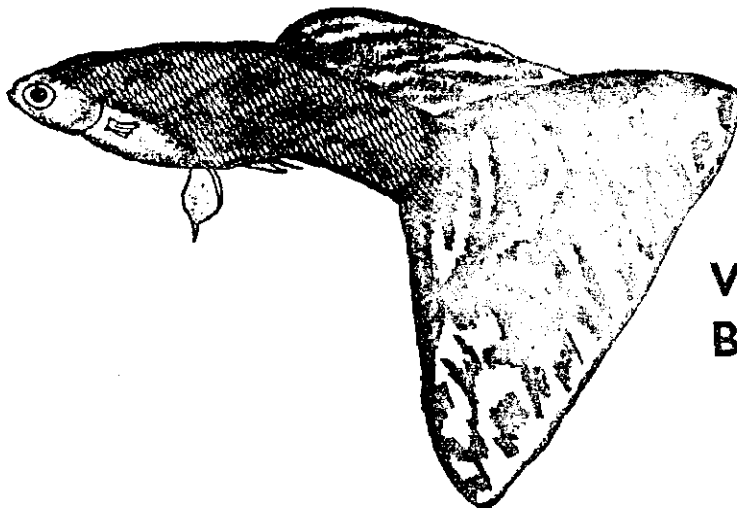
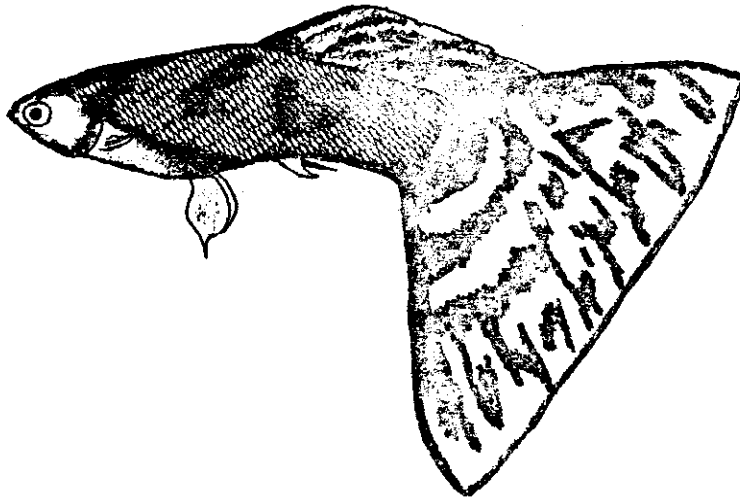
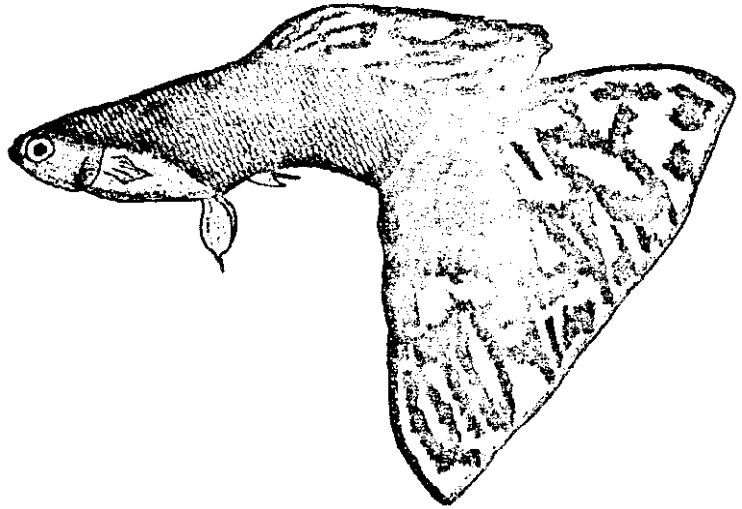


DELTA TALE

OFFICIAL PULICATION OF P.V.G.C. 1970 AUG

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VOLUME NO 1
BOOK NO 2

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J. N. Evans GAGC

FUTURE EDITION

Starting in the September issue of "DELTA TALE" there will be a three part series on Guppies by George Turner and Dave Culver. If there is anyone else in the Club who would like to write an article for "DELTA TALE" please contact me.

George W Turner
Secretary
PVGC 671-6850

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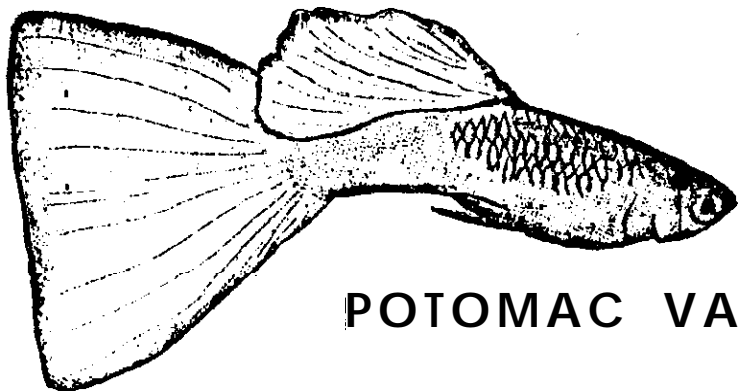
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Delta Tale is published for the benefit of Potomac Valley Guppy Club members, a non-profit organization established in 1960 for the purpose of furthering the Aquarium Hobby by promoting good fellowship among its members, encourage the improvement of the art, to disseminate information to all wishing it, encourage friendly **competition**, and solicit participation in its shows. Correspondence should be addressed to George Turner, 821 So Florida St, Arlington, Va 22204. 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.

