DELTA TALE

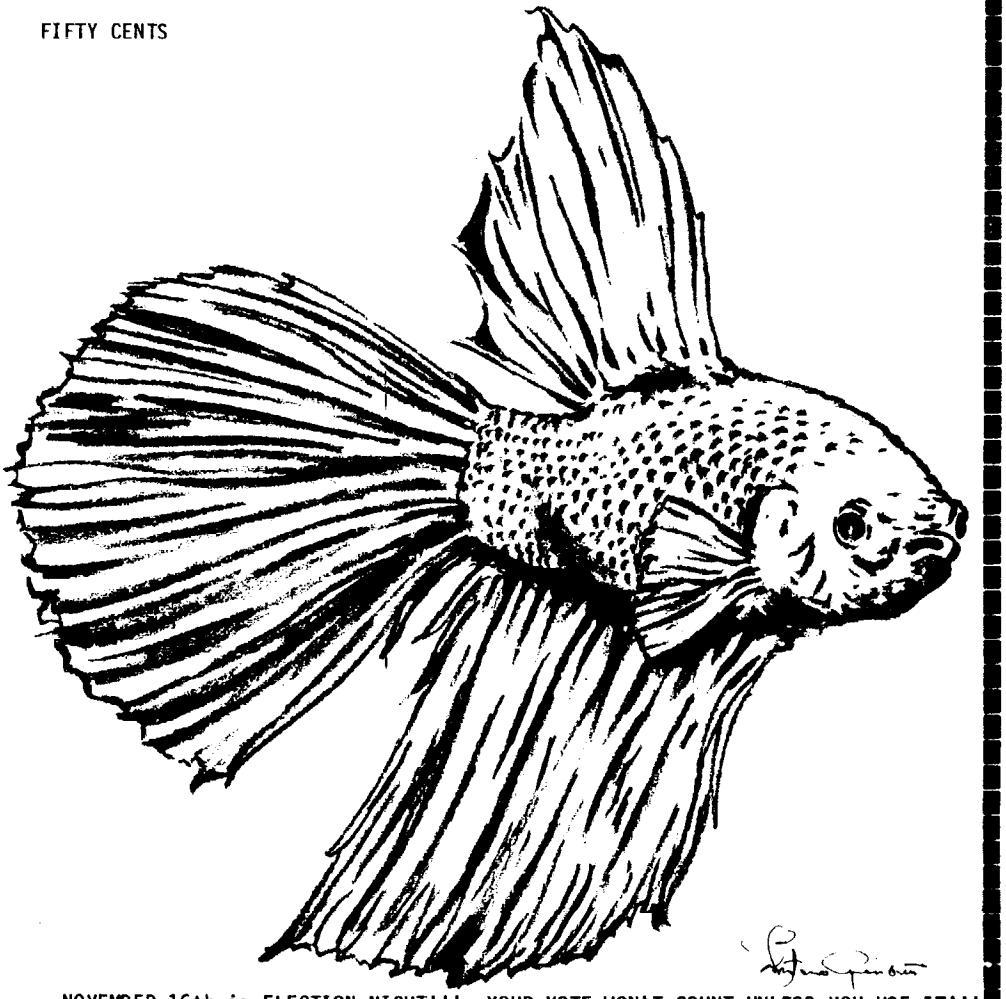
NOVEMBER, 1981

OFFICIAL PUBLICATION OF

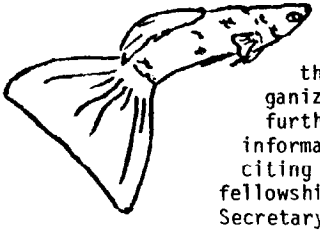
VOL. XII, ISSUE 11

potomac valley aquarium society

FIFTY CENTS



NOVEMBER 16th is ELECTION NIGHT!!! YOUR VOTE WON'T COUNT UNLESS YOU USE IT!!!
NOMINEES for OFFICERS and BOARD OF GOVERNORS --- See Page 13.



