kovacs.....	10
AT THE ROOT OF THE MATTER	
By Keith Meggison.....	11

This month's cover is a tracing of a slide, "Portrait of the Oscar", both by Mike Sprague.
The sketch of the Synodontis schall on page 9 is by Tony Rizzuto.

MINUTES OF THE BOARD OF GOVERNORS MEETING

The Board of Governors met May 4 at the home of Jan and Dave McInturff with 7 members present.

The most serious order of business was the storage and removal of the PVAS show equipment from the Fairlington Apartments' basement. It will be necessary to move the equipment on May 15 and store it temporarily until the show the weekend of May 22-23. After the show, we need to find a permanent storage facility for it.

Gene Aldridge reported \$585.88 in the treasury which does not include the money received thus far for trophy donations (\$85) or money for the 125-gal. tank raffle (\$280). It also does not take into account the bill for trophies, some \$300 plus.

I have been directed by the Board to report that either money, ticket stubs, or unsold tickets must be turned in by May 22. If not done at this time, a letter will be sent requesting the holders to produce the \$20 per book outstanding.

It was officially decided that Ruth Brewer will fulfill the unexpired Board of Governors post previously held by Susan Sprague.

The meeting adjourned at 9:40 p.m.

Respectfully submitted,
Susan P. Sprague, Recd'g Secy

- # - # - # - # - # - # - # - # - # - # - # - # - # - # -

BOWL SHOW JUNE 14, 1976

Cuppies: Multi, 2 matched males, AOC
Cichlids: New World Mouthbrooders, Other Africa/Asia, Open
Other: Tetras, Characins, Open

Program: Fish Slide Quiz - Test your
fish knowledge - Prize for
high scorer!

MEETING DATES

Board of Governors
John Jessup - 8:00 PM
1065 N. Manchester St.
Arlington VA
534-1704
June 1, 1976

Cichlid Group
To be announced

BUILDING A TANK
OR
"I'M A LAWYER, NOT AN ENGINEER"

By: Pete Tietjen, PVAS

It was architect Mies Van Der Rohe who described the philosophy of his Bauhaus architects as, "Less is more." Well, you can be sure that Mies never kept any kind of tropical fish and especially African rift lake cichlids, or he would change that motto. For with fish tanks, more is never enough.

I first got into keeping Africans over a year ago and have developed quite an interest in them. The colors, habits and personalities of these fish fascinate me. This and the ability of Africans to reproduce easily, meaning that there is a product to sell, have made Africans the only fish I keep. However, being cichlids, they like a lot of tank space. And further, since the cost of a tank goes up in some sort of geometric progression once over about 20 gallons makes keeping a lot of rifts an expensive proposition. When I first saw large Africans they were in homemade, plywood tanks built by Steve Siska and Jerry Meola. I asked them how hard it was to build the tanks, and I got answers of "Oh, it's easy" and "Any fool can do it." Right then I should have known better, for I am not what you'd call a whiz with wood. However, after a summer of watching the cichlids in the 80 gallon glass tank I bought and seeing all the other species that I would love to have, I decided to get out my saw and try to build a tank.

STAGE ONE

Hechingers was having a sale on plywood, so off I went to buy a sheet. Lashing a 4' x 8' sheet of 3/4" plywood to the roof of a Peugeot and then driving home is an interesting way to spend an evening. The next morning I got to work. I carefully cleaned up the basement so I'd have a good work area. I got out my plans and laid out the work. I even managed to cut out the back, bottom and two ends with an electric saw without cutting off my finger, toe, leg of the chair I used as a sawhorse or the extension cord. I even managed to listen to the University of Maryland football team beat somebody on the radio. So now I had four pieces of wood on the floor and enough sawdust in the air to give me black lung. The easy part was over. I had forgotten to get screws and glue to hold it together so back to Hechingers I went. Returning home I set to assembly, only to discover that due to a measuring error, the end pieces which were supposed to be inside the front and back (remember, I didn't cut a piece for the front) were now going to be fastened outside of it. About this time I also discovered I needed a front. But I didn't have enough wood. So back to Hechingers for another 4' x 8' sheet of plywood. I cut out this piece and started glueing and screwing my coffin as I came to call the wooden box in the basement. The wood warped a little, the pieces weren't exactly even, but I persevered and after an entire day's work the box sat there, on the floor, six feet long, 20 inches high and 24 inches deep. The first stage was over, but it was only the beginning. (As I'm sure you can figure out by now, this isn't

going to be a detailed piece on the mechanics of building a wooden tank. The exchanges are full of those articles or ask Steve or anyone else who has built one.)