SHOW DATES

AUGUST	GERMAN GUPPY ASSOCIATION - BERLIN
SEPT 6 & 7	SOUTHERN CALIFORNIA GUPPY ASSOC.
SEPT 12 & 13	COLUMBUS OHIO GUPPY SPECIALISTS
SEPT 26 & 27	TIDE WATER AQUARIST SOC - NORFOLK
OCTOBER 4	GREATER PITTSBURG AQUARIUM SOCIETY
OCTOBER 11	CINCINNATI GUPPY CLUB
OCTOBER 18	NORTHEASTERN INDIANA AQUARIUM SOC.
*OCTOBER 24	POTOMAC VALLEY GUPPY CLUB - ARL. VA
OCTOBER 25	SWANSEA OF CANADA
NOV 7 8 & 8	INDIANAPOLIS AQUARIUM SOCIETY



August 10, 1970

POTOMAC VALLEY GUPPY CLUB

The 128th meeting of the Potomac Valley Guppy Club will be held on Monday, August 10th at **8:30** P.M. in the Hospitality Room, Coca Cola Bottling Plant, 5401 Seminary Rd Alexandria, Va.

The Table Show for this month will be **Guppy** - open, Guppy - Black, and Other - Large Cichlids over 5 inches. Remember only five combined Guppy entries and five other class entries for a total of ten entries per person.

The August 10th program will be slides on "Aquarium the Beautiful".

In this months edition of "DELTA TALE" you will find a FISH BLOCK puzzle containing 25 different named fish. Circle the 25 fish listed and mail the puzzle to me by Sept 1st. Everyone completing the puzzle will be given one additional door prize ticket at the Sept. **meeting**.

George W Turner
821 So. Florida St
Arlington, Va

MESSAGE FROM THE PRESIDENT

The last meeting was extremely good and those of our **members** who were not present missed a good show. The cichlid pictures were terrific. I was quite envious of many of the cichlids that Doug showed us.

The August program will be a **slide program** "The Aquarium Beautiful". This program will show a large number of prize winning Set Tanks. For those of you with tanks in your living room, this **program will give you some** excellent ideas.

Dave will bring up some **excellent** ideas for our forth coming-show in October. It will take a lot of effort on everyones part.

I will be thinking of you as I will not be at **the** meeting. I will be home recuperating from a foot operation caused by my broken ankle in February. The Sept program will be the Guppy slide show we missed for June.

If you are interested in going to a show outside of our area, how about Norfolk. The answer **is "yes"**, then save the weekend of 26 September. Two of us have been asked to be judges, let's make it a big week-end.

LETS MANE GUPPIES GO IN WASHINGTON

ENTER THE FISH SHOW EVERY MONTH

GET A FRIEND TO JOIN

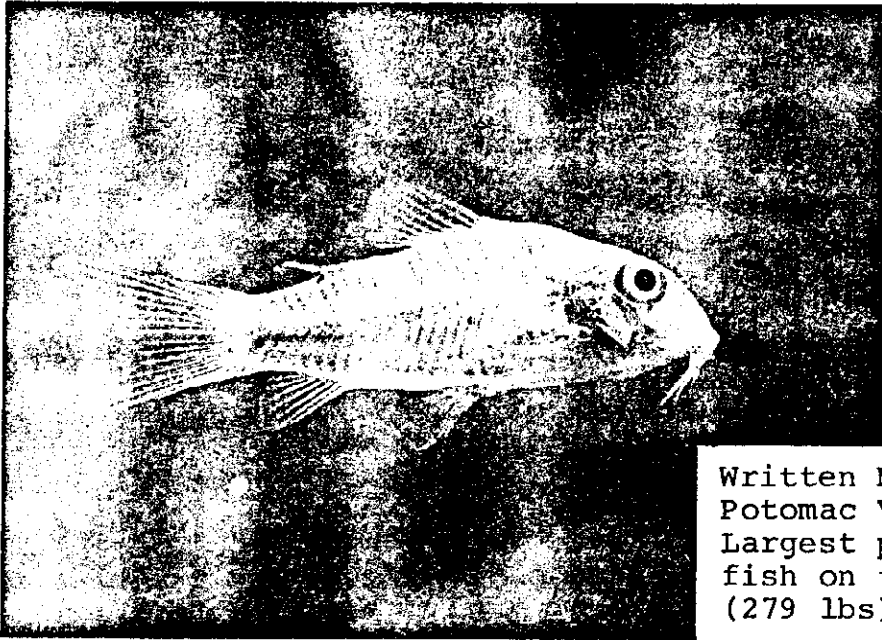
NAME _____

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CITY & STREET STATE

MEMBERSHIP FEE \$5.00 REGULAR

MEMBERSHIP FEE \$3.00 CORRESPONDENCE

MAIL APPLICATION TO: GEORGE W TURNER
821 SO. FLORIDA ST
ARLINGTON: VA 22204



Written By Ted Walsh
Potomac Valley Guppy Club
Largest producer of cat-
fish on the East Coast
(279 lbs)