Delta Tale is published for the benefit of the Potomac Valley Aquarium Society (formerly the Potomac Valley Guppy Club), a non-profit organization, established in 1960 for the purpose of furthering the aquarium hobby by dissemination of information, encouraging friendly competition, soliciting participation in its shows, and promoting good fellowship. Correspondence should be addressed to: Secretary, P.V.A.S., P.O. Box 6219 Shirlington Station, Arlington, VA 22206. Original articles and drawings may be reprinted if credit is given the author and Delta Tale. Two copies of the publication in which the reprint appears should be sent to Delta Tale, which will forward one copy to the author/artist. All material for inclusion in Delta Tale shoud reach the editor no later than the first Saturday after the monthly Monday meetings. The Potomac Valley Aquarium Society and the Delta Tale disclaim any responsibility for content or availability of advertised merchandise or service in these pages. Customer satisfaction is a matter to be worked out exclusively between the advertisers and buyers.

DELTA TALE STAFF: Editor, Vince Edmondson
Assistants: Carol Kawecki, Barbara Edmondson
Exchange Editors: Gil & Bonnie Baldwin

P.V.A.S. OFFICERS, 1981

President :	Woody Griffin 949-1290	Corr. Sec. :	Chryss Guiler 864-1299
Vice-Pres.:	Pat Mahoney 534-0006	Rec. Sec. :	Maggi Mahoney 534-0006
Treasurer :	Ken Fisher 256-1755		

P.V.A.S. 1981 BOARD OF GOVERNORS

John Jessup, Nancy Griffin, Vince Edmondson, Kenny Warren

P.V.A.S. 1981 COMMITTEE HEADS

Auctions :	Pete Tietjen	Bowl Show :	Jim Hajdics
BAP :	Gerry Hoffman	Programs :	Gerry Hoffman/ Ruth Brewer
Library :	Nancy Griffin	Ways/Means :	Kenny Warren
Membership :	Wayne Hilburn		

MEMBERS OR NON-MEMBERS HAVING QUESTIONS ABOUT FISH, AQUARIUM KEEPING, AND BREEDING CAN CALL ONE THE THE OFFICERS LISTED ABOVE, WHO WILL BE GLAD TO ASSIST YOU, OR REFER YOU TO SOMEONE WHO MIGHT.

Printed by TOP CAT PRINTING, 164 Colburn Drive, Manassas Park, Virginia

MINUTES OF THE BOARD OF GOVERNORS MEETING, OCTOBER 7, 1981

The September BOG Meeting was held at Ken Fisher's residence, and was called to order to order at 7:50 P.M. by Pat Mahoney. Attending were Chryss Guiler, John Jessup, Darrell Holman, Pat and Maggi Mahoney, Pete Tietjen, Kenny Warren, and Ken Fisher.

The Treasurer's Report was given by Ken Fisher.

Pat and Maggi Mahoney have completed the inventory of on hand raffle prizes. The board authorized John Jessup to spend approximately $100 on larger, more attractive prizes for the October 18th raffle. John and Kenny Warren will pick up the big tank and smaller prizes on Wednesday, October 14th.

Pat Mahoney has investigated alternate storage for the show equipment, all of which turned out to be prohibitively expensive.

We have 41 reservations, to date, for the Fall Banquet.

Ken Fisher discussed his excellent new registration system for the Fall Auction, and was commended by the board for his work.

Maggi Mahoney has mailed 120 fliers to PVAS members and attendees at last year's auction, with only four returns thus far.

Pete Tietjen and Ken Fisher will recruit final crews for their areas of responsibility at the October 18th auction from the membership present at the October 12th general meeting. Other details and assignments for the auction were discussed.

Pete Tietjen reported on the Nominationg Committee results, which will be printed in the October Delta Tale.

Ken Fisher has renewed PVAS' membership in the IFGA.

There was a discussion regarding the expanded bowl show in November.

A long discussion was held on the merits of obtaining status as a non-profit organization.

The meeting was adjourned at 9:04 P.M.

