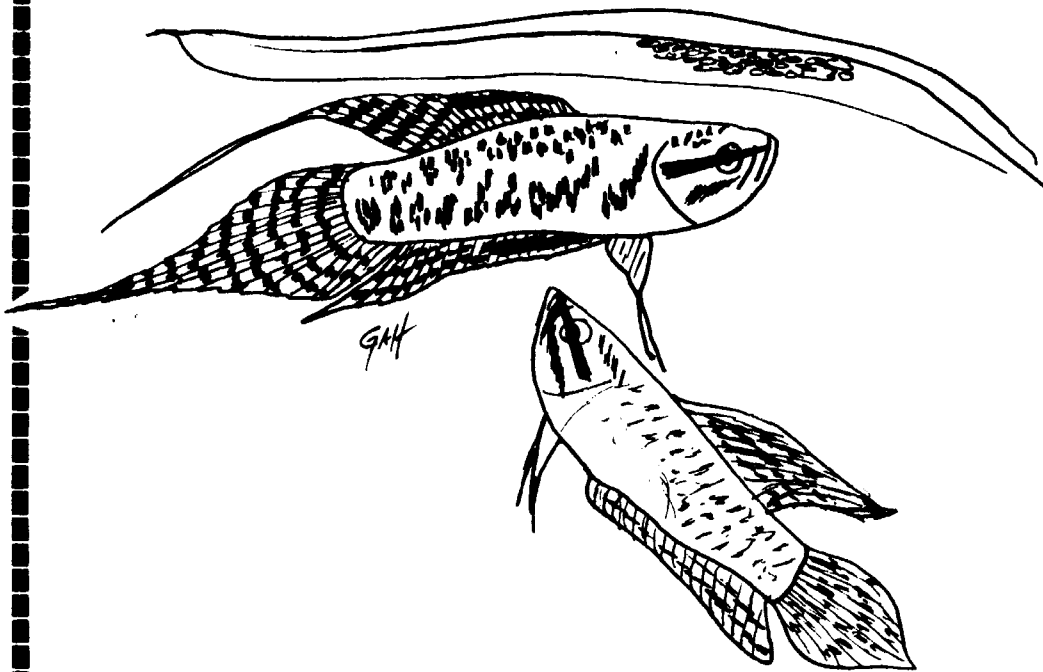


* DELTA TALE *

Aug. 1984
Vol. 15 #8
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OFFICIAL PUBLICATION OF

potomac valley aquarium society



MALPULUTTA KRETSERI

A rare anabantoid

Spawning report inside

POTOMAC VALLEY AQUARIUM SOCIETY



POST OFFICE BOX 6219 SHIRLINGTON STATION ARLINGTON, VIRGINIA 22206

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FROM THE PRESIDENT

August is upon us once again with its typical hot, humid temperatures that make outdoor work seem almost unbearable at times. This time of year is often ideal for vacations with the family or friends, and a week or so away from home sounds wonderful. With all the outdoor activities to participate in, lawn care, gardening, and vacations the fish often take a backseat for awhile and don't get the proper attention they require.

Think of them for a minute. All winter long you struggled to maintain the temperature high enough with a thermostatic heater. Now it is often difficult to keep the average water temperature below 80°, unless you live with constant air conditioning. The fish need your attention now. Their metabolic rates are higher (they need more food), the pollution factor is higher (food decomposes faster) and in a crowded tank fish may need more oxygen. Those regular water changes are all the more important now for the health of your fish.

Have you ever thought about what your fish eat in the wild? I don't think the natives run out each morning with little cans of Tetramin and sprinkle a bit on the surface of the Amazon. Think about mosquitos and other aquatic larvae. You can go out now and catch your own live foods outdoors if you want to. The frequent rains of early July have provided plenty of spawning sites for our bloodsucking enemies, and with a little thinking you could play your own little part in mosquito eradication by gathering up some of the larvae and giving your fish a treat. They should love you for it.

Remember our picnic later this month at the Mahoney's. Details should be in this issue elsewhere. It is strictly an informal event where everyone can talk fish, sports, politics--no, not politics-- or whatever you wish while in the company of that exclusive group, PVAS.



AUGUST HAPPENINGS

Program: A surprise; either a guest speaker (at this time still unconfirmed) or a group question and answer, discussion on a pertinent topic.

No Mini-Auction this month- Let's give everyone a chance to save up better items for September.

Open Fish Room- At Pat & Maggi Mahoney's--see their many tanks and fish on Sunday, August 19- at the same time bring food and drink for the annual picnic/BBQ held at their house too. See details in this issue.

From the Editors Desk

It looks like someone has finally paid attention to my pleas for articles, actually several someones. For the first time since I took on the job of Delta Tale editor I have several articles for future use. I'd like to thank Bob Roser, Gerry Hoffman, Nathan Manwaring, and Pete Tietjen for sending in articles. Pete's article will be in next months issue and I think everyone will enjoy it. It's a welcome change from the usual spawning reports. More on this next month. If the inflow of article would keep up like this it would make my job a lot easier and would give our organization a first class publication. So, send those articles in, it isn't difficult, just ask the four people above.

This months cover was drawn by Gerry Hoffman to go along with his article. Drawings are always welcome, and needed, with or without an article.

Nathan Manwaring is back from his trip to Germany where he saw a lot of interesting fish. He brought back several fish and some of those excellent German aquarium books. Details of his trip and what he saw would make an interesting article (this is a hint Nathan). The Xiphophorus montezumae he gave to me has recovered from the trip very nicely. Hope I can find a female for him.