STAGE TWO

Any article on tank building will tell you that the two main ways of sealing the inside of the tank are by painting it with epoxy paint or coating it with fiberglass. I chose the latter course and for a week the house reeked of fiberglass resin. Prior to applying the coating I had cut out the front where the glass would be. After much telephoning to glass companies, I finally got a six foot piece of 3/8" plate glass. A six foot piece of glass is heavy and awkward as well as very fragile. Somehow I got it home in one piece. I darn near broke it trying to see if it would fit (it did, fortunately) and then used one and a half tubes of silastic to seal it to the front. Finally, the tank looked like a tank. After careful discussion with my consulting engineer (I finally realized I was a lawyer, not an engineer) I built a sturdy stand, set the tank on top of it and began to fill it. The hose was inserted and the water began to come out. Slowly the water rose in the tank. I checked all around the tank. The seams were holding. "Eureka!" I thought. I topped it off and then let it set 24 hours. Just to be sure.... It's a good thing I did.

STAGE THREE

The tank hadn't been full for 24 hours when the first telltale drip... drip...drip began. It was a small leak on the lower corner where I had inadvertently left a small gap in the silastic. I thought, mistakenly, that it could be repaired with water in the tank. So I slapped on the silastic only to have the leak get worse. So I drained the tank, let it dry, resealed it and filled it again. For a week, everything was OK. I put fish in the tank and everything seemed perfect. But then, the drip...drip...drip started again, this time in the back of the tank. It was a bad leak and I wasted no time in draining the tank. It developed that due to the strain of the water the fibreglassing had cracked. I repaired the crack and attempted to manufacture some braces to tie the front and back together. The first method failed and a new crack appeared. Finally, after again conferring with my consulting engineer, a system of screw eyes and strong wire was devised which worked very well when the tank was filled again. It was now over two months since construction had commenced, and I had had fish in it for about four days. Finally, it seemed everything was going fine. All went well for a month, until one day another major leak occurred. Water had worked its way under the silastic around the glass and leaked all along the front. I had to take out all the silastic down to bare wood and glass, let the wood dry thoroughly, and then apply a thick continuous bead of silastic to the joint. This finally solved the leaks.

Building this tank has been both a frustrating and rewarding experience. As far as saving money, my 110 gallon tank cost much less than an all glass tank, but what price can you put on aggravation and frustration and time? I learned a lot of things from building this tank. And the most important thing I learned was, "I'm a lawyer, not an engineer."

POTOMAC VALLEY AQUARIUM SOCIETY
TROPICAL FISH SHOW -- SPRING 1976

RESULTS

	<u>RED</u>	<u>FANCY GUPPY CLASS (25)</u> <u>BLUE/GREEN</u>	<u>AOC BICOLOR</u>
1st	<u>WESTFALL</u>	<u>CASE</u>	<u>CASE</u>
2nd	<u>CASE</u>	<u>CASE</u>	<u>-</u>
3rd	<u>-</u>	<u>LIEBERTRAU</u>	<u>-</u>
	<u>AOC</u>	<u>H/B RED</u>	<u>H/B AOC</u>
1st	<u>HERRELL</u>	<u>M^cCORKLE</u>	<u>CASE</u>
2nd	<u>WALSH</u>	<u>M^cCORKLE</u>	<u>-</u>
3rd	<u>WESTFALL</u>	<u>CASE</u>	<u>-</u>
	<u>SNAKESKIN</u>	<u>FEMALE</u>	<u>2 MATCHED MALES</u>
1st	<u>NO ENTRIES</u>	<u>M^cCORKLE</u>	<u>WESTFALL</u>
2nd	<u>NO ENTRIES</u>	<u>M^cINTURFF</u>	<u>CASE</u>
3rd	<u>NO ENTRIES</u>	<u>WALSH</u>	<u>-</u>
	<u>3 MATCHED FEMALES</u>	<u>5 MATCHED MALES</u>	<u>BEST OF SHOW</u>
1st	<u>WALSH</u>	<u>WALSH</u>	<u>M^cCORKLE</u>
2nd	<u>-</u>	<u>-</u>	<u>-</u>
3rd	<u>-</u>	<u>-</u>	<u>-</u>