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To begin with, catfish are one of the **hadiest** and most useful fish the aquarist can keep. They are peaceful and good house cleaners.

They are also relatively easy to breed if properly fed, which consists of live and frozen shrimp, bloodworms, daphnia, Rut King Guppy food and Booster. I feed only what they will eat within five minutes. When they have been fed as above for about a week I put them in a specially prepared tank which I shall describe.

I use a 29 gal tank with two under gravel filters with a two to six inch stem. Over these filters I add about one inch of natural gravel at least pea size. I bubble the filters vigorously. I also use an outside filter with charcoal and glasswool, the siphon tube I let touch the gravel or push it into the gravel a little. At any rate the water has to be left crystal clear.

If all goes well they may spawn in a day or two, or it may take as long as five weeks. Continue feeding as I have prescribed and often, and eventually you will see all of your catfish swimming wildly about your tank. They may start to spawn **but** usually they are just cleaning the glass and getting it ready for spawning the next day.

My fish usually spawn between 72° - 78°, the water is alkaline with a Ph of 7.4. I have also spawned them in acid water and they too hatched and lived. The male catfish is always skinnier and scrawnier than the females and have a slight curve upwards of their back when you get to know them.

The male seems to drive the female much as pigeons do when they get ready to lay. The male catfish pushes on the female in the spot where her neck would be, this seems to excite the female and she will in turn push against him in the region of his vent. She will then go settle on the bottom and eventually you will be able to see several eggs pursed between her ventral fins, she then swims dizzily with her ventral fins folded with the eggs between them and the male will follow her.

The female looks like she is making a bomb run and swims against the glass and pauses **momentarily**. She pushes all of her eggs against the glass where they adhere. The number of eggs vary, she continues to do this for about two hours and every other female usually joins in and lays eggs too. The males swim over the eggs and rubs them as if depositing sperm.

The eggs are hard shelled like chicken eggs so I also put some powdered chicken egg shells in the water to help them produce their eggs. At any rate the catfish may eat **some** of their eggs, but there is nothing you can do about this for if you disturb them now they will stop spawning.

After they have quit spawning all will settle on the bottom and the activity will cease. I remove all the old catfish to another tank and turn off the outside filter so as not to suck the young catfish **into** the filter when they start to hatch. I leave the siphon tube in the water as it will probably be covered with eggs. Sometimes the eggs hatch in 24 hours. The first batch I ever spawned hatched in 24 hours and they all were swimming around with their heads and body covered with the eggshells and only their tails protruding. Eventually they lost the shell and they did fine.

After the first 24 hours I crushed 2 **Longlife** - infusoria tablets in the water and added some Rut King Guppy food. You probably will have a hard time seeing the young for they disappear in fine gravel. In a week you will see lots of young and you will have to use your own judgement in the feeding department. I also feed my baby catfish some newly hatched brine shrimp. The old catfish in the new tank may spawn the next day again or it may take a week but mine usually spawn at least once a week for about five weeks and then rest for about a month before starting again.
P.S. My wife Edna had to have the last word, She says to do all of the above and the fish will spawn when they get good and ready.

NATIONAL 1 AQUARIUM 970

HISTORY

Written by Vivian Poulsen
Potomac Valley Guppy Club
National Fisheries Center
and Aquarium

In 1850 Gosse staged the first Marine Aquarium show in the Zoological garden of London which gave rise to a permanent London Aquarium in 1852.

Aquariums sprung up in other **major** European cities such as Paris in 1861, Berlin in 1869, and Naples in 1874.

The oldest public aquarium in the United States was established in 1888 in the Fish Commission Building located in Washington, D.C.

Known as the National Aquarium, it is located in the lower lobby of the Department of Commerce Building, on 14th Street between Constitution Avenue and E Street, N.W. The aquarium is maintained by the Bureau of Sport **Fisheries** and Wildlife which is a part of the United States Fish and Wildlife Service of the Department of the Interior.

The aquarium is attractive, but not large. It maintains the same hours as the Department of Commerce. Hours are from 9 **a.m. to 5 p.m.** every day except Christmas Day. Admission is free.

