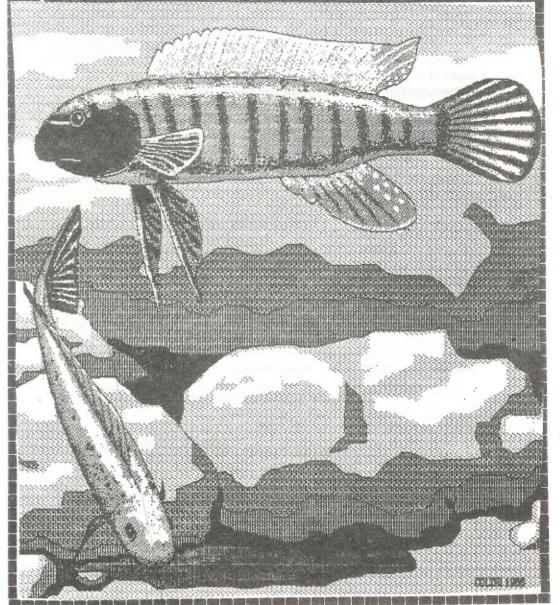
*DELTA TALE * Nov./Dec, 1999

potomac valley aquarium rociety



The Delta Tale is published bimonthly for the benefit of the membership of the POTOMAC VALLEY AQUARIUM SOCIETY INC., a non-profit educational and social organization. The society was founded in 1960 for the purposes of furthering the aquarium hobby by the disemination of information and advice, and the promotion of good fellowship among the membership by organized activities and competitions.

All correspondence to the society and to Delta Tale should be directed to P.O. Box 664, Merrifield, VA 22116.

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All materials for inclusion in *Delta Tale*must reach the editor by the 10th of even numbered months (Feb., April, etc.).

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THE PRESIDENT'S PAGE

The October auction has come and gone, and in its place now is the recognition that we, especially the Board of Directors, have much to do to close out this year and prepare for 1995. Elsewhere in this issue is a notice that elections of club officers and board members will be held at the November meeting. Most of us will be running once again for the offices we now hold, but all are open to challenge. Also, there is a vacancy for Recording Secretary. I'll have a bit more to say later in this message regarding participation in the club.

Not only will we be holding elections at the meeting, but the meeting will feature a very special presentation as well. Dr. Lynne Parenti, from the Smithsonian's National Museum of Natural History, has kindly agreed to speak to the club on her adventures in collecting and studying the fishes of the Indo-Pacific region. This is a presentation that she has given at the Smithsonian, and one that none of us should miss.

The officers and board members have not yet decided, but we will try to announce at the November meeting, what it is the club will do for the December meeting. Traditionally, we've held a pot-luck dinner at the Wood Center, which has certainly been enjoyable. We are, however, open to suggestions. Stay tuned.

We're now actively involved in putting together a program for our Tropical Fish Weekend in February. We've reserved the Alexandria Howard Johnson's for the first weekend of that month (February 4 - 6) for the affair. We plan to have the speakers on Saturday, a banquet with speaker on Saturday night, and the auction on Sunday. Just what we'll do on Friday evening is still undecided; at the 1993 Workshop we had a saltwater and a freshwater talk, both for beginners -- attendance was less than encouraging. Suggestions??

All of this brings me to the topic I mentioned in the opening paragraph -- PARTICIPATION. This is your club -- to get the most out of it, you need to get involved. This is a great hobby, and there literally is no better way to enjoy it to the max than to get involved -- really involved -- in a club like ours. And involvement need not be extensive or intensive; it can be as simple as attending meetings. If you're not happy with the presentations or agenda at the meetings, let us know what we (and you) can do to make it more enjoyable. I don't mean to lecture, but we really haven't seen many new faces over the past couple of years, especially those eager to participate. As I mentioned, elections are to be held at the November meeting and there are a number of seats for which to compete -- think about it.

Finally, a reminder for all of us who use local tap water for our tanks (almost all of us, no doubt). The last couple of

Frum the editor's desk

We've managed to pull off another great auction. I'd like to give a big thank you to everyone that helped to run things. A lot of our regular helpers weren't able to be there due to other commitments so we really needed those of you that did help out. We really need to get more new people involved in doing things, or doing some new things. There's a little work involved but it can be a lot of fun. You really don't need any experience, we're all amateurs at this stuff, and after all, it is a hobby we're dealing with here. You'll be surprised at what you can do if you try. I know I learned this. I never thought I'd be able to be an auctioneer until I was pressed into trying it, and I had a good time.