Respectfully submitted,

Margaret E. Mahoney
Recording Secretary

SPAWNING AND RAISING THE COMMON ANGELFISH

Kay and Jerry Wagner

The common or silver angelfish (Pterophyllum scalare) is "common" only in the sense that it is one of the naturally ocurring species. There is no doubt that the color and finnage varieties of the angelfish are stunningly beautiful, but even the silver angelfish possesses a majesty and striking beauty unmatched by many tropical fish. A tank full of fry are a pleasure to watch as they constantly and eagerly search for food; a large tank with several adult angelfish can lower the blood pressure of any agitated onlooker.

A healthy, breeding pair of angelfish can be very prolific under the proper conditions, spawning every two weeks. Although the number can be considerably larger, in my experience the average spawn is between 100 and 300 eggs. Except when they are ready to mate, sexing angelfish can be difficult if not impossible. The best way to obtain a breeding pair is to buy about a half dozen young angels and raise them to maturity. If the fish are fed well, including some live or frozen foods, and an acceptable breeding stratum is provided, two fish will usually pair up and the work has just begun. When the fish have reached breeding age, it may also help to make a partial water change about every two weeks since this will stimulate breeding. It has also been my experience that once two fish have paired up and selected a spawning area, the male protects the area from other males and the female drives off other females. This can be used to select other pairs that may be placed in tanks by themselves for breeding purposes.

My adult silver angelfish, about 4 inches, were in a 20 gallon high, planted aquarium with four other adult angelfish of different varieties. The fish had been placed in the tank on a temporary basis while my 55 gallon tank was used to raise some other angels to maximum size. The water temperature was 80° F, pH was 6.8 and the water was of zero degrees of hardness (I use distilled water in my adult angelfish tanks). The tank received no artificial lighting. Since other fish in the tank had spawned, a piece of gray slate was leaned against one side of the tank. The fish were fed blood worms (frozen) once a day and also received TetraMin SM-80 flakes twice a day.

About a week after introduction to the tank, the silver angels paired up and began cleaning the slate and avidly defending it from the other fish in the tank. Cleaning continued for several hours during the morning and actual spawning occurred in the early afternoon. This was the first spawn for these fish and approximately 150 eggs were produced. Spawning took about an hour and the breeders were so effective in their guardsmanship that the other four angelfish had retreated to the plants at the opposite end of the tank and posed no threat to the eggs.

If you have never witnessed the spawning process among angelfish, it is truly a marvelous sight to behold. After thoroughly cleaning the slate, the female will pass her ventral side along the surface of the slate, depositing a line of glistening amber colored eggs through her breeding tube (ovidepositor). The male will proceed to fertilize the eggs by following along side or immediately behind the female. During this process, both fish are constantly alert for approaching predators. The parents often seem to go out of their way to attack an innocent bystander just to reinforce their territoriality. They will also attack the glass where a human is spying on their endeavors and will even attack a hand inserted into the tank. However, too avid guardianship can lead to problems since many of the eggs may not be fertilized by the male who is busy guarding the spawning area.

I removed the silver angel's spawning slate to a two and a half gallon hatching tank. This tank is prepared with distilled water at pH 6.8 and at a temperature of 80° F. Methylene blue is added to color the water and heavy aeration is provided. The eggs hatched in 3 days and the fry were free swimming in another 4 days. When the fry became free swimming, the aeration was reduced and feeding with newly hatch brine shrimp was done twice daily. In addition, I replace about one third of the water every three to four days with a 50-50 mixture of dechlorinated (aged) tap water and distilled water. It appears to be nearly an absolute requirement that this added water be at exactly the same temperature as the water in the tank. I also keep a light over the hatching tank at all times to prevent the fry from bunching up at the bottom of the tank. This seems to minimize losses of fry.

The silver angelfish fry began to look like angelfish in about two weeks and I transferred to a 10 gallon, planted tank when they were about a month old. The twice daily feedings of nwly hatched brine shrimp were continued and at about 45 days of age finely ground TetraMin flakes were also added to the diet by adding an additional daily feeding. At the age of 60 days, nearly the entire 100 fry were still alive and apparently healthy, being about the size of a quarter.