Tanks range from 5 gallons to 2,000 gallons each. Among the displays you will find : best collection of North American freshwater fish. Also salt water tanks specimens from the West **Indian** Ocean, Pacific Ocean, and the Atlantic Ocean. Tropical fish salt and fresh water from all over the world of varieties specimens. There are North American sport fish displayed **in** three 2,000 gallon tanks, twenty 1,000 gallon tanks, you will see **muskie**s, pike, bass, trout, 1,000 tropical fish such amphibians as giant salamanders, neuts, and a dozen and a half varieties of turtles, giant catfish, sharks, moray and electric eels, and the man-eating piranha of **South-**America. Over 2,000 specimens are exhibited.

We are in the process of renovating a portion of our aquarium to include seven (7) one thousand gallons aquarium designed especially for marine specimens.

Its success (The National Aquarium) encouraged the establishment of the famous aquarium at the Battery in New York City in 1893.

Establishment of various aquariums throughout the world in the, **20's. and the 30's** stimulated public interest in **the** home aquarium hobby. After World War II the Oceanariums became very popular with several established on either coast.

The Fish and Wildlife Service had three small aquariums located at fish hatcheries prior to 1960. The 1967 Directory of the Aquaria of the World lists 95 Aquariums in the United **States. Eighteen** of these are federally operated. There are 434 known Aquariums in the world with nearly **10,000,000** people in yearly **attendance.**

Aquariums are becoming an integral part of hatchery information and education programs. The **success** of these programs depend on effective presentation through attractive displays. To achieve this goal one must utilize the general precepts of fish culture along with specialized aquarium techniques. Normally, fish **cultur-**ists are concerned with mass propagation of fewer than 10 species at a specific station. Aquarists generally concentrate on maintaining a relatively small number of individual animals but as many as 200 or more species. Consequently, the problems confronting the **fish-cultur-**ist and aquarist are somewhat different, yet basically related. Some of the major facets of aquarium operations include: water filtration and transport; animal compatibility; maintenance and procurement; general ecology; lighting; special display techniques and good public relations practices.

The public have demonstrated interest in this type of recreation information and education, therefore, it is incumbent upon us to furnish top-notch displays. It is far better to have no aquariums than to have a slovenly one.

Administrative Assistant-Operations-National Aquarium,
Washington, D.C.

FEEDING FRY

Written by George W Turner
Potomac Valley Guppy Club

The information that I am giving on raising of fry is what applies to **my** strain of Gupp's and need not apply to yours. What statements I make can be used as possible guidelines for making your own trials.

In my opinion and most other serious breeders opinions the feeding of baby Gupp's is what makes or breaks a fish before it reaches a **showable** size. Many breeders that I know of and have talked to in great lengths consider the first two to six weeks the most critical in feeding Gupp's. As to any side of a subject there are pros and cons and almost everyone has their own opinions, the following are mine.

I have found that the first five days of feeding your baby Gupp's is a very serious matter to deal with. The diet of the Gupp's for the above period should be newly hatched brine shrimp fed two to four times **aday**. After each feeding the Gupp's bellies should be bulging. On the third day when it is your first feeding of newly hatched brine shrimp to the baby Gupp's feed them **only** one drop. Watch the Gupp's as they eat (this is when I do my first culling). 90% of your Gupp's will immediately start eating, the other 10% may still be laying on the bottom or just swimming around. As the Gupp's finish the remainder of the brine shrimp add one more drop and continue to watch. If the 10% or less have not started to eat as vigorously as the rest I remove them into a cull tank. I prefer the more vigorous fish in that they usually turn out to be the better of the brood.

On the sixth day, usually about 6 P.M. the first feeding is changed from newly hatched brine shrimp to-powdered food. I take about a **1/2** teaspoon of powdered food and placing it in a container I add-a little water, letting it become saturated. With my watered down powder I go to each tank with a eyedroper and feed them one drop. The powder spreads in the depths of the tank and the Gupp's go after it. I have found this method of feeding powdered food to work better in a **smaller** tank. Powdered food seems to attract fish more if it falls through the water than if it floats at the surface.

The powdered food eventually settles on the bottom where it can be eaten by the Gupp's when they come across it. If at the end of an hour the Gupp's bellies aren't bulging feed some newly hatched brine shrimp. I continue this feeding schedule until I can get the Gupp's bellies bulging with powdered food. The amount of time that it takes to get your Gupp's to fill their bellies on powdered food will vary. It will usually take one week from the first day that you feed powdered food.

You have your Gupp's a week old and growing what next? Continue the feedings 4 to 8 times **aday**, what ever is convenient for you. My number of feedings usually average out to 6 **aday**. REMEMBER there are two sides to a subject. I have seen beautiful Gupp's and they were only fed twice **aday**. The question is as you decrease the feedings how long does it take your Gupp to grow to his prime? Usually longer. **Getting** back to our week old Gupp's, continue the feedings as I have stated above. I try to maintain a rigid feeding schedule along with a proper diet. A proper diet, in my opinion, would consist of approximately 12 different dry foods and newly hatched brine shrimp fed once to three times **aday** whatever is convenient for the breeder. During the second week of feeding rotate the above food daily [feeding six types powdered food and brine shrimp one day and feeding the other six powdered foods and brine shrimp the following day).