	<u>FANCY SWORDTAILS</u>	<u>LIVEBEARER CLASS (7)</u> <u>FANCY PLATIES</u>	<u>FANCY MOLLIES</u>
1st	<u>HAGER</u>	<u>NO ENTRIES</u>	<u>OWENS</u>
2nd	<u>-</u>	<u>NO ENTRIES</u>	<u>HERRELL</u>
3rd	<u>-</u>	<u>NO ENTRIES</u>	<u>DOWLING</u>
	<u>REG. OPEN</u>		<u>BEST OF SHOW</u>
1st	<u>NO ENTRIES</u>		<u>OWENS</u>
2nd	<u>NO ENTRIES</u>		<u>-</u>
3rd	<u>NO ENTRIES</u>		<u>-</u>
	<u>FRESHWATER</u>	<u>SET TANKS</u>	<u>MARINE</u>
1st	<u>DAVIS</u>		<u>GARNER</u>
2nd	<u>YOUNG</u>		<u>-</u>
3rd	<u>MARAS</u>		<u>-</u>

DEALER TANK

AQUARIUM SUPPLY

EGGLAYER CLASS (78)

CATFISH-CORYDORAS

CATFISH-AFRICAN

CATFISH-ALL OTHER

1st DAVIS
 2nd LONG
 3rd LIGHTON

STALLMAN
DAVIS
TJETJEN

BRENSIKE
DAVIS
STALLMAN

ANABANTOIDS

BETTAS

SHARKS & LOACHES

1st DOWLING
 2nd HAGER
 3rd MCINTURFF

ROSENDORF
LIEBERTRAU
OWENS

BRENSIKE
NAYLOR
FORTNEY

CHARACINS, TETRAS

BARBS

KILLIFISH

1st SMITH
 2nd MCINTURFF
 3rd OWENS

MCINTURFF
DAVIS
HIRSCHMAN

HAAS
HAAS
DECK

OPEN

BEST OF SHOW

1st DOWLING
 2nd DOWLING
 3rd HAGER

HAAS

CICHLID CLASS (38)

CENTRAL & SOUTH AMERICAN

LARGE, 6"+

MEDIUM, -6"

1st C/M DAVIS
 2nd MORGAN
 3rd JESSUP

JESSUP
WALSH
DAVIS

DWARF

ANGELFISH

1st MCINTURFF
 2nd GLASCOCK
 3rd MREYER

NEWSOME
OWENS
PYNE

AFRICAN

RIPTLAKE MBUNA

RIPTLAKE NON-MBUNA

1st WARREN
 2nd ALDRIDGE
 3rd TJETJEN

JESSUP
JESSUP
 -

NON-RIPTLAKE

PAIRS, 1 M, 1 F

1st JESSUP
 2nd GLASCOCK
 3rd SPRAGUE

HALL
HALL
HALL

NEW WORLD & ASIAN PAIRS

1st MCINTURFF
 2nd CARR
 3rd -

OPEN

NO ENTRIES

BEST OF SHOW

DAVIS

TOTAL ENTRIES 155

BOWL SHOW RESULTS AND STANDINGS

May 9, 1976

	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
<u>Guppy:</u>			
Blue	Walsh	Walsh	-
Black	Walsh	-	-
AOC	Walsh	Walsh	
<u>Cichlid:</u>			
Angel/Discus	-	-	-
Tilapia	-	-	-
Other	McInturff, J	McInturff, J.	McInturff, J.
<u>Egglayer/ Livebearer;</u>			
Sharks/			
Loaches	McInturff, D.	McInturff, D.	
Afr. Cats	McInturff, D.	McInturff, D.	
Other	McInturff, D.		