Although this spawning, and some of my other spawnings of the different color and finnage varieties, of angelfish can be considered a true success, such is not always the case. Parents sometimes eat their own eggs or abandon them to be eaten by other fish in the tank. Occassionally a female will spawn and the male totally ignores the eggs and does not fertilize them. Also, the eggs are very susceptible to fungus. The fry are highly susceptible to temperature changes, infection and other unknown factors. I have raised several spawns to the free swimming stage only to come in one morning and find half the fry dead with half the rest dieing the next day and so on. My advice to those who wish to spawn angelfish is to keep trying until you find what works for you and your fish and then stick to that method. Spawning and raising this majestically beautiful fish is truly an exciting and rewarding experience.

Apistogramma Ramirezi

by: Gerry Hoffman

Perhaps the most beautiful of all South American cichlids to grace any aquarium is a little dwarf neck named the Butterfly Cichlid, Apistogramma ramirezi. Commonly known as Rams, they are small enough to be housed comfortably in a 5 gallon tank and have the peaceful disposition for a community type tank. A rainbow of colors and sparkling highlights have made this a much sought after fish, but many can testify to their difficulty in spawning or even keeping them alive for long periods.

Although Rams are placed in the genus Apistogramma, they do not spawn or care for fry like the Apistos. Many aquarists prefer to place them in their own genus Papiliochromis or Microgeohagus. Perhaps someday the controversy will be settled. Until then, the Ram will still be a Apistogramma, like it or not.

A sexually mature pair is a gorgeous sight to see in courtship. Males tend to have larger and more strongly developed dorsal fins or spikes, although this is not the best distinguishing feature. A better sexing trait is the reddish-purple abdomen of the female. Both fish are about equal in size, shape, and overall coloration, so young fish or underfed fish are difficult to sex.

Unlike cave spawning Apistos, the Ram is an open breeder. Rounded rocks, large plant leaves, or even shallow pits in the gravel will be the spawning sites. Three or four days prior to spawning, the "breeding tubes" will begin to appear on both fish, giving you plenty of warning that something will soon happen. In a community tank, true cichlid behavior is observed, with a territory being defended for the event to come. If kept alone, they tend to be less aware of the need to stay by the spawning site.

My own attempts to spawn this fish has been one of mixed blessings. I have the Xanthochromic form, or Golden Ram, a sunshine yellow morph of the blue strain. Being a compatible pair, they would spawn every two weeks on the leaf a medium sized Amazon Sword Plant. Left all alone in a 30 gallon tank, they would wander away from the eggs and do very little to care for them. As the fry hatched, they would be eaten within a day, even though a nice pit had been prepared for them in the sand substrate. They went through this routine time and time again. Eventually I decided to remove the leaf with eggs to a smaller container far away from hungry mouths.

Ram eggs take 2-3 days to hatch, then another 6 days to become free swimming. Fertility was not a problem for this pair, and soon over 200 wittlers were approaching free swimming. Unfortunately the fry are very tiny and didn't seem to accept baby brine too readily until after 3-4 days. They did very well with Philodina, a rotifer I had been culturing for some Tetra fry. Soon they were eating baby brine shrimp and some microworms, but they still relished the little rotifers. But the rotifers are cultured like other infusional creatures, and a little too much of their water and not enough water changes in a small container left me with about 75 fry after two weeks.

I then tried better conditions in an aged 10 gallon tank, but continued to have losses. Only living foods were accepted until after two months of age, and even with several choices to feed in the early going the losses were mounting. After 60 days only 10 were left, but they were strong and healthy.

I have tried again with them in a 10 gallon with two corydoras cats and the 10 young fry. With other inhabitants present, they guarded the nest and kept everyone in one corner. When they fry hatched, they promptly placed them in a nice pile in the gravel and both parents kept a constant vigil over them. This time they even had a free-swimming shool moving around the tank. They never had raised them this far before. On day two of free swimming they were gone. Maybe they are getting better, but still no success letting the parents do it. With the need to protect and defend they tried harder. Also this time I left the lights on all the time for the full week. It seems their youngsters dissappeared after dark each time before.

