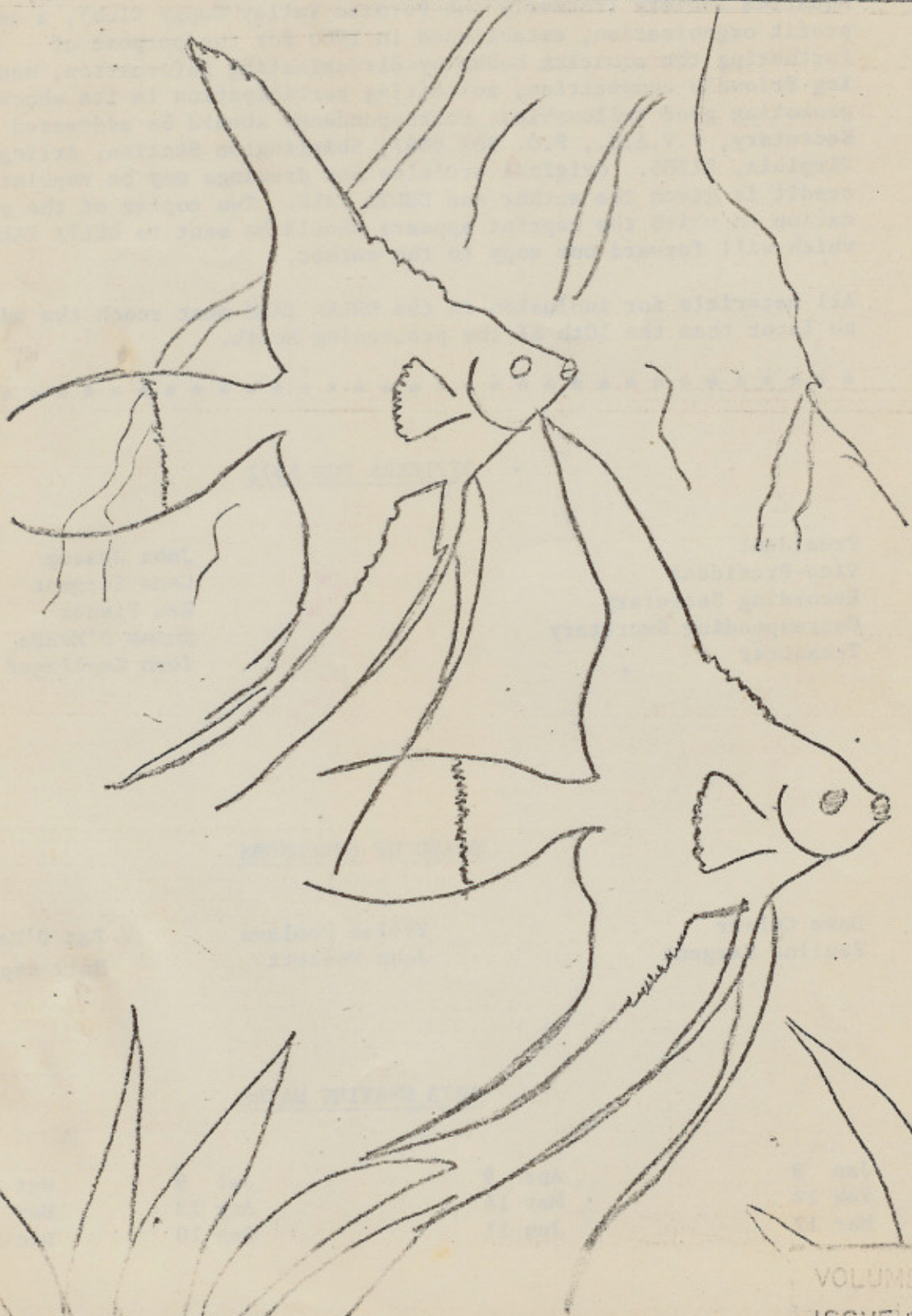


DELTA TALE

OFFICIAL PUBLICATION OF P.V.A.S.

JULY 1973

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VOLUME 4

ISSUE 7

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 6067, 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 10th of the preceeding month.

OFFICERS FOR 1972

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1973 MEETING DATES

Jan 8
 Feb 12
 Mar 12

Apr 9
 May 14
 Jun 11

Jul 9
 Aug 13
 Sep 10

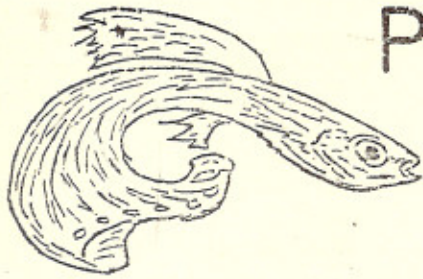
Oct 8
 Nov 5
 Dec 10

TABLE OF CONTENTS

	PAGE
From the President.....	2
Editors' Note.....	3
Secretary's Letter.....	3
Membership and Things.....	4
Bowl Show Results and Standings.....	5
Features	
THE MYSTERIOUS CLOWN LOACH By Don DeRoze.....	6
THE METHYLENE BLUE MYTH By Joseph M. Devlin.....	8
GUPPIES--THEIR CARE AND DISEASES By Cathy Wolf.....	10
WHAT'S HAPPENING AT THE NATIONAL AQUARIUM By Alan Levitt.....	13
FISHWORD PUZZLE By Lavinia Voss.....	15
Trading Post.....	17
Revised Membership List.....	18

COVER

Bertha Hardy gave us this month's cover of a pair of angel fish.