This all leads nicely into my next topic- the upcoming PVAS elections. Hopefully this will get to you before then. Elections will be held for next years officers at the November meeting. Although all of last years officers have agreed to run for re-election most are doing so mainly to insure that their position is filled by someone. Just about everyone involved in running things is experiencing burnout to some degree and would welcome turning things over to some fresh faces. The club has been in something of a slump the past couple of years and we could really use the enthusiasm that a few new people would bring into the running of the club. You don't need any experience at all. None of us had any when we first started.

Even if you don't want to be an officer there are things you can do to help out. Write an article, or poem; make up a puzzle; send in some artwork. All of these things are desperately needed. For most of its existence Delta Tale was a monthly publication. Recently I can't even get enough material to make up a good issue every two months. If even that is too much effort then at least plan to show up at our upcoming winter workshop. It's free for PVAS members and all you have to do is show up and sit in a chair, and if that's too much effort just lay on the floor, I don't care, but do something.

Last, but not least, I'd like to welcome back long time PVAS member George White. For those newer members who don't know him- George was forced to leave the country a number of years ago when it was discovered that he was a cichlidophile. Well times and attitudes have changed and George was recently given a presidential pardon and allowed to return to the U.S. Welcome back George, we missed you (and I haven't been able to find anyone else as much fun to pick on).

Until next time.

WHAT'S HAPPENING!

For up to the minute information on what's happening call the free PVAS hotline anytime. (703) 352-3365.

Nov. 14: PVAS Monthly Meeting and election of 1995 officers. We will have all of the usual good stuff: program, door prize, raffles, mini-auction, refreshments, etc. In addition we will hold elections for 1995 PVAS officers, and two board members. I encourage everyone to consider running. You don't need any experience and we really need to get some new people involved in helping to run things. Us old timers are all starting to burn out. See the following page for more information.

Program: Dr. Lynne Parenti of the Smithsonian Institution will be speaking on collecting freshwater and marine fishes in the Indo-Pacific area. Don't miss this one.

Dec. 12: PVAS Christmas Dinner. The Dec. PVAS meeting has traditionally been a potluck dinner. PVAS provides a main course, usually ham and/or turkey, and everyone else is asked to bring some kind of dish (preferably with food in it). Everyone is also asked, but not required to bring a small, wrapped, fish related gift. After dinner the gifts will be distributed among those who brought one. Any PVAS awards will also be given out after dinner. Feel free to bring family or a guest. This is always a nice informal evening and everyone has a good time. We try to start this evening earlier than the usual meetings so please try to be there shortly after 7:00 PM.

Jan. 9: PVAS Monthly Meeting

Feb. 3-5; PVAS Winter Workshop & Auction. Complete details in the next issue of Delta Tale. The workshop is free to PVAS members. Plan on attending.

Feb. 13: PVAS Monthly Meeting.

TRADING POST

PVAS members may advertise in the trading post at no charge. Send ads to <u>Delta Tale</u>, PO Box 664, Merrifield, VA 22116. Deadline for the next issue is Oct. 10.

For Sale or Trade: Backissue aquarium magazines. Many different titles from the 1930's to present. Send SASE for catalog. John Mangan, 9770 Oleander Ave. Vienna, VA 22181.

PVAS ELECTIONS

Elections for 1995 PVAS Officers will be held at the Nov. general meeting. Below is a slate of candidates proposed by the nominating committee. This is only a proposed slate. Nominations will be accepted from the floor prior to the election. Anyone wishing to run for an office can do so. Any PVAS member can nominate another member, or see me (or any current officer) if you would like to run for an office and need someone to nominate you. I strongly encourage everyone to consider running for an office. We need to get more people involved in helping to run things.

The nominating committee's proposed slate of officers for 1995 is:

President- Alex Townsend Vice President- Pete Thrift Treasurer- Rich Blumberg Corresponding Secretary- Mark Kaprow Recording Secretary- no candidate Board of Governors- (2 positions open) Kenny Warren, Ray Hughes

submitted by John Mangan, PVAS Nominating Committee Chairman.