At this point I have not done very well, but have had enough limited success to know what little tricks I should do next time. I would like to let the parents do all the work, but this may take a lot of eaten spawns before it happens. As with a lot of the South American dwarfs, pulling the eggs and aritfically incubating is the best way to get any babies at all

Spawning Trematocranus Jacobfreibergi

John E. Jessup, PhD.

For many years, the T. jacobfreibergi was an extremely rare, much sought after, Malawi cichlid. Not until the mid 70's did enough breeders in this country spawn enough of these colorful fish to satisfy the demands of hobbyists. Since that time, not only has T. jacobfreibergi "caught on" as one of the standard species for the keepers of Rift Lake Mbunas, but at least one other variety -- according to some sources, has been put on the market. I will not elaborate as there is considerable confusion over exactly what the "Red Top Trematocranus" really is and in what family it belongs. A good account of this problem may be found in Exotic Tropical Fishes, Number F-588.21 of the Loose-leaf Edition. That same volume has a good series of phographs of T. jacobfreibergi under numbers F-588.09 -- if anyone can follow the chaotic numbering system Tropical Fish Hobbyist editors established when they started the series.

Anyway, the pictures are good -- some of the fish are actually alive at the time they are photographed -- and they highlight the striking appearance of the adult male fish.

Spawning this fish is a relatively easy procedure, even if you are just lucky and have no real skill with fish. The key element is conditioning, and a fairly extensive diet is required if the fish are to achieve the size -- and the color, of which they are capable. One inch fry may be brought to spawning-size in six months if given the correct diet, and suffiecient room. My male was two inches, while the female measured about one and three quarter inches. Mine were raised, along with some other fry in a well-planted 50 gallon tank, and spawning took place in that environment. Temp. = 80°F., pH = 7.2, DH = 4.0. There were at least five males, none of whom showed any real dominance, and two females. When it was discovered that one female was "holding," she was transfered to the only thing available, a 30H. Transfer took place on the first day of brooding.

I might add that the other occupants of the original tank were six D. affinis, eight H. fasciatus, one u/i Mbuna, one H. stappersi, and one cory. All were very young fish, but it was a quite active tank. The tank was relatively clean but did have some debris on the bottom. Aeration was from a bubble-up type filter. What became the brooding tank had been established for some time and had just had a rather thorough cleaning preparatory to receiving some new fish. Acclimatizing the brood was accomplished in a large catch bucket. As far as is known she never dropped an egg. First release of fry was noted on day 17, but real free-swimming date was D+24. Thereafter, the female remained with the fry caring for them for five days and was then removed. Brine shrimp hatches was the primary food for the fry who soon spread over the entire tank.

The Embattled Love Life of the Siamese Fighting Fish

Kay and Jerry Wagner

Much has been written about the courtship and mating habits of the Siamese fighting fish, Betta splendens. No guide to aquarium fishes would be complete without a detailed description of the construction of a bubble nest, the mating ritual and the male's care of nest, eggs and young. Our experience breeding this seductively colored and voluptuously finned species can be only described as "classic".

The male betta was placed in a two-and-one-half gallon show bowl and the female was placed in a similar container of one quart size. A nylon breeding mop was placed on the bottom of the tanks to provide a hiding place for the female. The bowls were placed side by side in an area where they would receive several hours of bright sunlight each day. This seemed to stimulate the male to construct a bubble nest, whether there was a female nearby or not, and also seemed to produce a healthier "attitude" in these often lethargic fish. The pair was fed frozen bloodworms and live brine shrimp.

The male almost immediately showed an intense interest and went into his full "dandy" routine when the bowls were placed side by side. When he began constructing a bubble nest, the female was introduced into the breeding tank. At first, the female was free to swim about the bowl while the male constructed the nest. Soon, however, he gave ardent chase and the female was forced to take refuge in the breeding mop, venturing out only to feed. The male could have certainly used a few lessons from Robert Redford à la "The Way We Were". As it was, the female, her well-being already jeopardized, had to be removed immediately after spawning to insure her life.