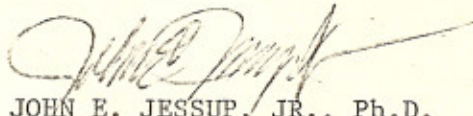
POTOMAC VALLEY AQUARIUM SOCIETY

FROM THE PRESIDENT

Since our last meeting I had the opportunity to visit New York City and get to some of the fish shops in the area. You find the same cross-section that we have locally but I found more poor shops per capita than we have here. One was particularly bad with filthy tanks, mislabeled and sick fish--it was an unusually large shop in a good location. In one case three different sizes of the *Tilapia mariae* were called *T. mariae*, *T. melanopleura* and "Sunburst Cichlids" in adjacent tanks.

At the other end of the spectrum was Tony's at 6252 Woodhaven Boulevard in Queens. The owner knows his fish, is in the hobby and is active in the local society. I picked up a number of specimens from him and arranged to send him a list of what we are breeding in this area. Fish we consider relatively common they never see and vice versa. Hopefully, we may be able to set up some sort of exchange.

My real delight in New York is the Aquarium Stock Company at 31 Warren Street. You are greeted by hundreds of tanks and the best and broadest selection of fish. It is a very busy store--it's too big to call a shop--but there is always time for a friendly greeting and good service. I try never to pass up the opportunity of seeing what new fish they have in and they always seem to have something new and exciting! They will take special pains to pack your fish for the relative long drive back and I've never lost a fish purchased from them.


JOHN E. JESSUP, JR., Ph.D.

EDITORS' NOTE

For the next few months, there will be a new feature courtesy of Lavinia Voss--a Fishword Puzzle. The clues this month will send you to your reference books. Good luck and our thanks to Lavinia for her work. The Revised Membership List is included in the back of this issue. Detach it to keep in a convenient place.

SECRETARY'S LETTER

Again this month we had a short business meeting, but not such happy news. Two of our strong supporters have been transferred to posts outside of the Washington area. Dick and Etta Baker in their short period in the club put in more work than many of us will know. Chuck Story will be the new Corresponding Secretary, replacing Dick. Ken Raab, a member of the Board, is the other transfer. Carl Hardy will fill Ken's place on the Board.

As a follow-up to his recent article on photography in the Delta Tale, Gene Aldridge gave us some pointers on what to look out for and to avoid before actually photographing a fish.

Although there were some interesting fish entered in the bowl show, many of us seem to have stopped bringing in our fish to be judged. How about remembering that New Year's resolution made 7 months ago to support the monthly shows! Bring them in July.

Linda DeRoze
Recording Secretary

MEMBERSHIP AND THINGS

This month's issue of DELTA TALE contains the revised membership list. Look over the new list and be sure you have been listed correctly. Send any address changes to the P. V. A. S. post office box.

There are several new memberships that we would like to welcome to P. V. A. S.

John and Freda Schutt of Arlington, have been in the hobby for 7 years. They list cichlids as their main interest and presently operate 12 tanks. John is a Senior Engineering Inspector for Fairfax County.

Barry Walker has joined as a corresponding member. He has 20 tanks of guppies and resides in Damascus, Maryland. Barry is employed as a mechanic.

Thomas and Georgeanne Kerwin have a variety of fish in the 4 tanks they maintain. They have been in the hobby for 5 months. Tom is a tax auditor for the D. C. Government and lives in Falls Church.

Neal Harrington of Washington, D. C. is interested in a variety of fish and presently maintains 3 tanks of guppies. Neal is employed as an analyst by the Department of Defense.

The Tuttles, Michael and Elizabeth returned to the hobby 3 months ago after a lapse of several years. Mike is a mechanical designer and the Tuttles reside in Alexandria.

There are two memberships that expire this month.

Dennis Beebe

Carl and Mary Hardy

Please fill out the membership application and mail according to the instructions at the bottom of the application.

Only a few people have taken advantage of the P. V. A. S. library. At the present time the contents of the library are limited but even so it contains wide variety of bulletins from other societies that are well worth reading. Look it over at the next monthly meeting.

Chuck Story

POTOMAC VALLEY AQUARIUM SOCIETY

TABLE SHOW RESULTS & STANDINGS

JUNE 1973

★ FANCY GUPPY

- a. Green
- b. H/B Red
- c. AOC

1st
SERGENT
WOLCOTT
HIRSCHMAN, E.

2nd
SERGENT
WOLCOTT
HIRSCHMAN, E.

3rd
SERGENT
WOLCOTT
WILSON

★ CICHLIDS

- a. Cent & So Am (Large)
- b. Non Riftlake (African)
- c. Other

HARDY, C. & JESSUP (TIE)
HIRSCHMAN, E.
JESSUP

JESSUP
HARDY, C.