The feeding during the third week should be the same as what you have been feeding for **the first** two. Be careful when you feed your Gupp's because you don't want to over feed them. One inconvenience of over feeding is cloudy water, the remedy for this is to remove $1/2$ to $2/3$'s of the water or not feed your fish for one day. Since you are trying to grow fish the former of the two solutions is the better. The lighting on your tanks should be on **about** 10 hours **aday** except [or eve-y fourth or fifth day I leave the lights on for twenty four hours to stimulate algae growth. I have found that Gupp's grow at an accelerated rate if there is algae in the tank to eat. I prefer the use of flouescent lights over incandescent. Using a Grolux tube in your lights would be to your advantage in that it would stimulate plant growth if you have any **water-**sprite floating on the surface. Flouescent lighting is also cooler as it does not create that much heat.

Once your Gupp's are one month old you are ready to cull. Watch your fish with a careful eye as you are looking for deformities, runts and bad coloration. Once I have culled out my one month old fish I begin to seperate the **males** from the females,.

My fish are born in 2 1/2 gallon tanks and when they reach the age of one month I sex them then separate the males and females. After separating the sexes I place the males and females in adjacent 2 1/2 gallon tanks. During the period of 4 to 6 weeks of age the Gupp's blossom out with color. Watch them with a careful eye for bad coloration. Continue the feedings as you have in the past with regular water changes of 25%, of the water each week.

When the Gupp's reach the age of-two months it is time to cull again. Cull out all of the runts, deformities and anything that has bad color in its tail. After you have finished culling it is time to give your fish a larger tank. I move my two month old Gupp's into 10 gallon tanks where they can continue to grow with a little more room. I very seldom have more than 20 eight week old males in a 10 gallon tank, same holds true for the females. The feeding schedule remains as rigid as possible and my eye becomes a little sharper as I watch my Gupp's growing up to 12 weeks old. You have watched and fed your Gupp's for 12 weeks. How many times have you fed them, culled them and watched them? not to mention tucking them into bed. Too many! it seems. But as you look at your Gupp's swimming up and down the front of the glass looking hungrier every minute you forget about your thoughts and wind up feeding, culling, watching and tucking them in bed once again. A three month old Gupp isn't much to look at but You know what your fish should look like at maturity and your anticipation of a beautiful show fish keeps you going. I have written the above article with my experiences and views. If anyone has anything to add to this I would be happy to hear from them, and if there is anyone who disagrees with the above I would be happy to hear from them too.

+++++

Author Unknow
Reprinted from the Colo. Aqur.

I'M ONLY ONX PXRSON

EVXN THOUGH MY TYPXWRITXR IS AN OLD MODXL, IT WORKS QUITX
WXLL XXCXPT FOR ONX OF THX KXYS. IT IS TRUX THXRX ARX
FORTY-SIX KXYS THAT FUNCTION WXLLXNOUGH, BUT ONX KXY NOT
WORKING MAKXS THX DIFFXRNCX.

SOMXTIMXS OUR SOCIETY, IT SXXMS, IS SOMXWHAT LIKX MY TYPX-
WRITXR.

YOU MAY SAY TO YOURSXLX, WELL, I AM ONLY ONX PXRSON. BUT
YOU SXX, THX SOCIETY NXXDS THX ACTIVX PARTICIPATION OF
XVXRY MXMBXR.

SO THX NXXT TIMX YOU THINK YOU ARX ONLY ONX PXRSON AND THAT
YQU ARX NOT NXXDXD, RXMXMBXR MY TYPXWRITXR AND SAY TO YOUR-
SXLX, I AM A KXY PXRSON AND NXXDXD VXRY MUCH!

NOTES

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SEE CLUB LETTER FOR RULES

In the alphabetical block below there are 25 fish listed in horizontal, **verical**, and diagonal lines. Some of the fish listed are end to end, as you find the fish draw a circle around the name. HAVE **FUN!**

