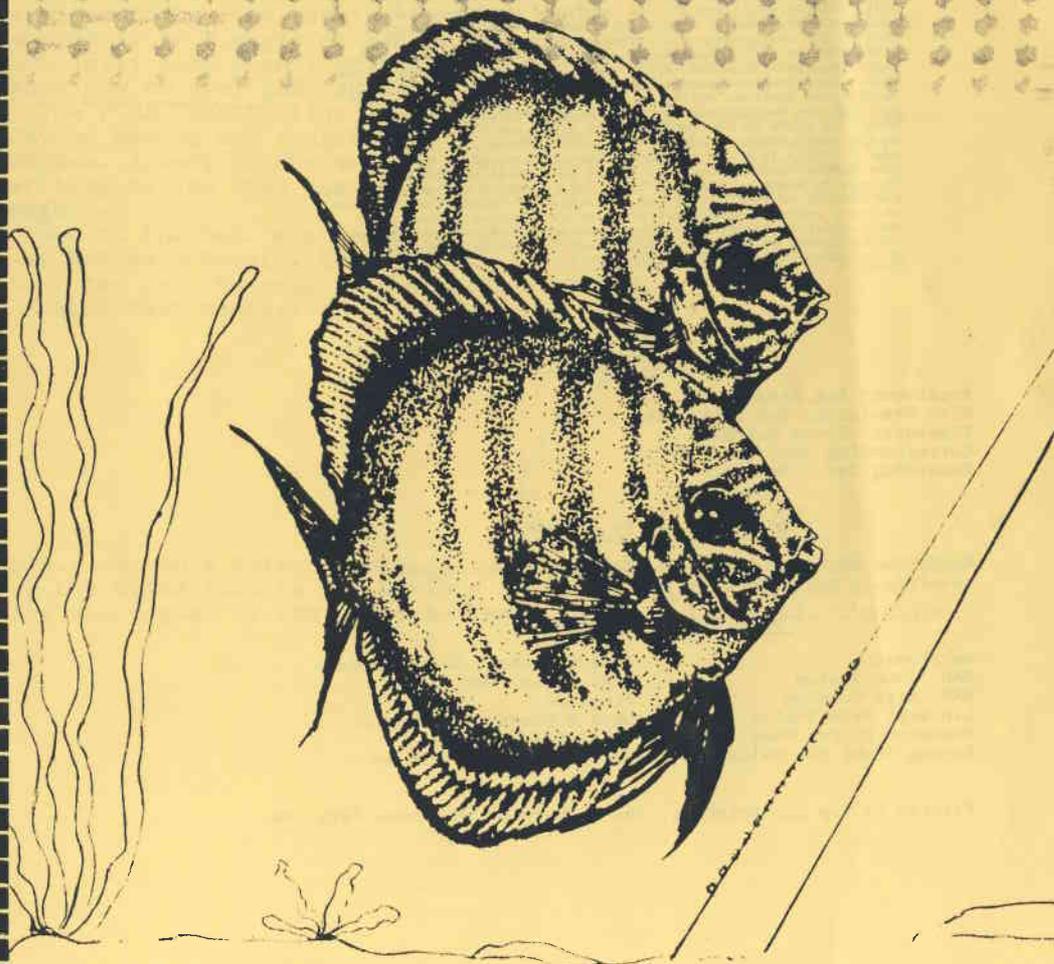


* DELTA TALE *

Nov. 1986
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potomac valley aquarium society



POTOMAC VALLEY AQUARIUM SOCIETY



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1986 PVAS OFFICERS

President: Bob Roser
Vice President: Bob Pallansch
Treasurer: Gerry Hoffman
Corresponding Sec.: Pete Thrift
Recording Sec.: Pat Gore

1986 PVAS BOARD OF GOVERNORS

Kenny Warren, Alex Cummins, John Jessup, Ray Hughes
ex-officio: Gerry Hoffman

1986 COMMITTEE HEADS

Auctions:	Fall Workshop: Gerry Hoffman
BAP: John Jessup	Bowl Shows: David Sun
HAP: Alex Cummins	Programs:
Library: Pete Thrift	Ways & Means: Pete Thrift
Membership: Pat Gore	FAAS: Gerry Hoffman
Spring Show: Bob Pallansch	Delta Tale: John Mangan

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FRUM THE EDITORZ DESK

It's election month. The slate of proposed officers can be found elsewhere in this issue. This list is the suggestion of the nominating committee only. Nominations for any office can be given from the floor **before** the election.

Someone is still needed for the position of corresponding sec. This is one of the easier board positions and not too time consuming. If you think **you would** like to try it please speak. No experience is **necessary**.

While I've got you all interested in doing something (I hope)- after the election next years president will be looking for people to fill various committee positions. So if you would like to try something like running the bowl shows, or if you've always wanted to be a magazine editor (no experience needed, I had absolutly none when I started, you don't even really need to know how to spel gud) speak up. PLEASE!!!