HIRSCHMAN, E.
HARDY, C.

★ EGGLAYER/LIVEBEARERS

- a. Betta
- b. Corydoras Catfish
- c. Other

HIRSCHMAN, A.
HARDY, B.

HIRSCHMAN, A.
HIRSCHMAN, A.

HIRSCHMAN, A.
HIRSCHMAN, A.

POINT COUNT

<u>GUPPY</u> (21)	<u>JUNE</u>	<u>QTR</u>	<u>ANN'L</u>
Sergent, P&G	11	29	58
Poulsen, W.		17	38
Wolcott	11	23	38
Walsh		10	33
Melnick	5	20	33
Hirschman, E.	7	18	19
Shiflette, N.			12
Cunningham	2	5	9
Wilson	3	4	4

<u>EGGLAYER/ LIVEBEARER</u> (10)	<u>JUNE</u>	<u>QTR</u>	<u>ANN'L</u>
Hirschman, A.	14	36	70
Smith, R.	3	17	25
Shiflette, A.		4	17
DeRoze, D.		8	16
Shiflette, D.			14
Pettingill		1	10
Hardy, B.	5	9	9
Jessup, June			8
Hardy, Don		3	7
Goodman			4

★
QUARTERLY
WINNER

JULY 9, 1973

CICHLIDS (12)

Jessup, Jn	13	38	75
Hardy, Carl	11	30	51
DeRoze		2	22
Hirschman, E.	7	8	19
O'Meara		17	17
Sprague		5	13
Shiflette, J.			11
Aldridge		3	9
Goodman			7
Story	1	1	3
Shiflette, A.		3	3

GUPPY - H/B AOC, Female, AOC

CICHLIDS - Cent & So Am (Medium),
Riftlake Breeding Pairs,
other

EGGLAYER/LIVEBEARER - Barbs, Anabantids,
Other

✿ COME ON AND SHOW YOUR FISH! ✿

Each month we have been seeing less and less entries.

LET'S GET THE COMPETITION GOING AGAIN!

THE MYSTERIOUS CLOWN LOACH

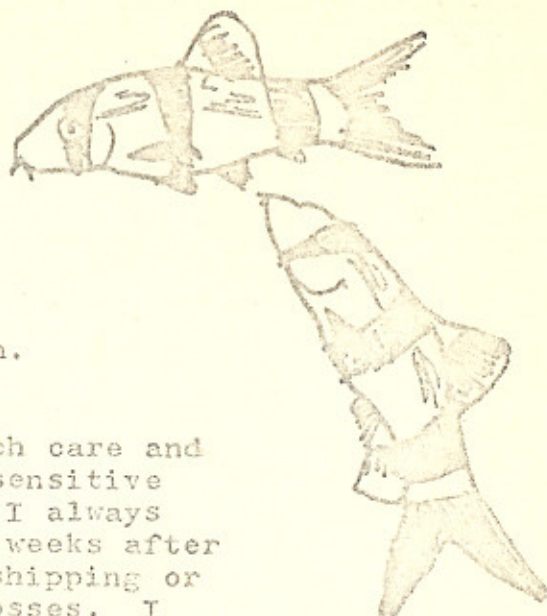
By Don DeRoze

There is a friendly fish from Sumatra and Borneo which can adapt to a wide variety of water conditions but has never been bred in captivity unless the recent case reported by W. Nowak in October 1972 proves to be true. Nowak reported a spawning in a tank having two heavy-bodied and four slim clown loaches about six inches long. The conditions were acidic (6.2 pH), warm (85°F) and soft (DH 2). The actual spawning of about 40 babies was not observed. Countering this as a spawning of the clown loach, one of our members thinks he has a male and it is blue--not the typical black-striped orange fish we all commonly associate with the clown loach. This would suggest that males are extremely rare, perhaps attributable to some aspect of capture for export which makes only the female likely to be caught. Our member's acquisition of a blue "clown loach" is a subject in itself, but it appears inconsistent with Nowak's experience. Possibly Nowak's loaches were a different species from *Botia macracantha*, the scientific name for the clown loach. Someone has raised another mystery concerning the breeding of clown loaches. They have always been accepted as egg layers, but this person thinks they probably are livebearers. He is involved in an effort to clarify this presently, with some professional help. In short, here is a fish which could be egglayer or livebearer, and could have been bred once or never in captivity. In addition, we don't know if all black-striped orange clown loaches are females as suggested by the possibility of a blue male, or if heavy-bodied fish are females and slimmer ones are males as suggested by Nowak.

Enough of the clown loach puzzle. What makes them so popular with those who are not scared off by the expense of these imports from the Far East? The clown loach is a very good scavenger in almost any type of fish community. We have used them for years in acid-to-neutral, soft water (80°F) with angels, tetras, and assorted peaceful cichlids. We also use them in very alkaline (8-9 pH), slightly salty ($\frac{1}{2}$ tsp. per gallon), hard water (75°F) with moderately aggressive Lake Malawi African cichlids. Hence, the clown loach can probably thrive in just about any set of tank conditions and get along well with neighbors and other clown loaches. I would avoid larger amounts of salt, but wouldn't worry about extremes in temperature, pH or hardness just so long as conditions are maintained fairly constant. Fishes more aggressive than African cichlids could kill clown loaches, but I haven't heard of any cases one way or the other.