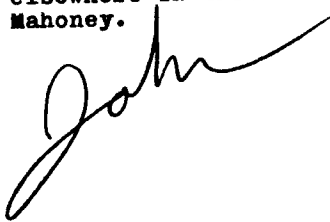
The open fish room is back. August 19th will be a combination open fish room and club picnic at the Mahoney's home. Plan on coming, a good time should be had by all. Details elsewhere in this issue.

It seems that Gerry Hoffmans article on Philodina, which appeared in the June issue, has generated some interest in this great live food. I've gotten requests from aquarists in Michigan and Canada to bring starter cultures to the ALA convention for them. This goes to show you that if you take the time to write a good article it will be widely read, not just locally but all over North America.

That's all for now. I've got to get the rest of the issue put together so I can start preparing for my trip. I'll probably have more to say when I get back.

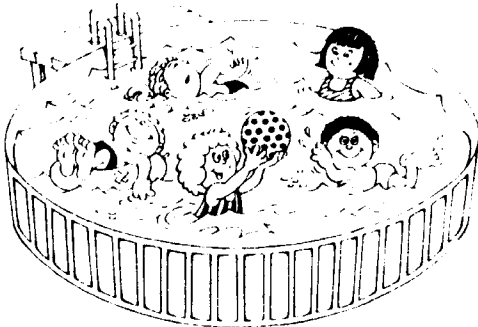
Well I'm back, physically at least. I did remember something else I wanted to comment on. I'd like to ask everyone to read this months Q and A column. There are two topics there in which response from the general membership would be very helpful. Especially the question on chloramine.

My report on the ALA convention is elsewhere in this issue, also a report on the ACA convention by Pat Mahoney.
That's it for this month



ANNUAL P.V.A.S. PICNIC

Date: August 19, 1984 - A Sunday
Description: Fish Room Visitation, Picnic-Cook-Out, Swim Party
Time: 11:00 am till you get tired or we kick you out.
Where: The Mahoney's - 3011 Aspen Lane, Falls Church, Virginia



A casual affair at which the whole family will be welcome. There are only a few guide-lines which we would like you to adhere to for your own safety and convenience. They are listed below.

YOU BRING VS. WE PROVIDE

P.V.A.S. will provide: grills, charcoal, starter, plastic or paper plates, cutlery, napkins, cups.

You bring food, drink, towels and swimsuits for the people who come with you. Mahoney's have some chairs, but not enough for everyone. You may want to bring towels, blankets or folding chairs to sit on.

PLEASE!

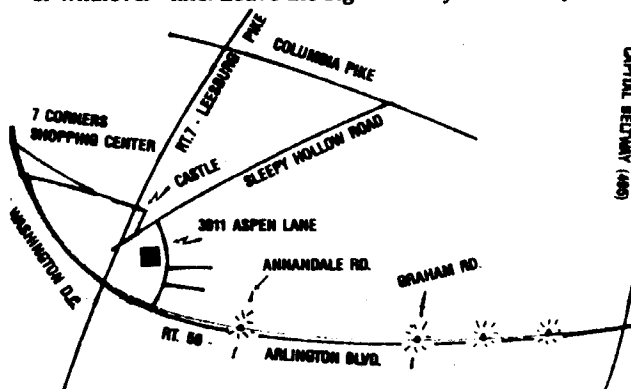
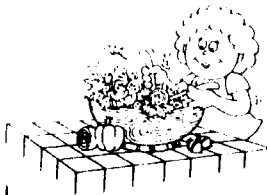
DO NOT bring food or drink in glass. The Mahoney pool has a concrete deck - broken glass is not good for bare feet.

Changing facilities will be severely limited - it would be appreciated if you would wear your swimsuits when you come.

KIDS - we love them, but be prepared to keep a parental eye on them, please. (The pool is from 3 feet to 6 feet deep - with steps for the littlest to sit on.) We must ask that you be responsible for your own children's conduct and safety.

DIVING - don't! From depths listed you can see Mahoney's have a **SWIMMING POOL** - not a **DIVING** pool. It is too shallow to dive in. No broken heads, please.

WATER TOYS - big ones will get in everyone's way and limit space for other people. If kids want waterwings, swim rings or whatever - fine! Leave the big water toys at home, please.



HOW TO GET THERE

Aspen Lane is between Virginia Route 50 (Exit 8 East from Beltway) and Sleepy Hollow Road - in Sleepy Hollow. To the left is a map one hopes you can follow. (The trouble with maps is that not everyone is coming from the same place - we're bound to confuse someone.)



SEE YOU THERE ON 19 AUGUST!

P.S. - No Rain Date - If it rains, come see the fish room anyway.

Since John Mangan needs articles, I thought I'd jot down a few notes on two ten-point egg scatterers I recently successfully bred.

Being still something of a novice with only my first fifty points under my belt I thought I'd try some of the more common egg layers for "experience" and I guess for the same reason fellow students took certain courses in college as a "crip", ie easy grade. (unfortunately I tried this by enrolling in basic basket weaving, but some Navahos signed up, raised the curve and I flunked).

The first fish was capota titteya, the cherry barb. I had bought two males and a female and one of the mini auctions. They appeared healthy and fast moving, darting about my community tank. They were hell to catch! I selected one of the males and the female who was heavy with eggs. They were placed in a 5 1/2 gallon tank. A thicket had been made of plastic and natural plants. The water was softened with a water softener packette. The handy sponge filter was put in one corner. The water level was about five inches; temperature 76°; ph about 6.8; salt added as a fungicide.