The PVAS constitution is being reviewed for possible changes. Anyone having any suggestions or comments please contact Ray HUGHes. A copy of the current constitution can be obtained by writing to the PVAS post office box, or see Bob Roser or Ray Hughes.

Due to the Oct. meeting being delayed a week this issue is way behind schedule. So I'm going to stop here for this month so I can get the rest of the issue finished.

Until next month...



p.s.- one more thing- those of you that are delivering the copies of the Delta Tale to the **various** shops please try to get me a few new copies of **the shops** business card for their ad. Thankyou.

THE MIRROR

REPRINTS

"Preparing for a Fish Show" by John Mangan, was reprinted in Algae, publication of the Tidewater Aquarist Society, Aug. 1986 issue.

REVIEWS

"Fixing and Improving Weak Airpumps" by Mark Westling was reviewed in the July/Aug. 1986 issue of Sand Paper publication of Singing Sands Aquarist Society.

"Fixing and Improving Weak Airpumps" by Mark Westling was also reviewed in the June(?) 1986 issue of Splash publication of the Milwaukee Aquarium Society.

"Making a Big Canister Filter" by Alan Coltri was reviewed in the Sept. 1986 issue of Tropic Tank Talk publication of the Greater Detroit Aquarium Society.

NOMINATING COMMITTEE REPORT

The nominating committee proposes the following slate of officers for 1987:

President- Gene Aldridge
Vice President- Pete Thrift
Treasurer- Gerry Hoffman
Recording Sec.- Lea Spickler
Corresponding Sec.-
Board of Governors - Kenny Warren, John Stieringer

Elections will be held at the November general meeting. Additional nominations will be accepted from the floor at that time.

ed. note- someone is still needed to run for corresponding sec. For anyone interested in becoming more involved in the club this position would be a good starting point. If you are interested in running for this or any other office please contact Gene Aldridge, or any of the current officers prior to the election. J.M.

ADDING MARINES TO YOUR EXISTING SALTWATER AQUARIUM
by Greg Weber, KAS

"How do I know that it is safe for me to add another fish or invertebrate to
my marine aquarium?"

This is one of the questions which puzzles most hobbyists with saltwater
aquariums . . . as I remember.

When I began my first attempt at maintaining a marine fish tank, I had
absolutely no idea of what pH, nitrite, nitrate, and specific gravity had in
common with the tank cycling process. I figured, as most beginners dream of,
that I could go down to the bay, fill several buckets full of sea water, come
home and dump it into my tank, throw in some fish, and I could sit back and
be proud of my marine aquarium. What a naive nudnick I was. Even after going
to the local pet store and purchasing some saltwater mix, I figured that after
mixing the concoction up, I could just toss in some fish. Again, I was sadly
mistaken. Patience, which I have gained vast amounts of since starting this
endeavor, is the key ingredient to any successful saltwater aquarium.

After several impatient weeks of frustration and what seemed like a million
trips to the pet shop to have my water tested to see if my tank had cycled,
the magic moment finally arrived. My tank cycled. Now, what to add? Did I
want fish . . . invertebrates . . . or both! It's kind of like going to a
candy store after two weeks of starvation and then trying to select a single
piece of candy.

Of course, I wanted one of everything! But after blowing away the cobwebs
from my wallet, I realized that what I wanted and what I could afford to get
were not the same. So I settled for several "hearty" fish that could survive
my first marine aquarium. I took home several damsels, a hawk fish, and a
small lion fish. I still have the same hawk and lion fish. But there are
several new additions to the family, namely a panther grouper, a nazo tang, a
pink-tailed trigger, and several anenomes. As far as the damsels go, they
were an expensive, yet probably a delectable, meal for the lion fish as he was
growing up.

Along the way fish have died, before and after these additions to my
aquarium. The question which invariably came up time and time again was, "How
do I know if I can safely add another fish or invertebrate to my tank?" One
fish store employee answered my bewilderment by saying, "Just keep adding fish
until they start dying, THEN you know your tank is full!" I don't know about
you, but I don't enjoy the idea of even the smallest and cheapest fish passing
on the to the big fish tank in the sky. So I discarded his advice as having
no validity whatsoever.

Although, in reality, this is exactly what happens (but not precisely in those
words). Picture this scenario: Joe Schmuck, a marine hobbyist, goes into a
pet store and sees the fish of his dreams. He tells the sales clerk what he
already has in his tank at home. Let's say that Joe has a 29 gallon tank with
four 3-inch fish, a couple of anemones, and a hermit crab to tidy up the
place -- basically a tank that is already near capacity. Another fish would
undoubtedly tip the balance and overcrowd the tank. But, even for the most
well-intentioned of pet store employees, the thought of a sale can falsely
allure and cloud all reasonable thinking. He may think to himself: the fish

may overcrowd the tank, BUT maybe it won't (this is called the 50/50 chance theory). And if I refuse to sell Joe the fish, he might go over to Harry's pet shop, and we all know that Harry lacks scruples of any sort and will assuredly sell Joe a fish (this is called the pet store competitor paranoia syndrome). As a result of this rationale, the store employee bags the fish up. Joe takes it home and puts it into his aquarium, and two weeks later Joe begins to lose his fish due to overcrowding.