- B A D E S I A M O N A A Z E Y A W 1. ARCHER
- U A R R O W S O F I N L T E E H S 2. AROWANA
- T E T C L O W N S A R C S H I E R 3. **BADIS**
- T I G E H N A A W A G P I TTY I 4. **BLOODFIN**
- E E L T J E I O G A M Z E P L E P 5. DRAGON FIN
- R Z s C A A R F I E Z C Y L O J E 6. EMPEROR **TETRA**
- F P I R A A N G D I L L I E H E N 7. FIREMOUTH
- L O R R Y C D K I O N K I C S W G 8. GLOWLIGHT
- Y O R I S Y C I U M O N O O N E U 9. JACK DEMPSEY
- A E O W S A N D R A G L . O S N L I 10. JEWEL
- P E L I J T B L O O D F B T I G N 11. **KILLY**
- I A M L Z O E R U M M Y N O S E S 12. *MONO*
- R A S P O s C L B A D I S M O D E 13. OSCAR
- A R C H E W E L **L R U M M U O R O** 14. PENGUIN
- N AN A C R A B O A A I L S C A T 15. PIRANAH
- A S I L V E O Z E B R B A D I G S 16. PLECOSTOMUS
- H O G I S H D R A G O N R I N O Y 17. **PRISTELLA**
- G L O W L I G H **T I G E H E S N I** 18. RAM
- I N O **I** ALAN C E R S I C G F R 19. RUMMY NOSE
- N O N F I R E M O U T H A R C I K 20. SCAT
- G L A N C E O Z E B R R A B S N T 21. SILVER DOLLAR
- E O S I L V E R D O L L A R A S P 22. TIGER BARB
- R U M M Y B O O S E O S C A Z I E 23. **VARIATUS**
- A , R O W R A N A V A R I A T U S I 24. ZEBRA
- N I O A B E T T A A S P L E N D L 25. WHITE CLOUD

FILTERS

THE AHLERS WAY

Reprinted from Modern Aquarium
Written by Ron & Tina Ahlers,
GCAS

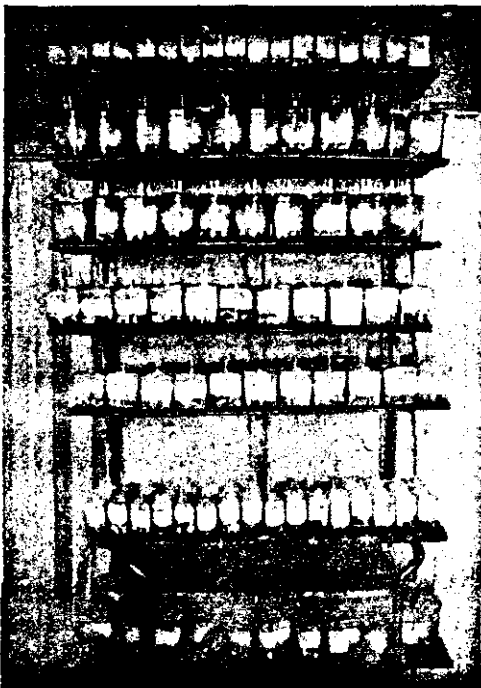
Photos by Ray Juschkus
and the authors

If cleaning half a dozen filters takes up most of your Saturday afternoon, a look at how we **change 300** of them in our hatchery may give you some ideas to speed up the job.

In our approach to filters, and filtering, we do not believe in complex systems. **Tina** and I take a simple route; inexpensive ones are our meat.

We use 3 types of inside filters: 1. Baby-savers for our drop tanks, (where the pregnant females have their young) 2. Square box filters, (used 2 to a twenty gallon tank) 3. Corner filters, (used in 15 gallon, 29 gallon and 50 gallon tanks).

In our set-up, we do not use biological or under-gravel filters.



filters. We believe that biological filters are not especially good for guppy breeding. About two years ago, **Tina** and I thought it would be good to test some of the biological filters advertised. We purchased two well known brands and set up 12 tanks, 6 with one type and 6 with the other type, besides control tanks using our normal filtering system.-

With hopes high of no work changing filters, we sat back and watched. The **biologicals** failed with flying colors. In every **case** the tail and body growth of the guppies in the biologically filtered tanks was much less than their brothers in our control tanks.

The biological filters **also** gave the-males a higher percentage of split tails and torn fins. We think this problem is caused by the build-up of nitrates.

When people visit our hatchery, they are amazed to see no charcoal or active carbon in our filters. We are usually questioned at **length** why we use marbles. They are simply used for weight, to prevent the filter from floating. We explain they are inexpensive, add nothing to the water and are easy to change and clean.

To make our job easy, we have at least twice as many filters as **we** have in the tanks. This **may** sound a little expensive, but it is a practice that saves quite a bit of time. To handle **more** filters at a time, we place our spare ones on **boards** 12x36 inches. We start with all of our boards made up with **clean, filled** filters. As we go around to each tank we simply exchange them with the dirty ones.

When the filters are all changed, we start the cleaning process by removing the covers and the filter material. The filter material is left to drain awhile in the-sink. The marbles are then unloaded into a plastic pail, with water running to start the cleaning process.

Once all the filters have been emptied, the actual cleaning can be started or the job can be put off **to a** more convenient time.

The empty filters and covers are placed in a 20 gallon tub of warm water **with, about** one-half cup of bleach. They are soaked for at least three hours. The marbles are soaked in a similar solution in their pail. **Next** step is to rinse the filters and the marbles. When thoroughly rinsed, we let them air dry for at least 24 **hours**. This insures the dissipation of all bleach.

Our re-assembly process goes like this: marbles are placed in the filters, followed by the filter medium over the marbles. Last but not least the covers are placed on top and the clean filters stacked back on **the** boards. This is the complete cycle: our filters are ready for the next change.