The breeding pair had been fed black worms and live brine shrimp for several days. Activity in the tank was fast and furious, chasing about the tank. Two days later I noticed the female was noticeably thinner and the pair was removed.

Several days later I saw a few fry. Thinking the snails in the tank had eaten most of the eggs, I felt the attempt was a bust. Several days later though there were more fry, I thought about 40. After 30 days I moved the fry to a 20 gallon tank - all 111 of them!

The zebra danios were set up in a similar tank but with fewer plants and a coarse gravel bottom to allow the eggs to fall through and away from the hungry parents. A small amount of salt was added as a fungicide as before.

The pair was placed in the tank in the early morning and removed late that afternoon before I left for a three day vacation in New York. When I returned, the fry were swimming. As with other egg layers I have raise, they were fed liquify (with frequent partial water changes) and the natural infusoria of the sponge filter. After about two weeks I added tetramin egglayer flake food and baby brine shrimp both live and frozen.

For both of these fish the spawning was relatively simple and the fry easy to raise. The major problem is what do you do with 111 cherry barbs?

IN MEMORIAM

The members of the Potomac Valley Aquarium Society express their deep sympathy and condolences to Linda Brensike and family on the death of her Husband, Dr. John Brensike on Sunday, July 1, 1984.

A memorial contribution will be made in his memory by P.V.A.S. It is our hope that doing so will benefit his family in the times ahead. P.V.A.S. mourns the loss of a friend.



SPAWNING MALPULUTTA KRETSEI: AN UNCOMMON ANABANTOID

Gerry Hoffman PVAS

Every now and then one of those regular visits to the fish store will turn up an oddball, a new species that doesn't appear in any standard reference book, or possibly a very desirable but rarely seen fish. It was just on one of those visits that I came across a tank of rare dwarf anabantoids, and it was only shortly afterwards that a hobbyist dream came true; the successful spawning of a rare fish.

Even in the wild, the anabantoid Malpulutta kretsei is considered a rarely seen fish. Its native country is Sri Lanka (Ceylon), and fish are not often imported from there at this time. M. kretsei inhabits the shady, overgrown creeks that offer many hiding places in the vegetation and caves. Water conditions are soft and acid (pH 6.6, dH 4) with normal temperatures in the low 80's. The fish is the only representative of its genus; a one of a kind.

In the eyes of devoted anabantoid fanciers, Malpulutta kretsei is a desirable species to find, just like another dwarf bubble-nester Parosphromenus deissneri, the licorice gourami. Both sexes are larger than the common pygmy gourami Trichopsis pumilus, but smaller than the croaking gourami Trichopsis vittatus. Males can reach 2 3/4" (7cm) due to the greatly elongated fin extensions of the caudal and dorsal, and the female can reach 2" (5cm). When fully grown it is easy to determine the sexes, males having a fantastically elongated tail spike and threadlike extensions of the dorsal with blue iridescent outline to the finnage and definitely blue pelvic fins. Both sexes are dusky brown with black mottling, more so in the male, and a gorgeous blue and black patterning in the finnage. During courtship and spawning, the male appears very dark (blue-black) with increased mottling on the body, and the female appears more golden brown.

The young fish I purchased were just about sexable; at least an eyeball attempt at obtaining pairs from among the skinny, malnourished juveniles provided me with an even number of each sex. Live foods were eagerly eaten, but the standard flake foods were ignored even after several months. Adapting to my water conditions proved no problem but make sure there are numerous aquatic plants available for hiding. Remember to cover the tank, for this shy fish can jump like a killifish and even a rare fish is no good if it is dried up and mummified.

The relatively small M. kretsei can be spawned in a 2 1/2 gallon tank if the appropriate spawning sites are available. Why do I say spawning sites for a bubble-nest builder? Because the nest is built not at the water surface like a Betta or gourami, but below the surface under a plant leaf, a piece of driftwood, or a cave wall. The size of the nest built by the male is dependent on the site. It may be 1/2" wide by 1" long and about 1/2" high if under a leaf of Java Fern. That seems to be the standard size of many of my spawning nests.

After construction of the bubble-nest by the male, courtship and spawning is much like other anabantoids. My initial spawn occurred two days after being placed together. The male built a nest in a notch in a small driftwood log about 3" below the water level. In the typical "S"-shaped embrace, the eggs were retained in the curvature of the male's anal fin until picked up by the female and spit in the nest. My first spawning was small, about 50 eggs, but reports of over 150

eggs per spawn have been noted. Still small by anabantoid standards! After completion of spawning, the female is chased away and should be removed. Males appear to be devoted guardians of the nesting site and increase its size with more bubbles. Often they are too eager to help and all eggs are eaten within 24 hours. One time he will raise the fry perfectly and the next he will eat the eggs.

Subsequent spawnings were most easily accomplished by providing a 3" length of 1"OD black PVC pipe. The male used it as his home until he built his nest inside of it. One very interesting behavioral trait occurred every time; while protecting the eggs, the male would move the nest, eggs, and bubbles alike, from one spot to another, often to different corners of the tank.

Within 48 hours the eggs hatch; the fry appearing like little balls with tails, changing from milky white eggs to grey-white fry. By the third day eyes become more obvious and the grey color intensifies. All the while the male retrieves the fry as they fall from the nest and spits them back upward. Each spawn had a good number of fry that fell to the bottom of the PVC tube and didn't make it back up to the nest. I siphoned off some of these wigglers and they developed normally and became viable fry. Within one week the fry were free-swimming and scattered about the tank being mostly ignored by the father.