It is best for the hobbyist to make the decision about adding fish to his existing aquarium, and not the guy behind the cash register. For the advanced "mariner" this decision poses no problem, but a tenderfoot hobbyist needs some UNBIASED advice to make the decision.

A review of marine aquarium books often is not helpful. Usually these books are outdated or written in a style that only a marine biologist or Jacques Cousteau could understand them. The answer found in books concerning this problem can be summed up in one sentence: "One inch of fish per gallon of water." To add confusion to this already perplexing situation, marine experts, such as Barbara Polk, have stated, (from a NOAA technical memorandum): ". . . remember to add one fish at a time after you have reached the conservative limit. The point at which you first get mortalities can be considered the maximum limit." I would like to point out that in this memo a "conservative limit" was never even defined. Therefore, we are right back where we started . . . in wondering what our conservative limit is now! Can we add fish at this point? This is a strange attitude for any experienced aquarist to take. Losses of any kind, let alone marine fish, may be unavoidable, but they should not be used as an acceptable measure or goal. As you can see, it can be frustrating when turning to a book or a professional (using the term loosely) for advice and coming away even more confused.

Anyway, back to case in point. Let's look at why one shouldn't add fish to an existing aquarium. One very good reason would be that adding any fish or invertebrate may overcrowd the tank. A marine aquarium can be overcrowded in two ways, I have found out by reading an article by Jay Hemdal. The first is TERRITORIALLY overcrowding an aquarium. For example, take a 45 gallon tank which has 3 assorted tangs. It would be doubtful that a fourth could safely be added without fights occurring. Although this tank would be capable of holding more fish of a suitable species, it has reached its territorial limits. Since the territorial limit of an aquarium can be increased by carefully purchasing compatible fish or invertebrates, the BIOLOGICAL limit of a tank may be reached. This occurs when the fish and/or invertebrates in the aquarium produce more waste than the nitrifying bacteria are capable of breaking down. Another biological limit occurs when aeration is inadequate. When the water circulating devices do not supply the aerobic bacteria and the fish themselves with proper dissolved oxygen concentrations, the biological limit is reached.

Marine aquarists need not be concerned with the absolute highest biological limit of an aquarium. As the population of fish and/or invertebrates increases over a period of time, stress takes its effect on the inhabitants. A stressful environment can develop due to disease, predatorial disagreements, or falling water quality. Eventually, as more fish are added to the tank, stress increases and losses may occur before the absolute biological limit is even reached. Therefore, a Maximum Safe Limit must be established. Some cautious beginners stay well below this limit, just to play it safe. But most enthusiasts dive in head first and want to maximize every single inch of tank space that is available with fish and/or invertebrates. Common sense becomes

the decisive factor. Let your tank become acclimated to fish. Add fish slowly. Patience is essential unless disastrous results can be coped with, such as a complete tank wipeout.

For the tenderfoot mariner, the following tank capacity formula may be useful. All one needs to do is fill in the blanks with information relevant to the aquarium in question, and a safe living capacity can be determined. First, however, some important questions concerning the aquarium must be answered:

1. Does the tank have a well-established biological filter?
2. Is the proper specific gravity (salt content) of 1.021 to 1.023 maintained?
3. Is your aquarium inordinately tall or narrow? If so, this equation will not work.
4. Are all other aquarium parameters, such as hiding places, water quality, food, and light/dark cycles, in accordance with currently accepted aquarium maintenance practices?

Assuming the answers are conclusive to marine aquarium standards, the same limit can easily be calculated. First, find the ACTUAL volume of the aquarium (not the rated volume) in one of two ways. Measure how much sea water it takes to fill the tank when gravel, coral, and any other decorations are in place. Or use the following formula to estimate the tank capacity. Measure the INSIDE wall-to-wall length (L) of the aquarium in inches, then the inside wall-to-wall width (W) in inches, and finally the vertical distance (D) from the top of the gravel bed to the water level (then subtract 1/2 inch from this vertical distance (D) to allow for water displacement and any other tank decorations).

Multiply these 3 figures together (LxWxD), and divide the result by 231. This will give you the actual gallon capacity (C) of the aquarium. Next multiply this actual gallon capacity by 0.8 (Cx0.8), and the resulting number is raw Maximum Safe Limit (MSL) in "inches of standard fish" that the tank can hold.

Before this figure can be used, it must be modified to fit the ability of the aquarium's equipment to handle the biological load (see Table I). Choose the one tank parameter in each of the three categories in Table I which best describes the aquarium. Add the three values together and divide by three to find the average. Multiply this average by the raw MSL. This number is the actual MSL for the aquarium in question.