The appeal of clown loaches is the manner in which they play together. They "play dead" lying on their sides and "follow-the-leader" among rocks and around caves if there

are several in the same tank. They are fun fish with lots of personality and can eat right out of the hand. They will hide and be wasted if alone or if the tank is dull to them. They are turned on by rocks and caves, but we make the caves so that we can see the fish. They don't seem to mind.



A few words about clown loach care and diseases. They seem to be very sensitive to rapid changes in conditions. I always expect problems in the first few weeks after getting a new clown loach. The shipping or change in conditions can cause losses. I would suggest investing a little more and buying bigger fish since the losses will probably be less. The fish may get ick in the first few days or whenever conditions change too fast, but this is usually easily treated with ick remedies. Once past a month, the fish will probably survive for many years and get quite large. We have had a few problems with heaters getting stuck and raising a 77°F tank rapidly to 85°F. The body film on the loaches broke down and sand actually stuck to the fish. One treatment with tetracycline cured the problem within a day.

The clown loach will be very popular and useful as a scavenger if you get over the shock of initial expense and give him a chance. Be patient, they like to hide a lot at first until they get to know and like their tank. Adjust the tank to their liking, they may be nocturnal (I don't spend nights checking this) but they should be quite active during the day. They seem to thrive on a variety of diets, but I recommend some greens. I think they are best in a group of mixed sizes. Their play and mannerisms usually make them the eye-catchers in community tanks.

THE METHYLENE BLUE MYTH

By Joseph M. Devlin
Curator of the Museum of Pathology
U. of Pennsylvania School of Medicine
(Modern Aquarium, May, 1971)

It is difficult to account for the current widespread use of methylene blue in the treatment of ailing tropical fishes. Now looked upon as a panacea, it appears to be used as a curative agent in almost any disease from algosis to zoosis. Actually, methylene blue falls far short of its reputation as a miracle drug. Concisely, methylene blue is of doubtful value when employed as a therapeutic or anti-septic agent!

The author has conducted quite a number of experiments wherein various protozoa and fungi which attack fishes were cultured in media to which methylene blue was added in concentrations approximating dosages commonly used in the treatment of infected fishes. Most parasites thus tested were observed to grow just as well in the methylene blue as those (controls) grown in the same media without the dye. Fungi, in particular, thrived in the dye, thus methylene blue's value as a fungicide can be discredited.

Can anyone imagine the treating of tenacious fungus diseases, such as ringworm or athlete's foot in the human with a mild solution of methylene blue? All fungus diseases are insidious, and it takes powerful chemicals to kill the causitive micro-organisms. The problem is to destroy the parasites without injuring host tissue. In fungus diseases of the human skin, this is difficult enough, but a fish under treatment must swim in its treatment; it must swallow it; and the chemical must come in direct contact with sensitive gills.

It might be argued that I have based my conclusions on a study of fish-pathogens grown under artificial conditions, which, to a degree, is true. However, some of the most common obligate parasites were studied in living hosts. My findings were invariably the same--no evidence that methylene blue was of any benefit to diseased fishes.

Furthermore, methylene blue did not serve well as a "preventive medicine" for fishes reared in it. When such fishes were fed tubifex and other "wild foods", the incidence of disease was about equal to that observed in control fishes reared in ordinary aquarium water.

Why then is methylene blue so popular a fish remedy? I am convinced that it has become so widely used simply

because it makes the keeper (not the fishes) feel better. It cannot harm even the most delicate baby fishes, so the keeper feels that he has done something for his poor, sick charges. The water is blue! He can SEE that he has done something!

A most important use of methylene blue has been completely overlooked: The dye makes an excellent algaecide!

It does not kill the algae by direct contact, but rather it starves the algae by screening out the red rays of the light-spectrum which are needed by all green plants if they are to carry on the important life-process called photosynthesis. Perhaps this is why we so often hear that "methylene blue does no harm to the fishes, but it is hard on aquarium plants."

The use of methylene blue in this manner is essentially equivalent to the turning off of the aquarium lights or darkening the fish room, except that the blue dye provides a way of filtering out only the kind of light necessary to algae without interfering with the daily rhythm of the fishes.

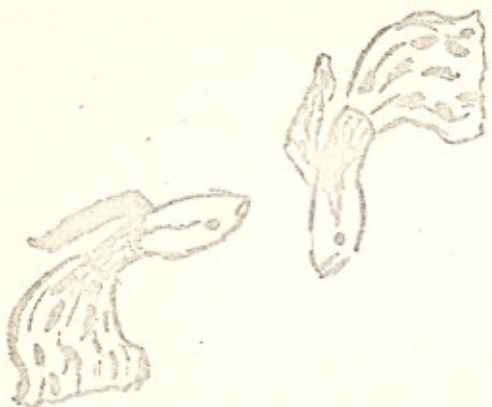
Methylene blue has been used in pathology and histology laboratories for many years, and it is today perhaps the most important bacteriological stain. But its use in the aquarium world is relatively new, and I believe its possibilities have not yet been fully explored. The dye has a number of interesting aspects. For instance, it falls just short of being an indicator of bad water. When water to which methylene blue has been added turns foul, it loses its dissolved oxygen, smells of hydrogen sulfide, and loses its blue color. In other words, the methylene blue molecule robs the hydrogen sulfide molecule of its hydrogen atoms and thus is reduced to a new, colorless compound called leuco-methylene blue, or "methylene white."