The fry of M. kretseri are very tiny, and baby brine shrimp wasn't accepted until after over a week of feeding. Initial feeding was with Philodina, a freshwater rotifer, and later on microworms were taken. Like the parents, flake foods were mostly ignored. For the first few weeks, the small group of baby fish was hard to find among the plants. They remained well hidden until live foods brought them out.

After a few weeks the fry developed a velvet-like disease and I feared this would do them in. All they were given for food up till this point was newly hatched brine shrimp and rotifers, and I wasn't sure if there was a hint of disease in my tanks (although the parents didn't have it) or if it came from the brine shrimp. Unfortunately, treating with Aquarisol wiped out the fry and not the disease. With future spawns that showed signs of velvet, I let the disease run its course and no loss of fry resulted. At 1/2-3/4" the fry were little miniatures of their parents.

A few additional comments are in order. Usually the pair would spawn when put together within 2-3 days. If the male ate the eggs, the pair would be ready to spawn again in about 10 days to 2 weeks. Occasionally the pair would live together for a few weeks without showing any sign of nest building and courtship. Both sexes can exist together without harm to either fish. Remember to provide either caves or plenty of broadleaved plants in which they can hide. Malpulutta kretseri is a stunning fish when seen in courtship. In between times, this anabantoid is hard to find in your tank. Spawning is apparently not difficult to induce, given the liberal use of live foods in feeding. In the aquarium circuit, the fish is difficult to find, rarely imported, and in demand among the few that take an interest in small fish and anabantoids. Knowing this, it was with great excitement that each step of the courtship, spawning, and rearing of the fry was accomplished. With continued success, a tank-raised breeding stock can be maintained and distributed to other interested hobbyists and others can benefit from the enjoyment of spawning a rare species.

CONVENTIONALLY SPEAKING

Pat Mahoney, IVMS

The 1984 American Cichlid Association Convention is now history. This year's get-together, hosted by the Greater Dayton Aquarium Society, was held in the Dayton Marriott Hotel on July 6, 7 and 8.

Somewhat smaller than some ACA Conventions in recent years, our hats go off to Dale Allen and his intrepid GDAS crew. They really put on a fine convention. Well done, Dayton!

Maggi and I left home on the Sunday before the convention to visit freinds and family in West Virginia and Ohio, arriving at the Dayton Marriott on the afternoon of the Fourth of July.

I don't know when the Dayton crew set up the show room, but have you ever seen a 40' by 60' room containing 400 empty aquaria? Charlie Eckstine (Long Island Aquarium Society) was responsible for the very professional air system. Charlie is quite the engineer.

Thursday morning began early-bird registration for the conventioners. Those of us who had pre-registered received one manila envelope containing color coded name tags (to be worn for all activities), a copy of the agenda, fish food samples and dealers and manufacturers propaganda. The process was quick and painless. Old friends began arriving - Chuck Davis, Mike Sheridan and Kevin Carr of North Jersey, Delores and Dewey Schehr and Tom Koziol of the Michigan Cichlid Association, Jim and Sue Webb of the Texas Cichlid Association, Pat Austin from Memphis, Stu Wheeler from Columbus and our own Gene Aldridge from Harrisburg. ACA Chairman Steve Sommermeyer arrived from Indianapolis about three hours before the annual Board of Trustees Meeting.

As all ACA Committee Chairmen must report to the BOT, Maggi and I attended our first meeting. It began around 7:00 PM and concluded at 0245 the next morning. I hadn't been up that late since V-J Day.

Creation of an organization to administer the recently approved Guy Jordan Endowment Fund required most of the time in the overlong meeting. You will be hearing more of this subject in the near future.

A tour of the Air Force Museum at Wright-Patterson Air Force Base was arranged for all who wished to attend. Meanwhile, a billboard appeared in the lobby advertising fish for sale in the various rooms.

Kenny and Sandy Warren and their two daughters arrived and brought a box of PVAS Discus T-Shirts with them. We sold \$125 worth in only two hours, and we could have sold more if we had had them. Only four (small size) were brought back home. Right now the PVAS T-shirt is being worn all over the country.

GDAS held a Barbeque at Old River Park next door to the hotel on Friday evening. Following this outing, a Show and Tell session was held outside in a tent next to the hotel pool. A bar set up in the tent made for a very happy evening. Paul Loiselle, Wayne Liebel and others presented some outstanding slides. The usual all-night fish conversations took place throughout the hotel.

The seminars and slide presentations commenced Saturday morning and ran throughout the day. Speakers Charlie Grimes, Tom Koziol, David Herlong, Paul Loiselle, Peter Lewis and Wayne Liebel gave outstanding presentations. This is what it is all about, folks. Believe me, the attendees got their money's worth.

Certainly one of the highlights of the convention was the banquet speaker. Dr. Ethelwynn Trewavas, Curator Emeritus of the Ichthyology Department of the British Museum came all the way from London to speak to us. This is no small feat for a lady of her advanced years. She spoke of a field trip once made to the Cameroons in West Africa. Her team studied a small lake of volcanic origin. Although only 4 1/2 miles in circumference, this small lake yielded no less than eleven species of cichlids that were all undescribed at the time. Her slides gave ample reason why we might know of them - they were colorless and frankly, too darn ugly for anyone to keep.



Dr. Trewavas, 1984 ACA Banquet Speaker, with Maggi and Pat Mahoney. Photo by Tom Koziol, Michigan Cichlid Association.

Sunday's auction commenced at 9:00 AM - the earliest auction ever undertaken at an ACA Convention. It was a frustrating experience for me. Maggi was flying back at 1130 AM with Gene Aldridge and Randy Crout (BB Editor) while I would have a week to drive back home. So with all the rare fish and reasonable prices, Patrick could not partake. The fish couldn't survive that much time in my car.