Now the hard part comes. One must realize that in fact a 2-inch fish's waste output is 3 to 4 times greater than that of a 1-inch fish. Therefore, the MSL in "inches of standard fish" can only be applied to fish that measure individually one inch in length. For example, if the formula allowed for 18 inches of standard fish for a twenty gallon tank, it would be no problem at all to have nine 2-inch damsels survive in the aquarium. However, try to put two 9-inch angelfish in the same 20 gallon aquarium. Would you realistically expect them to live? It won't work very well.

If you take a look at Table II, you will see that it adjusts an aquarium's MSL in inches of standard fish to fit the individual fish's size. If, for example, an angelfish measures 6 inches from nose to tail, it would require

13 inches of tank space. For fish over six inches in length, it is assumed that the hobbyist has experience and can realize the circumstances involving the fish. A logical decision must be made as to how well the fish will do in a certain tank and understanding the conditions that the fish demands to survive. A beginner should not try to start off with a pair of 12 inch angelfish. Starting off with smaller fish is less expensive, and as the fish grow, understanding of the fish develops also. By the time the fish are 12 inches in length, the hobbyist will have gained a vast amount of knowledge about keeping these fish alive.

Marine life that doesn't have a typical fish shape must be figured separately. The size conversion table (Table III) gives some general rules of measure to follow. There will be exceptions, as there are will all rules. Table III, along with your own table of good judgment and common sense (which should be outstanding after reading this article), should help in estimating or solving most problems that should arise.

Some advanced aquarists will see faults in this system, such as how to figure the space requirements for a batfish or an octopus. This method may not apply to every situation, but it is designed, when combined with common sense, as a general guideline. It may provide some enlightenment about space requirements for hobbyists who never gave it a second thought and wonder why their fish keep dying. It's major impact will be on the beginner, and hopefully he/she may feel better about maintaining and adding fish and/or invertebrates to their aquarium, with advice from an unbiased point of view.

TABLE I

Type of gravel bedding:	
large grain dolomite	1.00
small grain dolomite	1.10
small crushed coral	1.15
Type of biological filter:	
1" airlift tubes, large air bubbles	0.95
1" airlift tubes, fine air bubbles	1.00
powerheads, at least 100 gph	1.20
reverse flow	1.30
out-of-tank biological filter	1.40
Temperature:	
84 degrees F.	0.89
80 degrees F.	0.93
78 degrees F.	0.95
75 degrees F.	1.00

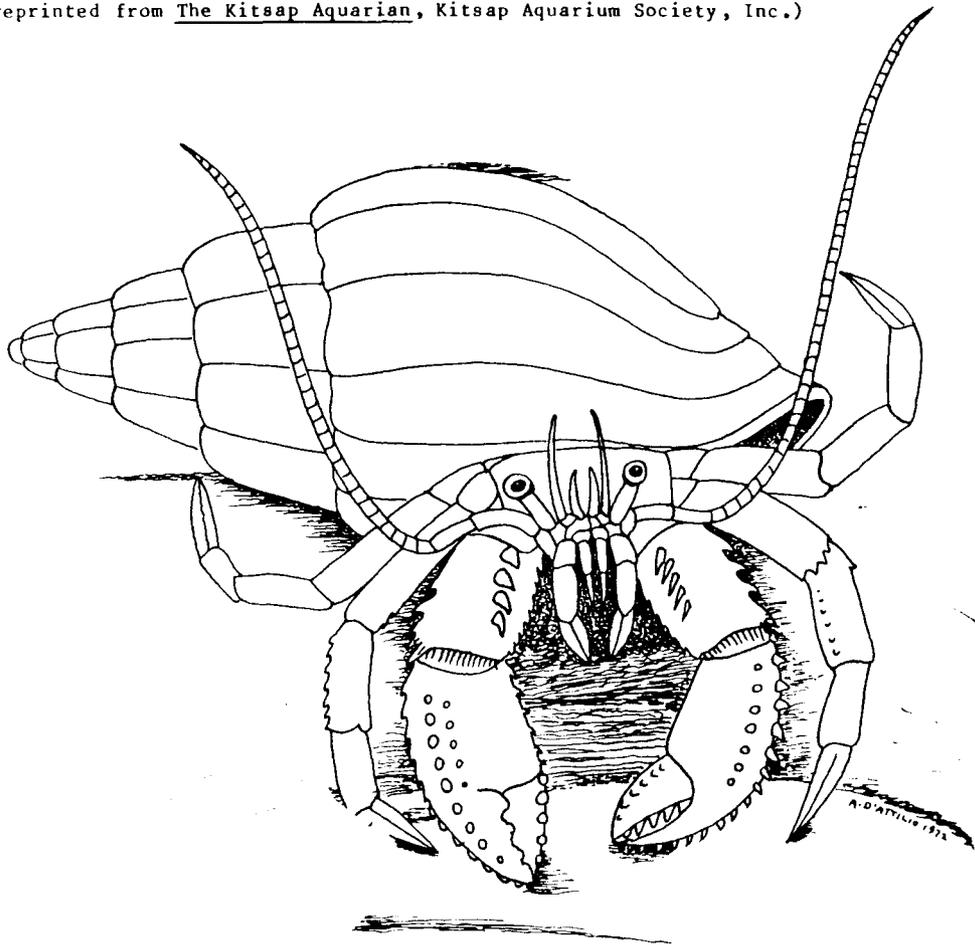
TABLE II

<u>Total Length</u> <u>Of Specimen</u>	<u>"Inches of Standard Fish"</u> <u>Needed For Specimen</u>
1"	1"
2"	3"
3"	5"
4"	7"
5"	10"
6"	13"