Upon the clearing of the water and the return of dissolved oxygen, the blue color reappears. This is so because the methylene white is oxidized back into methylene blue.



Methylene blue is not a good indicator of foul aquarium water simply because it gives the warning signal when it is too late to save the fishes. However, I think it is a good idea to use the dye as an indicator in infusoria cultures. All too often small fry are killed by "feeding" them "infusoria" which is nothing more than polluted water.



BEGINNERS MANUAL - V

Guppies- Their Care and Diseases

By Cathy Wolf
Guppy Gossip
July 1970

An ounce of prevention is worth a pound of cure. This saying should be posted in a very prevalent place in the guppy breeder's domain. A conscientious breeder can go through many years without a serious outbreak of disease in the tanks or in one thoughtless moment can cause the beginning of something that could just about wipe him out of the hobby.

The cardinal rule to remember is: never introduce new fish or plants into a tank with your fish. New fish should be isolated by themselves for at least a week (two weeks would be better) to give you time to observe them carefully and make sure they are healthy and will take the change to the water conditions of your tanks without ill effects. A fish can be healthy when you bring it home and then, perhaps through the change in water, have some latent disease become active. The isolation period would allow time for a possibility of this sort to show up.

When you work only with the strains or crosses of fish you have and do not introduce new fish, you become familiar with the weaknesses certain fish may have and through experience, learn to recognize the signs that indicate when these particular fish need a little assistance to feel in top shape. Guppies are normally a rather hardy little fish and when given good food and a clean "house" will stay healthy and hearty and produce good fry for a long time.

By taking a few moments to glance at all the fish in a tank each time you feed them you can often spot the beginning of trouble. If you note a fish that is not active or hungry, be sure to doublecheck that particular tank at next feeding time. If the fish is not back to normal by then, look further for the cause and watch carefully to see that the rest of the fish in the tank do not also become listless.

As is generally known, the basic causes of diseases are

over feeding and overcrowding. Overfeeding allows uneaten food to lay in the filter or on the bottom of the tank and in the warm water, soon decays and starts to foul the water. If the fish are not fed again for a long period of time and become hungry and eat spoiled food, this could cause internal disorders.

In an overcrowded tank, the water becomes fouled quickly because of the feces and urea given off by the fish and, of course, the more fish in the tank, the more necessary a good supply of oxygen. An overcrowded tank can be kept healthy by more frequent water changes than once a week to keep the water from becoming highly acid or toxic. The fish can be kept healthy but overcrowding stunts their growth and you end up with fish much smaller than their potential growth.

There are certain diseases more or less common to guppies but usually not fatal if treated in time. One of these is fungus. Fungus is a white cottony spot that could appear on any part of the fish. Take the fish from the tank with a net, wipe the fungus gently with a Q tip dipped in mercurochrome. The mercurochrome will kill the fungus. If the fungus does not come off easily, do not forcibly pull it off but repeat the treatment the next day and by that time the fungus should be easily removed without further damaging the skin. To treat the whole tank for fungus, use 1-2 drops of malachite green per gallon of water or use any of the fungicides available in pet shops. Do not apply mercurochrome on a fish's gills.

Sometimes guppies become constipated, perhaps because of a steady diet of nothing but dry foods. When this happens, they become listless, slightly swollen and the feces is white and stringy. Epsom salts will do wonders for this--a quarter teaspoon per 10 gallons of water and skip one or two feedings for that tank. If the fish are listless but do not seem constipated, try a change of 1/3 their water and add 1 teaspoon of plain salt per 5 gallons of water.

Salt seems to be an excellent overall curative and conditioner and when in doubt as to what is wrong with a guppy, it would seem wise to try a salt treatment first. It would not harm the fish. Start the treatment with 2 teaspoons of salt per gallon of water. Over a 24 hour period, gradually increase the dosage so you will have 4 teaspoons salt per gallon. If there is no improvement by the third day you can gradually add another 2 teaspoons salt per gallon. After several days of treatment, gradually change by adding fresh water until the tank is back to normal.

Another indication that a fish is not well is when the fins become folded or clamped. Raise the water temperature to 80-85° and add 2 drops Ick Out per gallon of water. Although Ick Out is basically for ick, it helps many other

things. This may forestall the beginning of an illness if caught in time but watch the tank closely to see what develops.

Ick is not too common to guppies but can occur if there is a sudden drop in water temperature. If all of a sudden you find your fish covered with white spots, raise the water temperature to 80-85° and add 2 drops methylene blue per gallon of water or use Ick Out as directed on the bottle.