In all, it was a successful convention. The folks at GDAS can be proud of their efforts.

PVAS was represented by Alan and Laurie Coltri, the Warrens, Gene Aldridge, the Mahoneys and corresponding members Dave Herlong and Pat and Dan Fromm.

In 1985, the Convention will be held at the Hilton Hotel in Cherry Hill, New Jersey. Host for the Convention is the Atlantic Coast Cichlid Association, a group of Cichlidiots who are members of Aquarium Societies along the Atlantic Seaboard.

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The Norwalk Aquarium Society of Fairfield County, Inc. will present its Nineteenth Annual Show and Exhibition at the Nature Center for Environmental Activities, 10 Woodside Lane, Westport, Connecticut, on October 20 and 21, 1984. The show will feature the Fourteenth Annual International Catfish Championship. For information concerning entries and exhibits, please contact Mr. James O'Brien, 14 Old Saugatuck Road, East Norwalk, Connecticut, 06855 (203-838-0494) or Mr. Jack Adinolfi, 6 Sunset Strip, Westport, Connecticut, 06880 (203-227-4370).

THE OTHER CONVENTION John Mangan, PVAS, ALA

The other convention is (or was) the American Livebearer Assoc. (ALA) convention, held in conjunction with the Southwest Michigan Aquarium Society show, auction, and workshops.

The drive up went very smoothly despite all of the construction along nearly every road between here and Detroit. I arrived at the home of Jim Langhammer (ALA Chairman and curator of the Belle Island Aquarium) just outside of Detroit Friday afternoon (2½ hrs. ahead of schedule). After a tour of Jims' fish room, which contains many fine fish and a 15 foot Anaconda named Annie, we visited several of the area pet shops. The variety of fishes available was similar to what we have here. I did, however, see several rare rodents that I have never seen locally. Unfortunately I had no way to keep them until I could get home.

Saturday morning Jim, David James (another member of the ALA board), and myself set out for Kalamazoo at 6:00 a.m. - yuck. (that's yuck for 6 a.m. not Kalamazoo). We stopped along the way for a quick McBreakfast and arrived at the shopping mall where the show etc. was being held at about 10 a.m. Saturday morning was when show fish were registered.

The rest of the day sat. was taken up by a series of seminars with some very good speakers, and lunch with several aquarists from various areas. After the seminars there was a meeting of the ALA where those of us on the board that were present had a chance to get some input from some of the members. Unfortunately board member Vern Parish was unable to attend due to a mild stroke suffered several days before. I'd like to take this opportunity to wish Vern a speedy recovery.

Saturday evening was started by a picnic at the home of SWMAS members Terry and Sue Reigler. There was lots of free food and drink provided by SWMAS and a chance to socialize with aquarists from a wide area. Later that night there was an informal get together for ALA members at the Red Roof Inn, where many of us were staying.

Early Sunday morning the show was judged. There were over 500 entries. There is one thing I have to make an unfavorable comment on- how could a set tank with all plastic plants possibly have beaten a rather nice one with all live plants. The SWMAS show draws people from quite a wide area- all over Michigan, Ohio, Illinois, Canada, and various other places, including one person that was crazy to come all the way from Virginia.

Sunday afternoon was taken up by the auction (with about 700 items offered).

Pat Hartman, the show chairman, and all of his workers should be congratulated. The whole weekend seemed to go very smoothly and was a success for SWMAS and ALA. I had a good time, got a chance to meet so me people I have known only from letters, and several new people.

Sunday night was spent back at Jims'. On my way out of town mon. morning I had a chance to get a tour of the Belle Island Aquarium. I was very impressed by the variety and quality of the fish on exhibit. If you ever get into the Detroit area I would highly recommend a visit.

MISTAKES

A Poem

By: Absatively Fishional, CCAA

(Publish at own risk)

To make mistakes is human,
at least they tell me that is true.
Well I don't make mistakes at all,
but my fish all sure do.

I bought a brand new filter,
5000 gallons an hour works smooth.
It sucked up all my guppies,
they should'na gone near that tube.

My tetras are all in heaven,
they caught themselves some ick.
I poured in lots of alcohol,
they should'na come down sick.

My mollies had some babies,
it must'a been lil' cupid.
But then the mollies ate em all,
now that was really stupid.

I bought a brand new angel fish,
its name was Pterophyllum.
It bashed its head against the glass ,
must'a come from an asyllum.

So i've come to this conclusion,
and i'm sure i'm not alone.
It's not us humans that make mistakes,
it's those fish that we bring home.

reprinted from The Fish Bowl, Chautauqua County Aquarium Assoc. Inc.

THE JAVA FERN-MICROSORIUM PTEROPUS

By Delores Schehr, MCA

I recently heard about this great plant that seems almost "indestructable" and very prolific. Sounds pretty good doesn't it? At the Missouri Aquarium Society convention in St. Louis the java fern was sold at the auction for a surprisingly big amount. I wondered why this plant was so much in demand. I then found that Dave Knelson had brought some from his home in Canada and passed it around to a few people, including the Pattersons, and that is how I became the owner of a couple of java ferns. So I did some research and came up with this information on this amazing plant.

Microsorium pteropus, the java fern or Siamese sword fern, is becoming very popular and with good reason. It is almost an ideal plant, very hardy. In the wild it is found through Southeast Asia and is one of the few true ferns that will grow submersed in the aquarium. It has an unusual feature in that if it is attached to a piece of root or in the hollow between some rocks it will grow and reproduce exceptionally well.