TABLE III

<u>Type Of Specimen</u>	<u>Tank Capacity Requirement In "Inches of Standard Fish"</u>
shrimp	2" unless very large
sea urchin	1" per 1" of body diameter
starfish	1" per 2" of diameter
anemones	1" per 1" of body radius
live rock	1" per 1" of radius
eels	1" per 2/3" of total length

(reprinted from The Kitsap Aquarian, Kitsap Aquarium Society, Inc.)



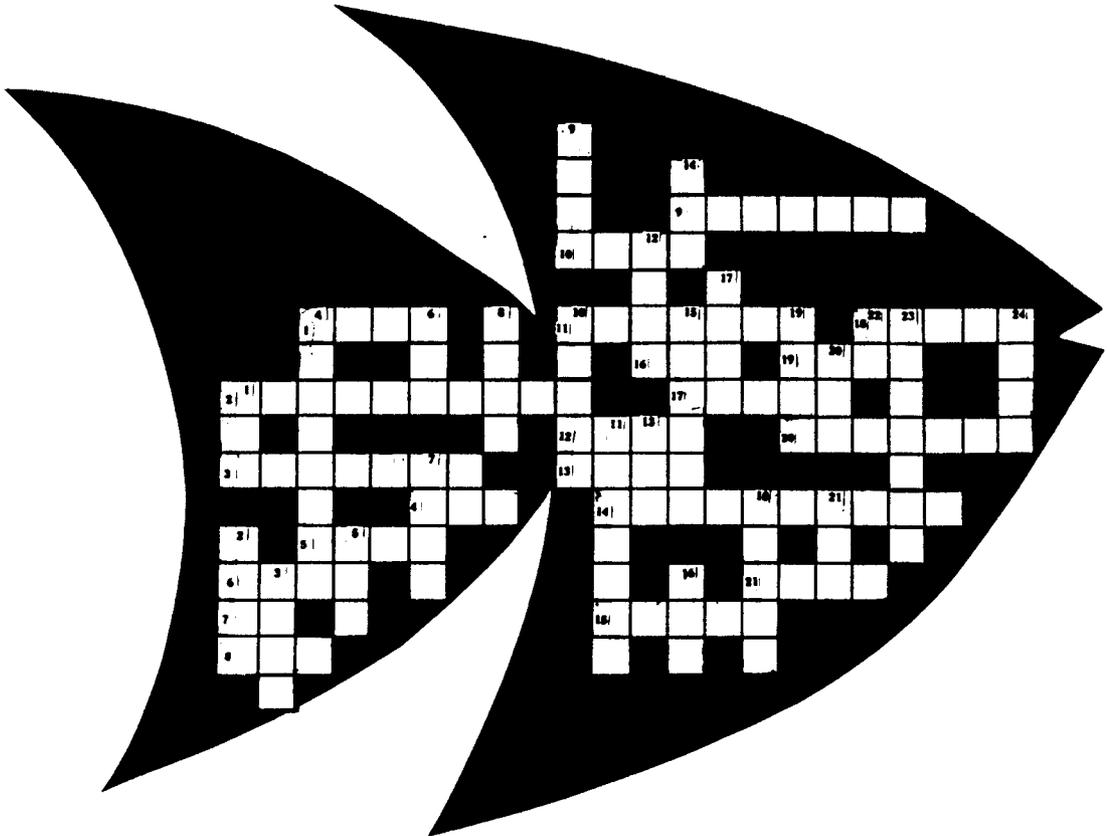
ACROSS

1. a member of the "goldfish" family. Spilling gunk on the carpet while changing water will cause your spouse to _____
2. Jim's long fish. A "catfish" that does not fare well with most cichlids
3. undesirable chemical in a salt water aquarium
4. Killiefish fan club
5. bright light fish
6. a woody plant mudskippers climb in unfishlike fashion
7. scientific term denoting "at the age of"
8. color of a jewel
9. the best kind of fish
10. a type of limestone kept in cichlid aquaria
11. feeding these fish to red devils will not color them up. Not a "bad" fish sometimes kept by killiefish nuts
12. a brackish water fish
13. fish more likely to be eaten by humans than kept in aquaria
14. small sea snail with a cone shaped shell
15. the most intelligent aquarium fish?
16. long nosed native fish
17. not a fun activity at a fish auction
18. Latin prefix for winged
19. Biblical unit of measure
20. French royal title derived from a majestic sea creature
21. suffix denoting similarity as in _____ totilapia