"The Presidents Page" cent.

winters we had some really precipitous drops in pH and a number of us lost some valued fish as a result. As many of you know, the local water is extremely low in carbonate hardness to start with (carbonate is what really provides pH buffering), although we have rather normal levels of calcium and magnesium. I'm told that, for some reason and last winter in particular, the magnesium content dropped to about half its normal level. The result was sudden drops in pH, for example from pH 6.8 to somewhere around pH 4. That's a tremendous increase in acidity and one that is lethal to all but the most acid-loving fishes. So, watch your water (keep those pH test kits handy), and keep something like crushed coral on hand in case you have a crash.

See you at the November meeting!

aly

HOW TO MAKE AN "ORANGE" LELEUPI

JOSEPH FERDENZI

saw my first picture of Neolamprologus Leleupi in an article in the June, 1979 issue of Tropical Fish Hobbyist magazine. The article was by the renown German aquarist and photographer, Hans J. Richter. He called the fish "The Lemon Cichlid of Lake Tanganyika". Indeed, his beautiful photos snow a bright yellow fish. Not being involved in the organized aquarium hobby at the time, and not having ever seen it in any local stores, I thought of the fish as just one of those German rarities that I would probably never see in the flesh.

Well, in 1981, I happened to phone a young man who had some aquarium books and magazines for sale. He invited me over to his parents' house in the Bronx. When I arrived, I observed a umber of tanks set up in the living room. He explained that most of the tanks contained cichlids from lakes Tanganyika and Malawi. I was fascinated as I had never before seen any of the ones he had. As I looked about, I spotted a flash of yellow in a bottom 15 gallon tank. I almost jumped when I realized they were those fabled "leleupi" I had seen only in photos two years earlier. Anyway, I went home with some magazines and books and a new acquaintance.

About six months later, the young man called, explaining that he was giving up on the aquarium hobby, and wanted to know if I wanted to buy his fish. I jumped at the chance. Previously, I had never kept African cichlids of any sort. However, I had bought a house in 1981 and had begun setting up my fish room. There would be room for them, even if I lacked the experience. At last, I had N. leleupi.

I prepared a tank for four of them. I chose a 20 gallon high. I combined a substrate of regular gravel (#3) and #3 dolomite, upon recommendation of my friend from the Bronx. I went down to the beach near my home in Whitestone and collected large granite rocks.

I siliconed the rocks together, making caves and subterranean passageways. I then poured in the gravel. After that came the water - prepared with one teaspoon of marine salt per 3 gallons, one teaspoon of bicarbonate of soda, and one of Epsom salt per 10 gallons. I then sat back and enjoyed.

The fish were a vivid yellow, like that of a fine yellow canary. The fish ate flake food and posed no problems. They grew and prospered. The fish took two years to pair off. Finally, they spawned inside a cove they had dug out beneath one of the rocks. It was so delightful to see those first 40 to 50 fry swimming about their tanks with their parents.

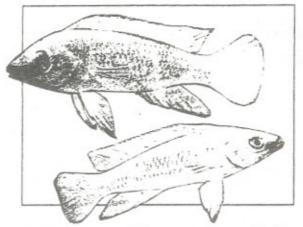
Since that time, I have had many spawnings of N. Leleupi in my fish room. Here are my "secrets" for successful leleupi spawning:

- 1. start off with at least six young fish
- 2. provide plenty of caves
- 3. keep the water of the best quality
- 4. be patient!

I usually wait for a spawning, observe the fish closely to determine which is the pair(they're the only two fish permitted by each other to venture near the spawning site), and remove all other fish. Neolamprologus leleupi form stable pair bonds, and once you have one, you'll generally have consistent batches of fry for years to come.

The fry are easily reared in the parents' tank or in a separate tank. The parents will spawn in the presence of older fry. Once in a while certain spawns will be eaten, but it's rare. The fry do well on newly hatched brine shrimp and crushed flake food. Be forewarned, however, that they grow slowly. This is more than compensated for, by the fact that they live a long time. Currently, my oldest N. leleupi is a big male which I conservatively estimate to be ten years of age. These fish have never, ever come down with any diseases. Add to this the fact that you can breed these fish in a tank as small as 15 gallons, and you have the almost ideal aquarium fish.

This brings me to the "orange" N. leleupi. The fish depicted in the TFH magazine were bright yellow in color, as were my fish.