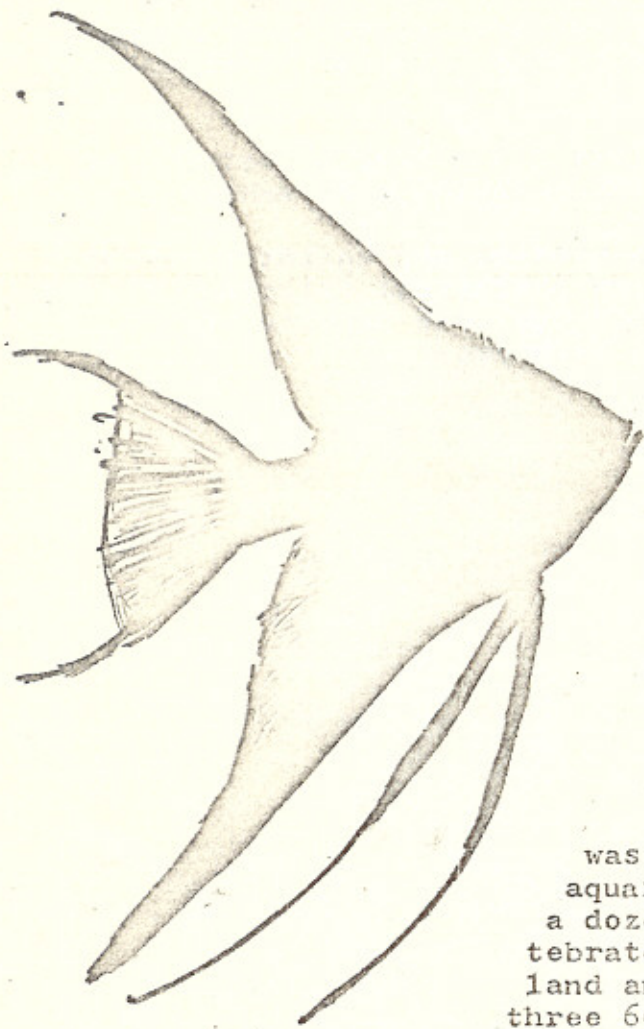
Tail and fin rot and split tails are a special curse for the breeder trying to raise show guppies. You can usually tell when the tail is going to split by a black line which all of a sudden appears in the tail. Sometimes you can avoid the split by swabbing the tail with a cotton tip dipped in mercurochrome and then move the fish to a small container for a week where he will be more confined and away from the females. Fin and tail rot can also be treated by the mercurochrome swab and if more than one fish in the tank is affected, add one drop mercurochrome per each gallon of water in the tank. Make sure the tank is absolutely clean and do not overfeed live baby brine shrimp. Several other remedies to try are 35 cc of 3% peroxide per 10 gallons of water and repeat the 3rd day or 2 cc of 40% formalin per 10 gallons of water (16 drops equal 1 cc).

The majority of breeders will probably never have to worry about treating for flukes, but if they are introduced into one of your tanks they are quickly spread to many other tanks by the use of the siphon hose or nets. Flukes are a parasite which adhere or hook themselves into the fish's skin. Fish afflicted with flukes will often rub against the bottom of the tank to try to remove the flukes. Their colors become pale and the fins droop and fold and gradually become torn. The skin becomes more slimy than normal and shows small blood spots and breathing becomes increased. For treating a tank, use 1 cc (16 drops) formalin per 10 gallons of water. For a heavy infestation, put the fish in 1 cc formalin per 1 gallon of water for approximately 10 minutes and then return them to their tank which has 1 cc formalin per 10 gallons of water.

When you are faced with the more serious bacteria, virus or protozoa diseases, this is when you are forced to use antibiotics and it is quite difficult for a beginner or even the experienced aquarist to diagnose most of these diseases. A microscope would be a very handy tool for the serious aquarist to have.

Many guppy raisers, as soon as they think something is wrong with the fish, will use antibiotics right away as a cure all. Generally, this is not necessary and many even cause more harm than good. After a time fish can develop a resistance to the antibiotic and then the antibiotics

would be useless when really needed. As a general rule, if you are not sure what is wrong, first try the partial change of water, then try the salt treatment, then if not better, try the dyes such as malachite green or methylene blue-- 1 or 2 drops per gallon of water. Never use more than one medication in a tank at a time.



WHAT'S
HAPPENING
AT

THE NATIONAL AQUARIUM

By Alan Levitt

A new local species section was established last month after aquarium personnel collected over a dozen species of fish and invertebrates on trips to suburban Maryland and the Eastern Shore. The three 60 gallon tanks display many of the residents found in nearby ponds and streams.

Last month we also received a three-foot Green Moray Eel along with two two foot Spotted Morays. They are on exhibit in a 1,000 gallon tank with groupers and a triggerfish. Also acquired last month were some very interesting and brightly colored tropical Pacific invertebrates. These included nudibrachs (sea slugs), chitons and sea cucumbers. They are on display in the invertebrate tank.