DOWN

1. fish propulsion appendage
2. a well pointed marine fish
3. something many corals will build
4. fish color enhancer
5. a worm of a fish
6. despite its name, a dogfish has nary a _____
7. piscine container
8. sediment carried by water that clogs things up
9. deepest kind of lake
10. most aquaria consist of _____
11. a small crustacean
12. amphibian known to devour fish
13. some people drink this beverage like fish do water. (hint: the _____ wife does not keep Lake Michigan beaches clean).
14. U.S. cichlid fanatics group
15. a dashing native fish
16. German cichlid society
17. found at the bottom of unclean aquaria
18. a peer of a dock
19. likely status of fish when the nitrogen cycle runs amuck
20. professional association that considers waterholes a curse instead of a likely source of native fish
21. fish catching device
22. water chemistry term
23. immature frog
24. flighty fish should not be kept in tanks that are _____

PISCATORIAL PUZZLE CONTEST



To win this easy contest, you must be the first to mail a correctly completed puzzle (a photocopy will be acceptable) to PVAS. First will be determined by postmark. First prize will be three fine cichlids. Consolation prize will be a black and white picture of a Goodied in breeding color.

ed. note- we're going to delay giving the answers to the puzzle another. There has been a slight revision in the clues (specificly 2 across). You could have done it with the original clue but this makes it a little easier. I'll also repeat the clue for 9 across- This puzzle was made by George White. Answers next month. Really. J.M.

A (WILD) BETTA EXPERIENCE

PART I

By Vincent-Charles Joly, C.N.Y.A.S.

In June of 1983 I was able to purchase a few pairs of Betta imbellis. I have always had a fascination with Betta splendens and the chance to work with wild Bettas, that I've wanted for years, was a dream come true. It was at this time that I sort of withdrew from the local aquarium scene, to spend most of my available free time with my newest passions; Betta imbellis.

Before I went to get the Betta imbellis, I prepared a special tank just for them. Being forewarned that wild Bettas are great jumpers, I purchased a complete hood with a fluorescent grow-lux. Three carefully potted Hygrophila polysperma, the clay pots hidden from view with a good size clump of Java Moss from a friend, and a good surface cover of Water Sprite and Duckweed. A temperature of 78 degrees, a teaspoon of sea salt and some Spectrogram, just in case. I also added a small Banjo catfish, a small darter like fish (which still has not been identified as of this writing 1½ years later, hasn't grown 1 cm. either; this fish is a story by itself). The day or should I say night of the imbellis's arrival was some event in my home, a long awaited event! I watched as each fish darted for cover, in the imbellis fright colour pattern. I left the light on and I went to bed as I was exhausted (a weekend fish show, a five hour ride in a car full of people, fish carriers, luggage and custom papers - it's a great experience, but both mentally and physically tiring).

The next morning I had pre-arranged a day off from work so I could spend the day with my imbellis. After a quick check and feeding of my other tanks with prepared foods, I went out into my garden and collected a very large net full of mosquito larva, carefully cleaned and offered them to my imbellis. They all dashed out of the cover (hiding places) and went into what I call a feeding frenzy. I was very pleased they ate and did they - they became very fat and very friendly. They became spoiled and everytime I went near their tank they were begging to be fed and I, their indulging foster-parent, always gave in, rationalizing making these "wild" Bettas tame through food, it worked, for a while! Until I put a net in the tank for the first time, the fish were terrified, in the two months I had them, the only thing they had in their tank was the siphon tube for their weekly 25% water change. I used distilled store bought water, two gallons a week for six weeks, while I toyed with my new little exotics water requirements, and what do I now, aged tap H²O. My home town (Syracuse) has a good H²O supply.

I took a pair out to spawn them, well for the next few weeks the community imbellis tank was mayhem. The fish would dash for cover every time I went near the tank, even when I fed them they would wait until I was out of the room before they would eat (I spied on them from the kitchen). This whole time the pair I had separated for spawning were as friendly as ever, even though they were in a new tank, aged tap water, sprig of Java Moss, Water Sprite 'n' Duckweed, styrofoam cup, and a batch fry, with both of the fish in attendance, they spawned six times over the next two months and a large number of fry all in the same tank, imbellis males are on a rule a gentleman with his mate and very tolerant of the fry. Spawning behavior similar to Betta splendens but more laid back, little real aggression and the females are sometimes allowed to assist in rearing the fry. If the male chases her off, she will herd a few fry and guard them along, other times she will just ignore them, always waiting for her mosquito larva, blood

worms, baby brine and live adult brine shrimp (another story). When I returned the pair back to the imbellis tank, the tank went back to normal - friendly greetings - I figured they were upset about the fish being removed, the specimens I had taken were the Alpha male and Beta (no pun) female (#1 male and #2 female of the imbellis' pecking order). The fry never showed any fear of the net, even now as sub-adults, but their parents are still leery of the net.