This was outstanding enough. Most cichlids from Lake Tanganyika are somewhat Moreover, I know of no drab in color. freshwater fish that is solid yellow in color - I mean solid; no spots, bars, or anything. However, in 1983, I joined the American Cichlid Association and began noticing advertisements for orange N. Leleupi in the Trading Post newsletter. I paid no particular attention to this until I saw some "orange" N. leleupi in the home of a friend and fellow aquarist, Horst Gerber. Horst had a wonderful 55 gallon tank full of rocks and spawning pairs of N. leleupi. These leleupi had a wonderful orange sheen to their yellow. Hmmm, I thought.

About a year later, Horst graciously gave me six robust juveniles. I set them up in a standard (dolomite, salt, etc.) 20 gallon tank. Within a week the fish were yellow. Hmmm, I thought. For years prior, I had noticed that my own fry began life as fawn-beige fish and became lemon yellow over time. I began experimenting with my fry. Certain aquarium conditions seemed to produce brown fish, others produce beige fish, others produce yellow fish, and still others produce orange fish. greatest triumph in this regard came when I sold about twelve of my older juveniles to a pet shop that specialized in African cichlids. These fry were from my original yellow pair. As the juveniles began to cavort in the dealer's tank, a couple walked in and began to browse. As they passed my fish, I overheard the man say to his

female companion, " Janet, look! Orange N. leleupi." He was right. I had give the dealer fish with a decided orange sheen, yet born of socalled yellow parents. Further proof of my theory was added several years ago. Some friends and I traveled upstate to the home of Doug Conklin, an aquarist who breeds vast quantities of N. leleupi. He had two tanks of leleupi fry for sale. One tank contained beige ones. Doug explained that beige ones come from a pair of wild parents. All my friends passed up the beige leleupi. I decided to purchase the first generation fry for their genetic material. When I got home, I placed these fry by themselves; within a month they had all turned bright yellow, and I now have a beautiful pair of breeding N. leleupi from Doug's stock.

My "secret" recipe for making orange leleupi is as follows (in no particular order):

1. a light colored substrate (i.e. white)

color enhancing foods such as brine shrimp, spirulina (algae) flakes, and krill

 bright lighting, and, for "orange", I especially recommend "Gro-Lux" bulbs

Dominant individuals also tend to have brighter colors. In short, if you keep the fish in dark surroundings, you will have dark fish. Keep the tank bright, use "brightening" food, and "Gro-Lux" the fish and you will grow "orange" N. leleupi.

As a postscript, I would like to add that a few days after writing this story. I chanced to come across a very interesting article. It was entitled "New Tropicals from East Africa" by Klaus Merke, and was published in the December 1960 issue of TFH. This article discussed two fish, Tropheus moori and Neolamprologus leleupi, which the author dubbed "the Golden Cichlid". This certainly had to be one of the earliest, if not the first article on N. leleupi published in an American magazine. In the article, the author has the following to say about its coloration: "The color is so unusual that it is difficult to find words for it. Basically it is an even yellow, changing occasionally with the background and lighting to a deep orange". Well, what can I say?



Reprinted from: Modern Aquarium, Greater City Agasoc.

DRAGONETS

By Kathleen Rader, CAS

If you are looking for a small fish to put in your invertebrate, seahorse, or other salt water tank, take a close look at these little fish. Their natural curiosity, hopping motions, and ability to get in and out of very small crevasses will add spice to your tank watching, not to mention the addition of wild color patterns by some of these species.

Dragonets belong to the Callionymus family, which contains approximately eight genera and over one hundred species, all of which are marine. The four species most commonly seen in the United Sates belong to the genus *Synchiropus*, although some have been misnamed "goby" or "blenny." *Callionymus lyra*, from the temperate waters off Europe, is one of the pioneering fish in marine aquarium keeping. Their spawning behavior has been known since the 1800's.

Dragonets live on the bottom of tropical and temperate coastal waters in sandy areas and along the borders of rocky areas. They are found both in shallow water and at considerable depths. Because of their habit of partially burying themselves in the substrate, they can be collected by sieving or seining the sand at low tide. In Hawaii, they have been observed in polluted harbors, scooting in and out from among the tires and debris, and in clean back-water lagoons with small rock, live coral and a silt bottom. In the Philippines, they live in pairs or small groups in reefs and closely associated sandy areas between the reef crests.