POINT STATUS

	<u>May</u>	<u>Qtr.</u>	<u>Ann.</u>		<u>May</u>	<u>Qtr.</u>	<u>Ann.</u>
<u>Guppy:</u>				<u>Egglayer/Livebearer:</u>			
Walsh	18	36*	71	McInturff, D.	18	27*	59
McInturff, S.	-	5	5	Donnelly	-	6	11
Nixon	-	2	2	Lenzen	-	10	10
				Nixon	-	4	4
<u>Cichlid:</u>				Warren	-	2	2
McInturff, J.	11	18	45				
Warren	-	22*	22				
Sprague	-	9	9				
Nixon	-	6	6				
Lenzen	-	4	4				
Tietjen	-	3	3				

* First Quarter Award

* * * * *

FREE WILDLIFE PUBLICATIONS

The Virginia Commission of Game and Inland Fisheries has a number of flyers and leaflets on boating, fish and fishing, fish and game management, nature and conservation available for the asking. Just write to:

Commission of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230

and ask for the "Wildlife Publications" list.

BAP REPORT

So far we have only one Intermediate Breeder Award, but several of our members are approaching that level. It's never too late to join in -- remember, you proceed at your own pace.

The current totals are:

NAME	POINTS	
	Firm	In process
Susan & Mike Sprague	130*	-
Ruth Brewer	115*	25
Gene Aldridge	80	15
John Jessup	55*	45
Walt Lilley	200**	-
Diane Nixon	60*	-
Pat & Pete Tietjen	15	-
Jan & Dave McInturff	120*	-

* Breeder Award

** Intermediate Breeder Award

Brewer - Japanese Rice Fish
McInturff - Dageti, Convicts, Burtoni

Gene Aldridge, BAP Chairman

* * * * *

A TRIO OF SPAWNING REPORTS

By: David McInturff, PVAS

I - Socolofi

Our first African cichlids were a young adult pair of *P. socolofi*. They were put in a 15-gallon slate-bottom tank containing shale, water sprite, and dolomite gravel. They remained by themselves for one month until I introduced a trio of *I. sprengeri* to provide some activity in the tank. The male *socolofi* had cleared away all of the gravel from his territory under a piece of shale, and I hoped for a spawning once there was some competition in the tank.

Five weeks passed before I noticed that the female was carrying eggs in her mouth. I did not witness the spawning. Since I had no spare tank in which to put the female, I placed a tank divider in the tank in such a way that she had a third of the tank to herself. For

three weeks she did not eat; however I continued to put food on her side of the divider. The live-bearing snails in the tank consumed the uneaten food and prevented the water from fouling.

Finally, after three weeks, the female began to eat, but I saw no fry. I continued looking for them for one week, until I decided to tear the tank apart and clean it and move the adults to a larger tank. That was when I found the fry hiding under the rocks, and I transferred them to a 2 1/2 gallon tank. They were fed microworms and algae for three weeks. After that the fry were transferred to a 20-gallon tank with several *P. williamsi* fry of the same size. They were then fed crushed Tetramin Staple and Conditioning food. All of the fry lived to 60 days.

* * * * *

II - Bristle-Nose Plecostomus

The first way I tried to spawn plecostomus was a disaster. I had obtained eight similar appearing plecocos from various pet shops at various times, and they had been kept in separate tanks ranging from 10 to 30 gallons. All the plecocos were approximately 3 to 4 inches in length. Some had bristles and some didn't. The spawning tank was to be a 100 gallon tank with soft acid water at 78°F. The tank contained plenty of rock caves and live plants and was then being occupied by three clown loaches, five red-tailed sharks, a male gold gourami, and six large angelfish, of which there were two spawning pairs and two extra males. Seven of the plecocos were put into the tank with the other fish. The one remaining pleco was hiding behind a filter, and I didn't see him at the time I was collecting the others. About a week or so later, I noticed one pleco on the side of the tank with part of its tail and the skin on its head missing. I moved it to a separate tank where I treated it for fungus and bacteria. Within a week that pleco was dead. Then it happened again with another pleco. This time it was the dorsal and pectoral fins that were gone. It kept happening until only two of the seven plecocos were left, and I thought the biggest pleco with the largest and most plentiful bristles was the culprit. Then about two weeks after the fifth pleco had died, I found the big pleco dead in the tank and the seventh and last one with its tail and dorsal fin gone. I moved that pleco to another tank and treated it as I had five others. Somehow this one lived, and its tail and dorsal fin eventually grew back.