The imbellis fry grew well for the first month, they were fed three feedings of baby brine shrimp along with the infusorians and by three weeks baby brine shrimp and small mosquito larva, they were growing well, it was when they were about 5 weeks old deformities showed up and 75% of the fry died in a 4 day period. Water was checked and medication added (Spectrogram) the remaining fry thrived and at 6 months I had a nice school of imbellis.

The die off puzzled myself and a few friends, the die off always happened in the next spawnings at the same time, about 5-6 weeks of age. The one idea I came up with, was the imbellis were very inbred. My breeders were F-3's and brother-sister and so were their parents. I have tried to find unrelated stock but everyone who has imbellis in the N.E. came from the stock as mine.

I toyed with the idea with crossing the imbellis stock with the splendens when I first got them but not seriously. But now I had an experiment in mind; cross the imbellis with splendens, but that was easier said than done. At first I tried an imbellis male with a splendens female but the splendens I used was too much for the imbellis males I used.

I then tried the reverse, a splendens male with an imbellis female and nothing, displaying but no nest and the female seemed terrified of the male. Well I was about to give up when I decided to use my white splendens male with my favorite imbellis female and bingo, they spawned, not once but 6 times over a month and the fry though slow growing at first started growing and coloring up the second month, they are marked like pure imbellis fry but their body shape was not like the pure imbellis, more splendens (stocky).

In a couple of months from now when some of the fry start reaching maturity some careful crosses with pure imbellis and splendens are planned, but with fish as other things you can plan but will they cooperate? Well, time will tell!

(reprinted from The Reflector, Central New York Aquarium Society)

Q & A

Questions on any aspect of aquariums and fish keeping can be sent to Delta Tale c/o John Mangan, 9770 Oleander Ave., Vienna VA 22180.

Q. Last year my husband and I went to Bermuda for our honeymoon. We enjoyed so many things about the island, among them were the fishes we saw when snorkeling. It occurred to us that maybe we could collect some and bring them home to keep in our aquarium. We were not prepared to do so at the time, but hope to on a future trip. There is a snag however. It doesn't seem to be too easy to get living things past Customs. How would we go about getting permission to bring our new pets home?

A. I know of quite a few hobbyists that have collected and brought back fishes, so it is possible. Contact U.S. Customs Service for the exact information. Regulations probably vary depending on what country you are coming from and exactly what and how much you are trying to bring back. Please keep in mind that saltwater fishes are very delicate and easily stressed. All of the people I mentioned above have brought back freshwater fishes. You may end up spending a lot of money and trouble only to get home with a box full of dead fishes. If you really want some saltwater fishes I would recommend going down to your local fish store and buying some.

Q. In your opinion, which medium do african cichlids do best in- dolomitic gravel, #3 natural red flint, puka sand, etc. and do any africans do better in mixes of these or different mediums altogether?

A. When you refer to african cichlids I am going to assume that you mean those from the rift lakes since those from other areas often take much different care. Most africans available today are raised commercially in Florida, and have been for many generations. They, therefore, are quite accustomed to the type of water that comes out of the average aquarists tap. They do not need substrate such as dolomite to keep their water hard and alkaline as their wild caught ancestors did. Use whatever type of substrate you think looks best to you (the fishes will usually look better over darker colors than lighter ones).

TRADING POST

Ads for the trading post should be sent to Delta Tale, C/O John Mangan, 9770 Oleander Ave, Vienna, VA 22180 by the 20th of the month prior to publication. Ads will be run in one issue only, unless requested otherwise.

For Sale:

1. large Conde belt driven pump.
2. twelve 10 gal. tanks (all glass).
3. twelve supreme heaters.
4. twelve Aqua tops (plastic top, no lights)
5. twelve bottom filters.
6. one or two supreme pumps, heaters.

Price \$250

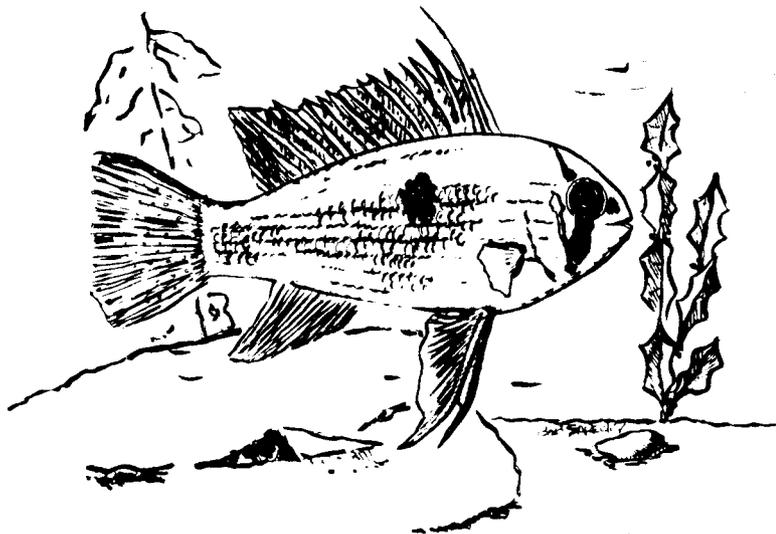
7. New, small Conde (for 10 or 12 tanks) \$85

William Cunningham, 8104 Bainbridge Rd. Alex. VA 22308.
765-3364(H), 768-1600(W).