Fish in this family are characterized by their small size (maximum size is 12" [20 cm], but most are less than 4" [10 cm]), strong preopercular processes or spines which are covered with hooks and spines, and small rounded gill openings located toward the top of the broad, depressed head. The spines can be erected and used for defense. Protruding eyes are positioned high on the head. Adult fish are bottom dwellers. They can often be seen partially buried in the substrate. This is facilitated by the high position of the gill hole and eyes. Their small, pointed mouth contains teeth. They have large lips and a protractile upper jaw which can be thrust forward considerably to help them catch small crustaceans, etc.

Dragonets have two dorsal fins; the anterior one has weak, flexible spines. They use their oversized pectoral fins to "sit" on the bottom and to hover around. "Swimming" consists of a series of short hops during which they flutter their pectorals to attain movement. Their ventral fins are located well forward. The lateral line is visible in most species, but is obscure or lacking in a few. Dragonets like to maintain contact with the substrate and appear uncomfortable in open water.

Scales are absent, and dragonets are covered with a good deal of slime. Some authors suggest that this slime is toxic, bad smelling or bad tasting and is used as a defense mechanism, since it is strongly secreted when these little fish feel threatened. Other fish seem to leave dragonets alone. The thick layer of slime makes these little fish more resistant to parasitic diseases. If they do get sick, as for any scaleless fish, DO NOT treat with heavy metal-based medicines such as copper sulfate.

Gentle in nature, dragonets seem to get along with everyone except when two or more males of the same species are sharing a small tank with inadequate hiding places. During disputes with members of the same species, they intimidate each other by spreading their gill covers, thereby displaying their preopercular spine. Groups of one male and one or more females generally get along well, providing there is plenty of rock, coral, plants and so on for them to hide in. More than one male of the same species can be kept in large, well decorated tanks where there is sufficient room for each male to establish his own territory.

Males tend to be more robust, to have longer caudal and dorsal fins and to be more brilliant in color than females. In male S. splendidus (Mandarin Fish) and S. picturatus (Spotted Dragonet), the first spine in the anterior dorsal fin is very long. In some specimens, it reaches to the caudal peduncle when laid across the back. All of the rays of the first dorsal fin are elongated in males of S. stellatus and S. occiliatus (Scooter "Blenny"), and the skin between the rays has eyespots. When courting or threatened, males erect their dorsal fins.

Dragonet males seek out a female in the evening. The male initiates spawning by displaying his conspicuous dorsal fins. He then begins to move parallel to the female, gradually moving closer to her. The two then slowly swim upward in the water column with their bodies close together. The free-floating, spherical eggs are released and fertilized simultaneously. Spawning can become commonplace in a well planted or reef-type tank, with a pair spawning aimost every night for several months straight. After releasing the pelagic eggs, the adults go their separate ways until the next night.

Eggs are easily recognized by the intricate pattern of intersecting lines which cross them, making them look almost like a geodetic dome. For success in raising fry, the free floating eggs should be collected. In 18 hours, S. splendidus eggs are approximately 0.004" (1 mm) long with a prominent yolk sac. They remain in the planktonic stage for at least two weeks, after which they take up residence in the bottom community. Some of the larvae are extremely small, too small for rotifers. Success has been achieved by feeding marine infusoria, especially copepod nauplii.

Dragonet eating habits have been compared to those of birds. They contemplate their food before eating. They are picky, slow, methodical eaters and therefore do not compete well for food. They feed on small crustaceans (mysids, amphipods, isopods and benthic copepods), worms and protozoans. Small fish need to eat more often than larger fish, so dragonets spend their day examining the substrate and surrounding live rock for food. In a well established invertebrate aquarium, they usually find enough micro-crustaceans to eat and do not need to be fed. Any food should be small enough for them to swallow and should sink to the bottom. They will come to the surface to eat if hungry. The Scooter "Blenny" that I kept with my seahorses did well on a diet of adult brine shrimp and small livebearers. Others have had luck feeding baby and adult brine shrimp, live Mysis shrimp, tubifex, Daphnia, freeze-dried food, or chopped clams, mussels or other meaty items.