If the male was a poor lover, he was a devoted, fastidious father. He tended the nest and young unfailingly. At one point we were concerned for his well -being as he would not leave the nest to feed. By the time the fry had been free swimming for three days, the male was exhausted and he was removed to a separate tank. The fry were fed infusoria, Liquifry and the tiniest of newly hatched brine shrimp. At first, they grew slowly; at about one month of age, they began to grow more rapidly and it was decided to move them to larger quarters. The transfer to a 10 gallon tank was performed with extreme care and attention to water temperature. However, the move resulted in a 60% fatality rate. At 60 days, the remaining fry were doing fine and were beginning to take on colors and characteristics that allowed speculation on their sex.

SPAWNING THE WHIPTAIL CAT
"Loricaria filementosa"

Woody Griffin
PVAS

This armored prehistoric looking loricariidae from Paraguay and Brazil has been a frustrating and challenging endeavor for me. The whiptail is very droll in appearance and behavior. It's reputation as an algae-eater is much overrated, although it requires algae in it's diet to thrive. The whiptail doesn't hold a candle to it's cousin the plecostomus as a window cleaner.

One gradually becomes used to the inactivity and nocturnal habits of this fish and can become quite attached to it. The animal will constantly hide during the day and one must remember to drop food in their tank before turning the lights out. This catfish, unlike the genus corydoras will not compete or forage for food. The fish clumsily inches along the bottom of the aquarium and if it stumbles onto some food fine, if not fine.

The male loricaria attains a maximum length of six inches and the female four to five inches. A large male also shows signs of whiskers, though not as pronounced as the Bristlenose plecostomus.

I acquired a breeding pair in the summer of 1979, and was told to forget any spawning activity until winter, because of their short five month breeding season, as you will soon see this information was quite erroneus. Unfortunately we tend to listen too intently to the "experts" and do not try enough experimenting on our own. Due to the above advice the pair was placed in a thirty gallon community tank and forgotten until winter.

In January of 1980, I set them up for spawning in a twenty gallon long tank with a sponge filter, an eight inch piece of PVC pipe and twenty baby discus as tank mates. At this point I had done little research on their spawning conditions, but I was lucky, they spawned anyway. The female was promptly removed, along with the discus fry and the next day I found the male on the floor dead! At this time the spawn perished also.

I was ready to cry when my wife saved the day. She informed me she had bought one of those funny looking creatures in our fall auction. You can imagine my delight when I learned it was a male. The new suitor proved acceptable, for in three weeks time they spawned. I again removed the female and the new male promptly ate the eggs. They spawned no more that season.

In February of this year they spawned in a twenty gallon long which contained soft acid water, this time the male sat on the eggs and at thirty days post hatching, I had about fifty fry one inch in length. At this point, I started losing three and four fry per day for no apparant reason. In sixty days I had seven fry left, which falls short of our BAP requirements. Once again a big disappointment.

In June, Pat Mahoney, one of our more experienced breeders informed me his Loricaria parva had spawned, so I decided to give my pair an out of season try. I set up a ten gallon tank with a sponge filter, gravel, and the omnipresentPVC pipe. I used blackwater tonic to attempt to duplicate the soft, acidic conditions I feel these fish require to induce spawning. A heater was installed and I set the temperature at seventy five degrees and slowly raised it to eighty three degrees. The fish were conditioned on zucchini, frozen brine shrimp and blackworms. In ten days a large storm front moved through our area and I did a fifty percent water change. The night of the storm the fish became very agitated and moved into the pipe. This is the most movement I had seen out of these animals. They thrashed around all evening and the following morning they spawned. When I came home in the evening the female had left the tube and the male was sitting, chicken fashion, on approximately fifty apple green eggs.

I promptly removed the female and left the male to babysit. His brood care was excellent and as the embryos developed the eggs took on a camaflouge appearance.

On the morning of the seventh day post spawning, I found forty to fifty fry, perfect miniatures of their parents. They were clinging to the upper regions of the tank. At this point the male was removed. I supplemented their diet of algae with slices of zucchini and a green kelp based pellet given me by Charlie and Ginny Eckstein of the Long Island Aquarium Society. This diet seemed to do the

trick, growth was rapid. In thirty days time the fry were over one inch in length. I also changed three gallons of water directly from the tap daily.