Want: Allotoca spp.; Zoogoneticus spp.; Allodontichthys spp.;
female Ataeniobius toweri; old aquarium books and magazines.

For Sale: Xenotoca eiseni, young adults \$3/pr.; Ameca splendens
fry \$1 ea.; Xiphophorus helleri helleri fry \$1 ea.; backissue
aquarium magazines (send SASE for catalog).

John Mangan, 9770 Oleander Ave. Vienna, VA 22180.



BOWL SHOW REPORT FOR

October

CICHLIDS

New World Mouthbrooders

1st
2nd
3rd

Pseudotropens

1st
2nd
3rd

Open

1st L. brichardi, D. Sun
2nd H. bovatis, J. Bennet
3rd Marble Angel, J. Bennet

EGGLAYERS/LIVEBEARERS

Goldfish, Koi

1st Red Cap, J. Bennet
2nd
3rd

Characins

1st Congo Tetra, J. Stieringer
2nd Bleeding Heart, J. Bennet
3rd Bleeding Heart, J. Bennet

Open

1st Syn. angelicus, J. Bennet
2nd Swordtail, J. Bennet
3rd Syn. angelicus, D. Sun

	MONTH	QUARTER	ANNUAL
D. Sun	7	7	123
J. Bennet	7	7	63
D. Mann	0	0	28
J. Long	0	0	22
C. Edler	0	0	17
J. Lamberth	0	0	10
R. Hughes	0	0	4
J. Kooken	0	0	4

Nov. Categories

Cichlids
Angels & Discus
Mbuna
Haplochromis
Riftlake, non mouthbrooder
Open
Egglayer/Livebearer
Livebearers
Characins
Catfish
Sharks & Loaches
Anabantoids
Open

	MONTH	QUARTER	ANNUAL
J. Bennet	22	22	
B. Pallansch	0	0	
J. Stieringer	9	9	
J. Lamberth	0	0	
D. Mann	0	0	
C. Edler	0	0	
J. Mangan	0	0	
D. Sun	4	4	
J. Long	0	0	
S. Ptasek	0	0	
J. Kooken	0	0	
R. Hughes	0	0	
B. Roser	0	0	
J. Carter	0	0	

POTOMAC VALLEY AQUARIUM SOCIETY



POST OFFICE BOX 6219 SHIRLINGTON STATION ARLINGTON, VIRGINIA 22206

APPLICATION FOR MEMBERSHIP

DATE _____ 19 ____

NAME _____

STREET _____

CITY _____ STATE _____ ZIP _____

TELEPHONE H _____ W _____

OCCUPATION _____

Where did you hear about PVAS/get this application? _____

Number of tanks _____ Time in hobby _____

What can this club do for you? _____

What do you want to do for the club? _____

Membership dues for the Potomac Valley Aquarium Society are:

Family: \$12.00

Corresponding: \$7.00

Individual: \$10.00

Junior (under 18) : \$5.00

Please send application and check for dues to address above.

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Rockville, Maryland 20852

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Tues, Wed & Sat 10-6
Sun 11-3



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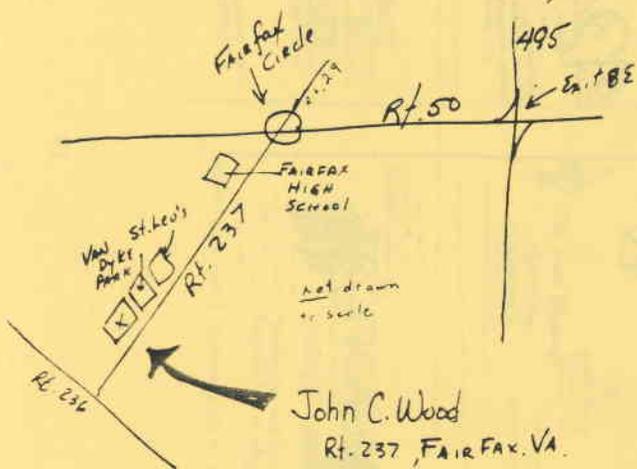
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PHILADELPHIA, PA 19145

The Potomac valley Aquarium Society will meet on the following dates in 1965

Aug. 11	Nov. 10
Sept. 8	Dec. 8
Oct. 20	please notice this is a change from the normal date

Meetings are held at the John C. Wood Facility, Rt. 237 (Old Lee Hwy)
Fairfax City, VA. Doors open at 7:30 PM, meetings start at 8:00 PM.
Everyone is welcome.