CLASSIFICATION OF DRAGONETS

ORDER: Perciformes or Gobiesocoformes, depending on author

FAMILY: Callionymidae - 8 genera, over 100 species

GENUS CALLIONYMUS:

C. agassizi - Spotfin Dragonet

Have been netted in water 300° to 1500° (91 to 457 m) deep off the coast of Florida.

C. bairdi - Lancer Dragonet

From tropical western Atlantic (Virgin Islands); spine counts: (D iv,9; A 8; P 19-20; C 15); grow to 4" (10 cm), but usually only reach 2" (5 cm) in aquariums.

C. boeki - Coral Dragonet

C. Ivra - European Dragonet

From the North Sea to the Mediterranean Sea in temperate waters, these are one of the pioneering fish in the salt-water aquarium hobby, having been successfully spawned prior to WWII. They do not do well above 20°C (68°F).

GENUS SYNCHIROPUS: 26 species, only 4 regularly kept in aquariums

S. ocellatus - Scooter "Blenny"

From shallow water of the Indo-Australian archipelago.

S. picturatus - Psychedelic, Spotted or Oscellated Dragonet

From water of the Philippines and New Guinea, maximum length 3" (7.6 cm).

S. splendidus - Mandarin fish or "goby"

From tropical reefs of the Indo-Australian archipelago and Hawaii. Previously classified as Callionymus splendidus. Spine count: D iv, 9; A 8; P 29. Grows to about 3.5" (9 cm), maximum size 5" (12.7 cm). Have a wavy color pattern of green, blue, orange, purple and yellow. Eyes may be bright red encircled by blue. Males have more orange on their faces.

S. stellatus

Similar in appearance to the Scooter "Blenny," S. ocellatus.

REFERENCES

Axelrod, H.R. and Burgess, W.E. (1987) Saltwater Aquarium Fishes, TFH Publications, 384 pp. Axelrod, H.R., Burgess, W.E. and Emmens, C.W. (1985) Exotic Marine Fish, TFH Publications, 608

Burgess, W.E. (1972) Two Magnificent Colored Dragonets from the Philippine Islands, Tropical Fish Hobbvist, v. 21 (September), p. 4-16 & 88.

Campbell, G. (1979) Salt-water Tropical Fish in Your Home, Sterling Publ., 144 pp.

Carlson, B.A. (1983) The Mandarin Fish Synchiropus splendidus (Herre), Freshwater and Marine Aguarist, v. 6, no. 2 (February), p. 31, 80 & 81. Debelius, H. (1987) Mandarin Dragonets in the Marine Aquarium, Spawning at Night, Today's

Aquarium (Aquarium Heute), January, p. 24-27.

Debelius, H. (1989) Fishes for the Invertebrate Aquarium (3rd edition), Aquarium Systems, Inc., Mentor, Ohio, 160 pp.

Delheek, J.C. (1989) The Mandarin Fish: Synchiropus splendidus (Herre), Seascope, v. 6 (Fall), Aquarium Systems, Inc., p. 1 & 3.

Hemdal, J. (1988) Fishes for the Home Miniature Reef, Seascope, v. 5 (Spring), Aquarium Systems, Inc., p. 1 & 2.

Migadlski, C.E. and Fichter, G.S. (1976) The Fresh and Salt Water Fishes of the World, Alfred A. Knopf, Inc., New York, NY, 316 pp.

Ostrow, M.E. (1979) The Littlest Dragon Synchiropus splendidus, Tropical Fish Hobbyist (April), p 44-

Phipps, B.E. (ed.) (1988) Features Fish, The Mandarin Fish, Marine Fish Monthly, v. 3, no. 2, p. 33. Thresher, R.E. (1984) Reproduction in Reef Fish, TFH Publications, p. 334 & 335.

Reprinted from - Colorado Aguarist, Colorado Aguarium Society

Pulp From The Hammer's Mill

By James K. Langhammer

Happy New Year to All!

Cold weather actually has been late coming this year. As recently as December 21, we were seeing temperatures in the 50's. I suspect, however, that it is not too late to issue my annual mid-winter warning since today (12/26) the temperature of cold water from the tap is only down to 54 degrees F. In a few weeks it will probably drop to about 42 degrees and become especially dangerous for your fish!