It is a creeping, dark, rhizome bearing dark green leaves. The leaves have a wavy edge and a sharp tip. When planted submersed new plantlets will form on the underside of the leaves, similar to water sprite. When those plantlets become big enough they can then be planted. Java fern can be planted in the substrate but grows and looks better attached by thread or wire to something solid. Once the roots have established themselves the thread or wire can be removed.



It prefers a lot of light but will tolerate a shady aquarium and a temperature range from 68-80°F. It likes water a little on the soft, acid side but will still do well outside of this range. Besides producing plantlets the rootstock can also be divided into new plants.

Seems to me, for people who like living plants, this will do the job.

reprinted from All Cichlids, Michigan Cichlid Association

DIETARY STRESS By Joe E. Olenik, MAS

Not a day goes by for me at the fish store, without talking to a customer who feeds exclusively Tetra Min or some other staple flake their fish. They may throw in the occasional frozen brine shrimp treat, but for the most part, these hobbyist feed the same thing day in and day out. Don't get me wrong, Tetra Min is a very fine product. It's just that no commercially available fish food has everything a fish needs (regardless of what it says on the container), and besides that, different types of fish have different dietary needs. All of these needs should be accomodated. What a fish eats may not seem like a big concern to many hobbyists, but besides water quality, this is one of the principle causes of low grade stress in fish. Although most fish will appear to do quite well for long periods on just one type of food, without certain essential vitamins, minerals, and sources of protein, their resistance to disease and other forms of stress may be practically non-existent. The fact that this is one of the most subtle forms of stress (and thereby, most difficult to detect), makes it one that very often goes unnoticed in the home aquarium.

What exactly is dietary stress then? How does it manifest itself, and what can be done to prevent it? One of the saddest things about dietary stress is that because it is so subtle, by the time a fish shows signs of it it may be too late to do anything about it. The trick then, is to avoid it by giving your fish a "treat" instead of a "treatment".

The first thing the hobbyist needs to do is know his/her fishes dietary requirements. A fish that eats primarily plant matter in the wild has a digestive system that is set up a little differently from one that eats mainly meat protein. For one thing, the intestines are longer, because more time, energy and surface area are required to digest cellulose, or vegetable protein. Also, different enzymes are secreted within the digestive tract to break down cellulose, than are secreted to digest meat protein. Therefore, an herbivorous (plant eating) fish may eat all the brine shrimp you wish to feed it, but it will not be able to use much of the protein contained in this food. In the same way, a strictly carnivorous (meat eating) fish, which has a shorter digestive tract and different enzymes, will not derive as much nutritional value from vegetable foods. This is not to say, however, that these foods should not be fed. Indeed, the old saying "variety is the spice of life", applies as much to fish foods as it does to other subjects. More on this later. The point is to find out if your fish have a particular requirement in terms of the type of protein they need, and then provide it. It isn't enough to know what percentage of protein a food contains; it is equally as important to know what form that protein is in.

stress cont.-

Well, where does one find such information? I think the question "when" applies here as much as "where". Too often I find hobbyists try to learn their fish's needs after they purchase them, instead of before. Books such as Dr. Axelrod's Exotic Tropical Fishes, Dr. Innes' Exotic Aquarium Fishes, or Dr. Sterbas' Aquarium Handbook, give excellent accounts of each fish's dietary and other requirements. The hobbyist can also consult various national or club publications, or more experienced hobbyists in their club. Another way to find out what a new fish eats is to find a reliable fish shop that has qualified, knowledgeable, help and consult them. The trick is finding such a shop. The following is a list of some commonly kept tropical fish that have special dietary needs:

Herbivorous (plant eaters)

Silver Dollars
Severums, Festivums, Uarus
Goldfish
Livebearers
Large Tetras (Congos, Buenos Aires, etc.)
Large Rasboras
Large Barbs (Tinfoils etc.)
Plecostomus
Distichodus spp.
certain saltwater Angels (Dwarfs)
saltwater Tangs
freshwater Sharks (Redtails, Rainbows, etc.)
African Rock-dwelling Cichlids
Fresh and Saltwater Snails
Marine Starfish and Urchins
Anything with a sucker or rasping type mouth

Carnivorous (meat eaters)

most Cichlids, especially large ones
Piranhas
Snakeheads
large Catfish
most Eels
Saltwater Damsels, Large Butterflies and Angels
Seahorses, Pipefish
Native Sunfish, Gars, etc.
Anything with a large, wide, mouth and/or numerous, large teeth

These types of fishes are of special concern to the hobbyist in several ways. The herbivorous, for instance, should have a regular diet that consists of no less than 70% vegetable matter. There are many vegetable flake, frozen, and pellet foods available that are designed for them. The hobbyist can, and should, supplement this with leaves of Romaine lettuce or fresh spinach once or twice a week. Weight the stalk by tying it to a stone or piece of coral with a rubber band. A second consideration is that many of these fish are not compatible with live plants. Always check before spending your money.

stress cont.-

Carnivores have similar considerations. These fish are usually affected more severely by lack of adequate protein. They should a regular diet of "whole" meats, such as live or frozen brine shrimp, frozen bloodworms, live redworms, feeder guppies or goldfish, fresh fish, diced clams or scallops, etc. This can be supplemented with freeze-dried, pellet, and flake foods that are high in meat protein.