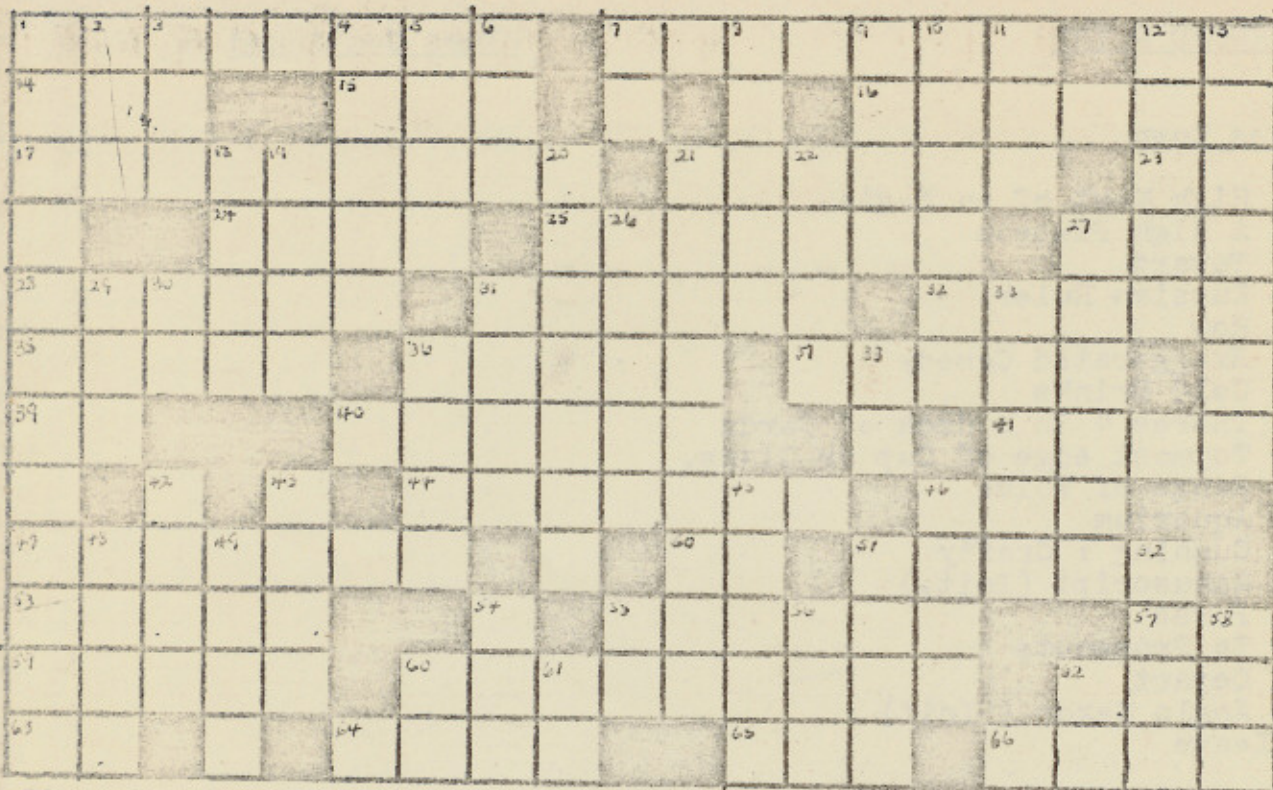
A number of Rainbow, Brook and Brown Trout went on display in the 2,000-gallon tank previously devoted to the Hawaiian Koi. The trout were given to use by Leetown Federal Fish Hatchery in West Virginia. The 92 Federal fish hatcheries produce over 55 million trout each year for stocking in public waters.

The Japanese Koi were photographed this month by the National Geographic for inclusion in a story to be published this fall in their children's magazine.

The Pacific Coral Reef exhibit and the Clown Trigger tank were broken down, cleaned and redecorated last month. Many of the other tanks will be broken down for their annual cleaning the next few weeks.

Spawnings included the Tomato Clownfish, assorted Rift Lake cichlids and the fish in the parental care exhibit.

The National Aquarium will provide any marine aquarist with "seed" gravel for use in new biological filters. If you need some, please call before you come down to make sure personnel are available to help you.

Clues Across

1. Garden of Eden Fish !
7. Angel Fish
12. Perform
14. Biblical Character
15. Small Cichlid
16. He Lives In Wigwam
17. Cigar Fish
21. Punctuation Marks
23. Compass Point
24. Prong of Fork
25. Osteoglossum Bicirrhosum
27. Break Moral Law
28. Tetra or Fruit
31. Scorn
32. Lake
35. The Million Fish !
36. Sailfin Fish
37. Guide
39. Either
40. Depended
41. Teases(slang)
44. Farewell Demonstration
(2 Words)
46. To Direct a Weapon
47. Harlequin Fish
51. Highly Skilled
53. Larger Cichlids-Blue or
Horthole
55. Type of Angel
57. In Chem. Arsenic
59. Worth : Earn
60. Kryptopterus Bicirahis
62. African Antelope