In cold climates, aguarists must be very careful in replacing tank-water with fresh tap-water. The practice of aging water for 24 hours is not 1) just to get rid of chlorine, nor 2) solely to enable equilibrium with room temperature, but rather 3) to get rid of excess gases that come out of solution. Why? Cold water has a very great capacity to hold dissolved gases - chlorine, oxygen, nitrogen, etc. All summer we replace water carelessly and no problems occur since the coldest city tap-water we get here in the Detroit area is usually 65 degrees F. But in the winter the cold water may drop to 40 degrees and contain a fantastic load of dissolved gases, much of which comes quickly out of solution as bubbles when the water is warmed. The hasty aquarist mixes a small amount of

very hot water to the cold and gets a tempered water mixture which he adds to his tank. With a small percent of water change perhaps no damage will be seen, but a massive change (more than 25%) can be disastrous.

The fishes' gills are quite permeable to dissolved gases; almost instantly osmotic movement of gas molecules will begin to even out the density of gases between the fishes' blood and the surrounding water. Simultaneously the super-concentrated gases are slowly coming out of solution from the suddenly warmed up water. Remember those bubbles you see all over the plants and glass when tap-water is used? These same bubbles are insidiously forming throughout the capillaries of the fish! Often intense pain results and horrible hemorrhages occur as the tiny blood vessels rupture! The fish may show obvious bubbles INSIDE the fins and skin; death frequently follows! Need I say more? Age that water 24 hours to let the gas escape harmlessly!

Reprinted from Tropic Tank Talk, the publication of The Greater Detroit Aquarium Society, January 1991.

POTOMAC VALLEY AQUARIUM SOCIETY PO BOX 664, Merrifield, VA 22116

Application for Membership

Date:			
Name:			
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City:	State:	Zip:	76
Telephone:			
Optional information:			
Occupation:			
Where did you here about PV	AS/get this ap	oplication?	THE ST
Number of aquariums:		Time in the hobby:	
Special interests: (e.g., catfisl	n, cichlids, etc	.)	
Reason for joining:		57 812 World B	
Membership dues for PVAS are:			
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Please send application and check to the address above.

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ANIMAL EXCHANGE 765-A Rockville Pike Rockville, MD 20852 424-PETS

AQUARIUM CENTER Liberty Rd. at Offut Rd. Randlestown, MD 521-4529

BROTHER'S PETS INC 13810 Georgia Ave. Aspen Hill, MD 20906 460-4600

CONGRESSIONAL AQUARIUM 162 Congressional Ln Rockville.MD 20852 881-6182

FISH FACTORY AQUARIUM 582 N. Frederick Ave Gaithersburg. MD 20877 881-6182

GLENMONT TROPICALS 12345 Georgia Ave Wheaton, MD 20902 949-0344

HAPPY PETS 617 Hungerford Dr. Rockville, MD 20850 762-6878

HOUSE OF TROPICALS 7389F Baltimore-Annapolis Blvd. Glen Burnie. MD 21061 761-1113 MARINE CARE SPECIALISTS 15820 Redland Rd. Rockville, MD 20855 330-0720

MARYLAND TROPICALS 11229A New Hampshire Ave. Silver Spring, MD 20904 593-1116

MONTGOMERY TROPICALS 7845-G Airpark Rd Gaithersburg, MD 20879 670-0886

PETDATE- WHITE FLINT 5268 Nicholson Ln. Kensington, MD 20895 231-5216

RICK'S FISH & PET SUPPLY 1003J West Patrick St. Frederick, MD 21702 694-9664 831-6866

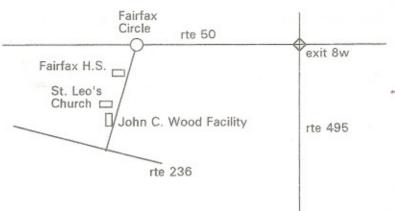
SHOWCASE AQUARIUM 11248-11250 Triangle Ln Wheaton, MD 20902 942-6464

TROPICAL FISH WORLD INC 16529 S. Frederick Center Gaithersburg, MD 20877 921-0000

TROPICAL LAGOON 9439 Georgia Ave. Silver Spring. MD 20910 585-6562 Potomac Valley Aquarium Society PO Box 664 Merrifield, VA 22116



17-2045



Meetings are held at the John C. Wood Facility, 3730 Old Lee Hgwy. (rte 237), Fairfax City, VA. Room 7 (in the rear of the building). Doors open at 7:30, meetings start at 8:00. Everyone is welcome.