Most other fish are considered omnivorous; that is, they eat a variety of different foods. They have no specific food type requirements, but should still be fed a well-balanced diet that consists of meat, vegetable, fiber, fat, vitamins, minerals, color enhancers, and all the other essentials for healthy fish. As mentioned above, no one food contains all the ingredients essential to fish. Some are high in vegetable matter, some have a lot of meat protein. There are color enhancers, vitamin foods, some are mostly filler. The list goes on. The point is to keep a variety of half dozen or so different foods around, and rotate them with each feeding. I keep 7 tanks at present, ranging from 30 to 130 gallons. My food inventory at the time of this writing includes the following: live whiteworm culture, live redworm culture, frozen smelt, frozen brine, frozen bloodworms, Formula I, Formula II (both frozen), freeze-dried tubifex, freeze-dried plankton, freeze-dried white shrimp, and Joes Special Flake Mix. I make this differently each time, but the latest one includes Aquarian Staple, vegetable, carnivore, color, vitamin/mineral, and marine flakes, in equal portions, with a can of Wardleys freeze-dried plankton thrown in just for fun. All this is mixed in a plastic bowl, and a small container is kept near each tank. Not every fish eats every type of food, but I try to accommodate everyone's dietary needs, as well as their preferences.

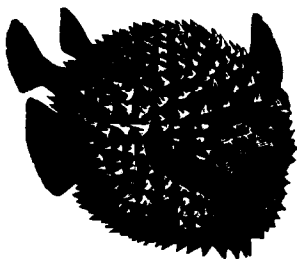
Why the big deal over food? Actually, it's very simple once you think about it. A fish's size, color, and general health all depend on the conditions under which it lives. If conditions are at their best, the hobbyist will enjoy large, colorful, healthy fish. Also, a fish's resistance to disease or chronic infections is directly related to the amount and quality of food it receives. A fish that enjoys a well-balanced diet of high quality protein (in forms the fish is able to utilize) should never get sick, all other conditions being good. Certain fish require special types of foods for special reasons. Large ornamental goldfish, for instance, require plenty of fat in their diet for good hood growth. Freeze-dried tubifex or frozen bloodworms are excellent for this. The same foods keep Discus heads nice and full. Finally, if the hobbyist is interested in spawning his/her fish, they should first be "conditioned" with frequent feeding of live or frozen foods.

Fish that are being fed one type of food all the time may look fine to the average hobbyist, but these fish teeter on the brink of a problem. They are extremely susceptible to stress caused by deteriorating water conditions, introduction of new fish (and disease organisms), behavioral stress (being chased by others etc.), Besides that, if you've ever seen a fish that has been raised on high quality

stress cont.-

varied foods, you'll appreciate the difference. So remember, find out if your fish have a special protein need and provide it. Always feed a wide variety of quality foods. Avoid dime store brands of foods. They are of inferior quality, are not packaged to stay fresh, and have usually been setting on a stockroom shelf for eons. The next time you visit your favorite fish store, pick up a new kind of food, take it home and give your fish a "treat" instead of a "treatment".

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TRADING POST

Items for the trading post should be sent to Delta Talm, c/o John Mangan, 9770 Oleander Ave., Vienna, VA 22180 by the 20th of the month prior to publication or handed to me at the monthly meeting.

Wanted: Male Ataeniobius toweri (I have two females) and female Xenotoca eiseni for my lonely male. Bob Roser 780-7844

Wanted: Female Xiphophorus montezumae, male Black Characodon, young female Nothobrancius guentheri. John Mangan, address above.

Q and A

Q: There comes a point where the food fed to fry early in life such as live baby brine shrimp and the commercial preparations such as liquifry and tetramin egg-layer food are too small for the growing fry yet standard foods are too large. What is a good intermediate food for fry in the $\frac{1}{4}$ to $\frac{1}{2}$ inch stage?

A: The sequence of foods that I usually use is Philodina as a first food then as the fry grow I move up to microworms then grindal worms. The microworms are good at around $\frac{1}{4}$ inch and the grindal worms by $\frac{1}{2}$ inch. I also use flake foods at all stages. Start with prepared baby foods- first liquafry, then tetramin (or whatever brand you prefer). Once the fry are past this stage the "adult" flakes can simply be crushed to the desired size. You don't have to worry about crushing the flakes to any certain size, as they get wet they will soften enough for the fry to break off mouthfuls. If anyone else has any other suggestions or comments on this subject please send them in and they will be printed in a future issue.

Q: Having kept fish for a number of years I have had my fair share of fish lost to disease. Years ago my big nemesis was ich but I soon conquered that (with a heater and a diatom filter). Within the last few years my fish have been attacked by bacterial and fungus infections. These diseases certainly aren't new to the hobby (nor to my fish) but the diseases are occurring much more frequently and with more deadly results than before.

I have tried changing the water regularly or ignoring water changes, monitoring the temperature to ensure there were no drastic changes, isolating all new fish in a quarantine tank, all without obvious success. I even moved from San Diego to Washington, D.C. and set up new tanks and still bacterial attacks occur.

I suspect chloramine, the agent used in San Diego and Washington, D.C. (Fairfax) to purify our drinking water, is at the root of the problem. If not directly then through the requirement to treat the water with sodium thiosulfate. Does anyone else have similar suspicions or better yet an article documenting my observations and their causes?

A: This question arrived at a good time. I have been working on an article on chloramine. I had hoped to have it ready for this issue but haven't had time to finish up my research. It should be ready by next month. Rather than keep everyone in suspense until next month I will say now that I strongly agree with the suspicion that the questioner's problems are being caused by chloramine. I'd like to ask that anyone having any comments on the topic of chloramine please send them in to me at the address above. This is a very important topic to all aquarists, since it is a relatively new problem the average aquarist knows little about it. More next month.