63. Island (Abbrev.)
64. Men Used to be,
Some still are.
65. Conceit (Colloq.)
66. Wood Frame-Harness Oxen

Clues Down

1. Trichogaster Leeri
2. Alder Tree
3. River (Spanish)
4. Presses
5. Alike
6. Large Bird Like Ostrich
7. Civil Engineer (Init.)
8. Found in Circus & Aquarium
9. Type of Goldfish ; King
of the Jungle
10. Natural - Inborn
11. Dentist (Abbrev.)
12. Giant, Pearl, Zebra, Gold
Fish
13. Singleness + Unity
18. Cease
19. Small
20. Young Tree
21. Catfish
22. Young Girl
26. Governed
27. Brine or Freeze Dried
29. Europe (Abbrev.)
30. Military Police (Init.)
31. One and Only

Clues Down

- 33. High Nest of an Eagle
- 36. A High Plateau
- 38. Toward
- 42. Russian Ruler
- 43. Row _____
- 45. Exaggerated Comedy
- 46. Cold Drinks
- 48. There's 4 in a deck of Cards
- 49. Topmost edge of Cup or Glass.
- 51. Range of Voice
- 52. Aquarium
- 54. Cunning ; Crafty
- 55. Manuscript (Init.)
- 56. Purse
- 58. To Prosecute
- 60. Depart
- 61. Anglo Saxon (Init)
- 62. Leave

SOLUTION WILL BE PRINTED IN NEXT MONTHS DELTA TALE.....

TRADING POST

QUALITY FISH FOOD

Edward and Alfred Hirschman

Only while our surplus lasts, the following foods are offered at the rate of \$2 per pound, or 4 pounds for \$5.

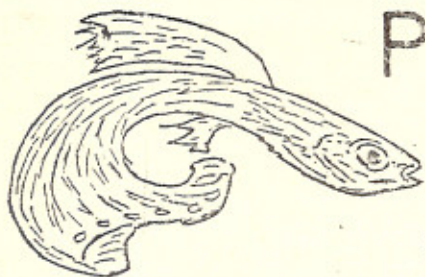
To place an order to be picked up at the immediately following meeting, call 280-5768.

- SPECIAL FISH BLEND Contains small fish, livers, salmon eggs, shrimp and kelp. Over 72% protein.
MEDIUM GRIND
- OCEAN HARVEST Contains small fish, livers, salmon, crab, kelp meal and shrimp. Over 70% protein.
MEDIUM and COARSE GRINDS both available
- ALL SALMON MEAL Contains Salmon Flesh, Eggs, Milt, Heart, etc; 65% protein. FINE GRIND
- GUPPY FOOD Composed of small fish livers, fish eggs, fish milt, fish solubles, shrimp and kelp. Crude protein, min. 65%; crude fat, min. 6%; crude fibre, max. 1%; ash, max. 12%
FINE GRIND
- CONDITIONING FOOD A general all purpose food that makes for an excellent change in diet. Contains fish, fish solubles, Vitamin "A" supplement, Vitamin "E" and B12. 45% protein.
FINE, MEDIUM, and COARSE GRINDS all are available

ROUND NOSE AURATUS 3 - 4"
1 male, 3 females-----\$40

ROCKS, Misc.
10¢ a lb---must come and get

Contact Gene Aldridge



POTOMAC VALLEY AQUARIUM SOCIETY

MEMBERSHIP ROSTER - JUNE 1973

Eugene Aldrige
3045 S. Buchanan St.
Arlington, Va. 22206
931-7426

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6910 Barnack Drive
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451-5240

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Sterling, Va 22170
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521-8416

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Joe Pursley
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Woodbridge, Va. 22191
494-1964

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Arlington, Va. 22206
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Eugene & Pauling Sergeant
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Chuck & Genny Story
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Staten Island, NY 10307

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569-1885

William Witiman
3521 Leesburg Court, #103
Alexandria, Va. 22302
578-1188

John Wolcott
13454 Yorktown Drive
Bowie, Md. 20715

Date _____ 1973

APPLICATION FOR MEMBERSHIP

NAME _____

STREET _____

CITY _____ STATE _____

PHONE _____ ZIP CODE _____

Number of tanks _____

Type of fish _____

Time in hobby _____

Fish you have spawned _____

What you would like to do in this Club? _____

Which sub-group interests you? (guppy, cichlid, other) _____

How long do you plan to be in this area? _____

Occupation _____

Membership dues for the P.V.A.S. are \$7.50 family; \$5.00 individual; \$3.00 corresponding and \$2.50 junior. Completed applications accompanied by your check or money order should be mailed to P.V.A.S., P.O. Box 6067, Arlington, Virginia, 22206. Please attend our meetings at the Coca-Cola Bottling Plant, 5401 Seminary Road, Alexandria, Virginia at 8:00 P.M.

1973 Meeting Dates

January 8	April 9	July 9	October 8
February 12	May 14	August 13	November 5
March 12	June 11	September 10	December 10

Potomac Valley Aquarium Society
P.O. Box 6067
Shirlington Station
Arlington, Virginia 22206



ADVANCED AQUARIST OF THE NATL.
CAPITAL AREA ATTN: EDITOR B-AANC
C/O JOAN B. GLASCOCK
7000 RIVER OAKS DRIVE
MCLEAN, VA. 22101 ✓

THIRD CLASS