A few words about those 29's and 50's. The main filtration of these tanks is provided by high speed outside filters. Because of **their** size and expense we do not have a double set. An **extra** dozen does the job. These filters are changed weekly too! The box portion of the filter-is washed by hand. Stems and smaller parts are soaked in bleach **and** water, same as the other filters. We handle a dozen at a time and this process is repeated until they are all clean. Our filter problems have been **solved** by the above mentioned methods. Yours can be, too!

TABLE SHOW STANDINGS

The quality and the quantity of the entries at our last table show was good. The club standings are listed below:

Females	1st Turner	2nd Shaw	3rd Shaw
Open	1st Turner	2nd Wolcott	3rd Kratz
Other	1st Lenzen	2nd Alsridge	3rd Lenzen

	<u>Entries</u>	<u>HG</u>	<u>Places</u>	<u>Total</u>	O.T.	<u>N.T.</u>
Aldridge	2	0	3	5	6	11
Culver	0	0	0	0	24	24
Hale	0	0	0	0	6	6
Kratz	1	1	2	4	14	18
Lenzen	2	0	7	9	17	26
Levitt	0	0	0	0	3	3
Shaw	4	4	5	13	6	19
Turner	4	4	10	18	42	60
Wolcott	6	6	3	15	11	26
Walsh	1	1	0	2	4	6

Listed below are the 1st, 2nd, 3rd and 4th place standings:

- 1st Turner
- 2nd Tie - Wolcott & Lenzen
- 3rd Culver
- 4th Shaw

GUPPY BREEDING

Reprinted from:
Guppy assoc. of Montreal

Many of us are not blessed with dozens of tanks, or else we may wish to develop that sport that turned up without getting into a full scale program. Here is a sound method based on mathematical principals, suitable for professional and beginner alike. The concept is borrowed from the Nov. 67 issue of "Tropical Fish **Hobbist**".

Many breeders make two assumptions which are not correct: first, that the best male produces the best offspring and second, that females can be effectively selected for breeding purposes. The use of drugs for selecting females is generally banned by most breeders and is dangerous to use. Tail shape or color is a frequent gimmick, without the slightest proof that it works.

Turning to the males, it is true that those from a strain producing a high percentage of good looking males will tend to produce good offspring. If the strain is poor however, even the best looking male will tend to produce very few good offspring.

The solution is quite simple.. Individuals are unpredictable, but the result with groups of individuals can be predicted mathematically. If we select not one female, but a dozen females, for some characteristic for females. Such as large size, quick growth, we have half our breeding population with little effort. Our object is not one pair, but a population of **twelve** females and six males in the same tank.

Using several parents reduces the possibility of a bad selection ruining the entire next generation. While one male might be a dud, the chance that **six** good males are **all** duds is **remote**. As there is fewer means of selecting females, more are required.

Place this population in a twenty gallon aquarium where they are allowed to breed at random. Raise five fry from each female, giving us 'sixty fry for our next generation from which we will select our eighteen breeders. The young males should be moved to separate quarters until the age of four months to six months, when the cycle begins.,

If **males** from previous generations are better than any of the offspring, they may be used for up to half of the breeding population. Try to raise an equal number of fry from each female to get the full benefit of **population** breeding. Improvement should be constant, and in a **few generations** we should have a strain that is uniform and a pleasure to behold.

G. Robertson'

DID YOU KNOW?

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TIMING OF THERMAL ACCLIMATIZATION VIA THE FLOATED
CONTAINER TECHNIQUE

by

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The practice of acclimatizing store-bought (or newly acquired) fish by floating their plastic bag in the water of their new home is both **well-known** and **of** value. However the question that should occur to the serious hobbyist is just how long a soaking time is required? An examination of the amateur literature provides values that range from 30 minutes to as long as 3 hours. To find the **answer** to the above question the Research Committee set up and conducted an experiment. The procedure used was as followed: first a measured portion of cool water was placed into two different standard size plastic bags and then the initial temperature was measured and recorded. The bags were then floated in a large aquarium (20 gallons) and a continuous history of the water temperature vs. time was made with a recording thermometer. This instrument is basically a precision thermistor with a strip-chart recording apparatus. The thermistor was centered in the contained water. When the temperature of the bagged water levelled-off, the final temperature of the water in the 20 gallon tank was measured to assure that it was not lowered enough to affect the experimental results.