My next attempt to spawn plecostomus turned out much better, even though I really didn't expect anything productive to happen based on past experience. A couple of months after the last pleco was removed from the 100 gallon tank, I put the two remaining plecocos in a 30 gallon African cichlid community tank with a dolomite and shale bottom. The pH was 7.4, the DH was 240 ppm, and the temperature was 75°F. About four months after that, I noticed one of them was guarding a small group of fry in a narrow space between two pieces of shale. I removed all of the shale except where the plecocos were hiding in order to remove all of the cichlids. After the cichlids were removed, I lifted the upper piece of shale and caught the fry clinging to it, and then I

did the same with the lower piece. The male pleco, the one with the bristles, was the parent doing the guarding. The fry were about 5/8 inch long and about a month old. They were put in a 5 1/2 gallon tank having the same water and bottom conditions as the spawning tank. Fifteen rusty cichlid fry of about the same age were also in the 5 1/2 gallon tank. The fry were fed crushed Tetramin Staple and algae. At two months, there were 27 one inch long fry.

* * * * *

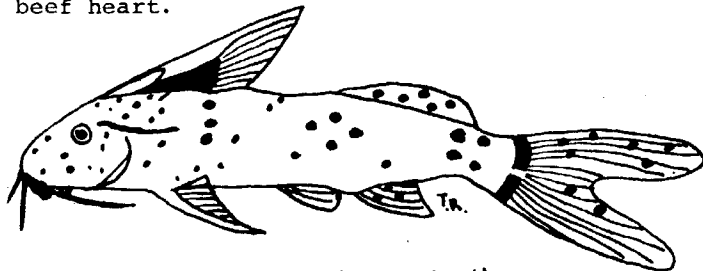
III - Angelfish

I came home from work one day and began feeding the fish as usual and I noticed that a pair of angelfish were spawning on a piece of shale propped up against the side of a 30 gallon tank. Since it was nothing new, I continued feeding the rest of the fish before going back to watch them. When I did, I noticed something strange, at least for angelfish. There were three fish spawning, not two. Taking a closer look to determine what was going on, I observed one male and two females, both of which were laying eggs. Part of the time the females would take turns laying eggs and waiting for the male to fertilize them, and the rest of the time they would lay their eggs simultaneously and the male would do the best he could. I got my camera and took a couple of pictures as proof of the spawning.

The spawning tank contained natural gravel, several large pieces of shale, live plants, another female and two other male angelfish, eight assorted Corydoras catfish, and one plecostomus. The water was 78° and had a pH of 6.8.

The eggs were left in the spawning tank for one day. Immediately after spawning, all three angelfish protected and fanned the eggs. After a couple of hours when each of the trio would take turns venturing away from the spawning site, the smaller female would be met with increasing hostility from the larger female on each return until finally the larger female would not permit the smaller to return. The remaining two parents tended the eggs until the next day when I removed the piece of shale to a 5 1/2 gallon tank with the same water conditions, a sponge filter, and an air stone.

The fry hatched three days after being spawned and began free-swimming three days later. They were fed Liqui-fry and Tetramin Baby Fish Food for the first two weeks after becoming free-swimming. After that, they were fed beef heart.



Synodontis schall

RAPPING IT UP

THE EYES HAVE IT...OR DO THEY?

By: Alex Kovacs, G.A.G.C.
Reprinted from INTERNATIONAL
FANCY GUPPY ASSOCIATION,
October, 1975

With all the controversy about judging the colors of fish, I have been giving the subject a lot of thought, as I am sure many other members have been too.