Any questions on fish, plants, live foods, or anything else having to do with aquariums can be sent to Delta Tale c/o John Mangan, 9770 Oleander Ave. Vienna, VA 22180.

THE MIRROR

PAT MAHONEY

REPRINTS

EXPERIENCES WITH VELVET, John Mangan, TROPIQUARIUM,
Motor City Aquarium Society, July 1984.

THE NEW GUINEA PEACOCK GUDGEON, Gerry Hoffman, THE
YOUNGSTOWN AQUARIST, Youngstown Area Tropical Fish
Society, May 1984.

EXPERIENCES WITH VELVET, John Mangan, TROPICAL
JOURNAL, South Florida Aquarium Society, July 1984.

REVIEWS

NOT ALL THE GOLD WAS IN SARAJEVO, John Jessup, TANK
TOPICS, Greater Akron Aquarium Society, July 1984.

PHILODINA - THE PERFECT FIRST FOOD, Gerry Hoffman,
ARVAS AQUATIC DIGEST, Allegheny River Valley Aquar-
ium Society, Summer 1984.

NOT ALL THE GOLD WAS IN SARAJEVO, John Jessup, THE
TROPICAL BREEZE, San Diego Tropical Fish Society,
May 1984.

ed. note- in addition to the above review Gerrys' Philodina
article also caught the attention of aquarists in Michigan
and Canada who asked me to bring starter cultures to the ALA
convention for them. I could also have gotten rid of several
more jarfulls if I had it with me. J.M.



MINUTES OF THE BOARD OF GOVERNORS
OF THE
FOTMAC VALLEY AQUARIUM SOCIETY

The July meeting of the Board of Governors of the FVAS was held on June 24, 1984 at the home of Gerry Hoffman. Present were: Amy and Jerry Stirman, Frank Angilletta, Maggi and Pat Mahoney, Kenny Warren, Ruth Brewer and Peter Tietjen. The meeting was called to order at 10:18am.

Maggi reported that we have approximately \$1400 in the bank with almost all outstanding bills paid. All but one account has been settled from the Spring Auction. Despite some problems with the new meeting site, we will have the July and August meetings there. We are still searching for a location for the Fall Auction as the school site is too small. Several potential locations were discussed and will be investigated. The Fall Dinner site is definite, it will be at the Army-Navy Country Club thanks to the courtesy of Jerry Stirman. Rather than the sit-down dinner that we have had in the past, this year we will have a cocktail buffet with a cash bar, followed by the program. Items on the buffet will include a steamship round of beef, vegetable platters, chicken nuggets, cocktail quiche and Italian meatballs. The cost will remain the same as last year, \$12.50 per person. We hope to have Dave Herlong as a speaker and the tentative topic will be his recent trip to Lake Malawi. The date will be October 20 with the Auction on the 21st.

There was another discussion on the roster and we will try to get it straightened out soon. We will continue to have the monthly mini-auctions, but all activities of the meetings, including both the awarding of bowl show ribbons and the raffle will be completed before the start of the auction to give anyone who wants to leave a chance to do so.

The August Board meeting will be held at Frank Angilletta's house and will be August 5th. The meeting was adjourned at 11:18am.

Respectfully submitted,
Peter Tietjen, Recording Secretary

**Potomac Valley Aquarium Society
Financial Report, April thru July, 1984**

Balance April 1, 1984.....\$1,924.44

INCOME:

Dues.....\$ 163.00
 Monthly Auctions.....189.34
 Monthly Raffles.....102.00
 May Show & Auction.....3,557.38
 T-Shirts (Dayton & Meetings).....130.00

Total Income.....\$4,141.72

EXPENSES:

Delta Tale, Print.....\$ 182.00
 Delta Tale, Postage.....171.00
 Insurance.....150.00
 May Show & Auction, Print.....81.50
 May Show & Auction, Ribbons.....257.11
 May Show Trophies.....374.66
 May Show & Auction Refreshments.....93.44
 May Show & Auction, Misc. Exp.....95.09
 May Auction Raffle Prizes.....227.71
 May Show & Auction, change.....110.00
 May Auction, Paid to Sellers.....1,505.13
 May Show Judges fee & dinners.....307.00
 Washington Post, May Advertising.....300.30
 Print T-Shirts (3 years supply).....515.75
 Monthly Auctions, to sellers.....117.68
 Monthly Raffle Prizes.....11.54
 Post Office Box, 1 year rental.....45.00
 Fall of '82 Auction Check Cashed (Previously written off).....7.67

Total Expenses.....\$4,552.18

Balance July 23, 1984.....\$1,513.58

POTOMAC VALLEY AQUARIUM SOCIETY



POST OFFICE BOX 6219 SHIRLINGTON STATION ARLINGTON, VIRGINIA 22206

APPLICATION FOR MEMBERSHIP

DATE _____ 19 ____

NAME _____

STREET _____

CITY _____ STATE _____ ZIP _____

TELEPHONE CONTACTS H _____ B _____

Number of tanks _____ Time in hobby _____

Fish you have spawned _____

What can this club do for you _____

What do you want to do for the club _____

Which sub-groups of fish interest you _____

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

Occupation _____

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.

Potomac Valley Aquarium Society
P.O. Box 6219 Shirlington Station
Arlington, Virginia 22206

Potomac Valley Aquarium Society Meets on the Following Dates in 1984:

August 13	October 8
September 10	November 12
	December 10

meetings held at the John C. Wood facility Rt. 237 Fairfax City
room 5- in the rear of the building. Everyone is welcome.

meetings begin at 8:00 p.m.