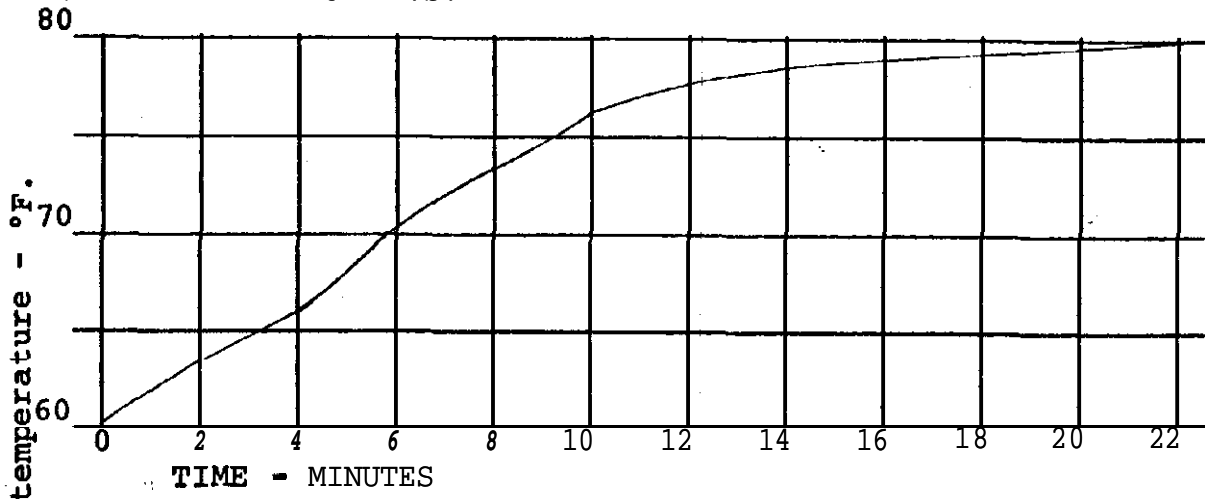
A description of the data obtained follows:

Bag #1: Polyethylene, 8 1/2 x 13 inches by 0.00152 inch thickness, (nominal 1.5 **mil**) with one quart of water.

Initial water temperature in bag = 60° F.

Temperature of 20 gallon aquarium = 80° F.

PLOT - TEMPERATURE VS. TIME--



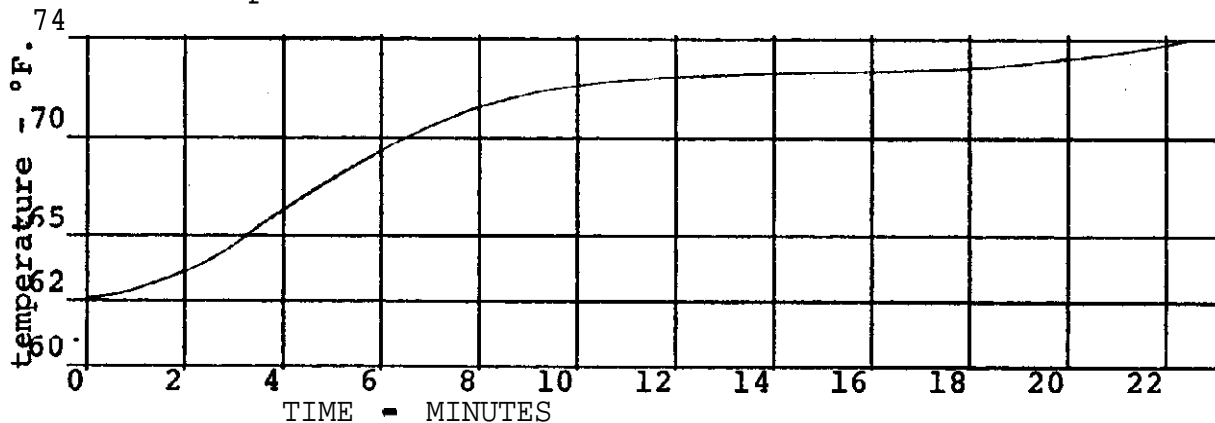
Final temperature of 29 gallon aquarium = 80° F.

Bag #2: Polyethylene, 5 3/4 x 11 inches by 0.0011 inch (nominal 1 mil) with one pint of water.

Initial water temperature in bag = 62° F.

Initial temperature of 20 gallon aquarium = 74° F.

Plot of temperature vs time--



Final temperature of 20 gallon aquarium = 74° F.

(Note: all temperatures were measured with an accuracy of 1/4° F.)

The **first results (bag#1)** were intended to represent an extreme case for the smaller polyethylene bags used for transporting fishes, and since fish were not present in the bags and no agitation was provided the rate of temperature rise should be well on the low side of what would happen in an actual situation. The second set of results are probably more typical, but again without any agitation of the water the temperature rise is slower than should be expected with fish in the bag.

An attempt was made to measure the temperature rise rate in one corner of bag #1, but the rise was too rapid for an accurate recording. The rate in the corner was, however, in excess of 6° F. per minute.

Examination of the results of this experiment show quite **clearly** that even for the case involving the larger temperature difference (60° to 80°) a 15 minute floating time was quite adequate to bring the temperature to within 2° F. With fishes in the bag and with more reasonable initial temperature differences even less time will do the job. Note that the authors do not intend any implication that the temperature change rates encountered in the **bag-floating** technique are either desirable or undesirable for the thermal acclimatization of fishes. It is merely our wish to point out that the rates involved are somewhat higher than has been previously believed.

+ Research Chairman. GAGC