What is a gold?...when does a green become a blue?...or a blue, a purple?...or when does a solid become a bi-color? We all believe that we know the answers.

Many of us have experienced disappointment when sending a fish, maybe 1800 miles away, only to have it disqualified. I feel that the problem is the human element. For instance, a man or woman that wears glasses will not see colors the same as a person that does not, because of light refraction or tinted lenses. We also know that no two people will see the shades of color the same way.

This makes it impossible to judge fish properly. We have a standard for size, shape, proportion, amount of color, but no standard on what color is. Up to this time we have been only going by personal opinion.

Did you realize that although the judging test consists of a written test, a visual test based on the written test, but not the most important thing...how a person perceives color. There is shade blindness and even color blindness that could affect their judging.

The solution could be simply to use the same method as is used for driving and other tests: it is a card with a mass of colored dots, with a certain number that shows up as a contrasting color to background dots. If the person does not see the specified number, the color perception is not correct.

To help even more, a further aid to compensate for the other variations in color perception is needed. Do you think that perhaps we should go to a standard color chart? This is an idea that Don Craft has brought up before. We could then compare a guppy's color to the standard color patch on the chart. The degree of match would then help determine how to point that fish for color.

By now, you probably have guessed that I feel that disqualifying a fish in a show is an injustice to the exhibitor and his fish. It can be to the host club, a disservice too. The clubs need continuous participation of exhibitors. Remember that a fish which may be disqualified, is still one which represents a lot of effort of the hobbyist, and may be really excellent quality.

What about NO DISQUALIFICATION at all? How would that work? Let's take a hypothetical case: A red veil is entered in a green Delta class. Here is how his points would stack up:

	<u>Body</u>	<u>Dorsal</u>	<u>Caudal</u>
Size	10	10	4
Color	0	0	0
Shape	4	4	0
Condition	3	3	5
Department - 5			
Symmetry - 5			

GRAND TOTAL - 49 points

If there are at least 5 entries in the class, no way could he win a place. In case of 4 entries or less in a class, the Senior Judge and the show chairman could rule on disqualification. This would limit disqualifications in most shows. Obviously, if a fish has died, he would receive 0 points.

What do you think?

* * * * *

AT THE ROOT OF THE MATTER

By: Keith Meggison, GPAS
 Reprinted from
The Pisces Press
 October, 1974

Greetings plant lovers, this month I am going to write about my favorites in the plant family. Most of the following are plants found in Asia, Africa and South America. Unfortunately most of us cannot afford to pay for an expedition for collecting plants, so we must rely on our local pet shops for the tropical beauties. A lot of shops, and in my area I am proud to say that all are included, will special order plants and fish, but for the ones that might not be so helpful or are too busy I would suggest that you order a good plant program (like the Black Hawks program) and invite your dealers to the meeting. If that won't spur interest there is something wrong.

I'll start in Asia and work toward the others. First off the Japanese Rush (*Acorus gramineus*) is a little beauty from calm waters, swampy areas and sometimes on dry ground. For our purposes it grows great totally submerged. The short stalky plant rarely reaches more than a few inches. The leaves are stalky rush types, both dark and light green in color. The Asian beauties are slow to root so I would suggest that a piece of lead stripping be placed around the stalk until the roots start to take hold, then depending on your preference, it can be removed or left on the stalk. They grow best in a moderate temperature, and good light. They reproduce by splitting their root stalk. *Cryptocoryne*, a family of plants with very unusual leaf structure, that is, their leaves are formed such that they alternate going up the stalk one on the east and one west then one step higher the

leaves are one north and one south, and so on. Another name for these plants when found in the wild they have been referred to as Water Trumpets, because of the trumpet shaped flowers. Although supported by strong root works, and strong stocks they grow best in shaded corners rather than bright areas. These reproduce by runners which can be broken off and planted or left alone and the plant stock of the mature plant can be split up and replanted. Riccia fluitans (Crystalwort) a pretty floating plant, forms a tangled mass on the surface of the aquarium. They propagate by separation, so you won't run out of it if it gets enough light. Care should be taken so as it does not get too productive as it will soon cut down great amounts of light from the bottom of the aquarium. These are great for the rift lakers if they can handle your pH, if introduced correctly they do fine. The males of some of the rift lakers sometimes get a bit feisty and drive the female into cover, surprisingly when the females take refuge in the top plants the males are reluctant to follow. Also the Riccia is known for having algae on it at all times, so while the female is hiding the algae serves as a food source.

Shooting down to South America we find we come in contact with unheard of amounts of beauty. I'll start with the well known Sword plants. Of the Sword plants, my favorites are: Echinodorus brevipedicellatum, E. longistylus, and E. paniculatus. Let's start with the E. brevipedicellatum. This is a shorter version of the swords, with stems growing two to six inches in length. The leaves are lance shaped and are quite long and slender. This plant does well in warm water, while in cooler water it tends to stay shorter. Propagates by runners which can be either pinched off and planted or pushed into the gravel where they will in time disconnect themselves. Both the E. longistylus and the E. paniculatus are very long plants. Growing up to twenty inches in length, their leaves sometimes reach seven to ten inches in length. Both of these Swords propagate by runners, which, as I have already explained, can either be pinched off or pushed into the gravel where they take root very well. Egeria densa (Argentina ancaris) once known as Elodia densa, is one of the most interesting plants from South America because of its ability to grow with amazing speed. An inch a day is common. Having weak root systems, you will probably have to place a piece of lead around the lower stem to anchor the plant down. Fortunately they grow equally as well on the surface as well as planted. Either way the Egeria densa is a welcome addition to a tank, because of its thick cluster of leaves. They propagate by small runners and also by cuttings. This stuff grows like wild fire and in the wild it is considered a menace to boating.

In Africa we find the best Vallisneria or Eel Grass available. Although growing all over the tropical zones, the ones from Africa seem to be hardier. These plants are ideal for the aqua-scaper, being very attractive with, as the common name suggests, the leaves are long and thin. They come in various shades of green. They also propagate by runners. The Val can stand the full range of the pH table if introduced properly. Treat your plants like fish when introducing them to a new setting. Don't place them in water that is not near the same temperature, hardness, and pH of the water that they came from. If you do this gradually, the plants should fare well. Limnophila sessiliflora is sometimes mistaken for the Cabomba since they look very similar. If placed in the same aquarium, the only way you could easily

tell the difference would be by looking down from the top. Where the Cabomba's leaves form a semicircle, the *L. sessiliflora* form a complete circle. Since the leaves are closely bunched this plant makes an excellent breeding plant. It needs lots of light, and will die rather quickly if it is denied the light needed. The temperature has to be above 68° if you want them to thrive. The fine feather like leaves tend to collect the mulm and settlings stirred up by the fish. If not cleaned regularly, the plant dies. These also propagate by runners and by snipping off the runners at the base of the main plant. These runners tend to make the better plants.

I have listed a few of my favorites from the tropics, but I must mention that in North America, Madagascar, and numerous other places lovely plants can be found but for some reason they seem to be harder to obtain. Wherever you get your plants from, if you take a little time and patience, the plants will in time give you as much enjoyment as your fish. I should mention that if you plan to grow the young, you should cut the runners with care and at the base of the parent plant. They should be cut only if the young plants start to form the root system. Otherwise they won't have the nourishment needed to survive. The plants that I have mentioned which have runners should be periodically cleaned of runners so that they don't become too dominant to the parent plant. With the floating plants remember to thin at regular intervals so that they don't get out of hand. I guess that's all I was going to write so until next month.....

May your roots run deep, your stock run clean, and your blood run green.

"PHYTOGRAPHY POWER"

* * * * *

HAVE YOU SEEN?

The cover for the June Tropical Fish Hobbyist showing a group of *L. tetrocephalus*? Photo by our own Jerry Meola, no less! Jerry also had a credit in the May issue for his photo of the *P. aurora*. Congratulations to a member we all have missed at regular meetings since he relocated for his new duties with African Fish Imports. We used to see his slides for free, now we have to buy TFH to get them.

* * * * *

DID YOU CHANGE SOME WATER TODAY?