At this point, I was very pleased with my progress. Then my problems began. I started losing two or three fry per day. I knew they weren't starving "my first thought", my water all tested in the safe range, I was perplexed. Suddenly, a thought occured to me, I stirred the gravel and was hit by the smell of sulphur, while bubbles rose to the top. Time for drastic measures, I took a small plastic cup and carefully removed as much gravel as possible, without harming the fry. I did a seventy five percent water change and installed a power filter to remove all of the garbage. From this day on I lost no more fry.

At six weeks of age their diet was supplemented with frozen brime shrimp and scraped beef heart. In sixty days, I have twenty five fry approximately two inches long and as cute as they can be. The pair has since spawned twice after a water change and a barometer drop. It is my observation that if this "winter spawner" is conditioned on the proper diet and given the simulated conditions of a tropical rain shower, they may be induced to spawn anytime of year.

One final thought, I will leave you with, I consider myself an experienced aquarist, but I read an article by Braz Walker several months age, that I obviously payed no attention to. He warns that after some years in the hobby we tend to overlook the basis aquarium practices. My black gravel experience is a perfect example of this and I hate to admit this has probably cost me more than one spawn of fish the last several years.

P.V.A.S. NOMINATIONS FOR 1982-1983

The November Meeting, on Monday, the 16th, will be our Election Meeting, where next year's Officers and Board of Governors will be chosen from among the nominees. The following members' names have been placed on the 1982-83 slate:

President:	John Jessup
Vice-President:	Darrell Holman
Treasurer:	Ken Fisher
Recording Secretary:	Nancy Griffin
Corresponding Secretary:	Wayne Hilburn
Board of Governors: Two Seats	Pete Tietjen, 1982-83 Gil Baldwin, 1982-83

Kenny Warren will retain his BOG seat for 1981-82, and there will be one open board seat, due to John Jessup's nomination as President. Officers are elected for one year terms of office; board members are elected for two year terms.

Any member may make a nomination from the floor, for any office or for the board, at the November Meeting. The member nominated must either be present, or have expressed his willingness to accept a nomination. If there are no floor nominations, the above slate will be adopted. If there should be nominations from the floor, there will be a ballot vote for only the contested offices or board seats.

Paradise, If Ever

John E. Jessep, PhD.

William T. Innes, one of the real poineers in this hobby, probably said it best when he wrote, "If ancient lineage is the true basis for artistocracy, then the Paradise Fish is undoubtedly the Exalted Potentate of all tropical aquarium fishes."* What Innes was referring to, of course, was the fact that Macropodus opercularis, the Paradise Fish, was first introduced into the hobby in 1868, when the hobby was, indeed, very young.

At this point it would be easy to digress and defend that statement against those who will say goldfish and other fishes were kept in ponds in China in the Han Dynasty. Of course they were, in ponds, but the fish tank (crudely put, but accurate) did not show up until circa 1850, in any numbers. Thus, the introduction of true tropical fish was predicated on the ability to keep them indoors -- hence, in tanks.

It may very well be that the Paradise Fish was responsible for a significant decline in the hobby in late 1870's. Little imagination is necessary to be able to visualize the results of adding several Paradise Fish to a tank of fancy veil-tail goldfish. Although not truly pugnacious fish, not even the Paradise Fish could resist the treat of those nice munchie tails to chew on.

Regardless of this rather inauspicious beginning, the Paradise Fish stayed on in the hobby, but never really prospered. Some experts suggest that it may be because it is too easy to spawn and, thus, is not "rare" enough for the connoisseur. Anyway, the Paradise Fish never really caught on when the hobby became re-established in the 20th century.

This is truly a shame because the M. opercularis is a gorgeous fish, which we currently find in at least color strains: red, blue and magnificent black. No less important is the fact that, for the beginner, it is one of the easiest anabanotoids to spawn.

I began with three pair, composed of males and females picked up in New York and Washington. The females were fully matured when purchased, while the males were still immature. About three months of good food took care of that, however, and one pair was segregated into a 10 gallon tank. The tank was relatively unadorned. There were a number of floating plants including salvinia, hornwort, and riccia, and three aponogetons, set directly into the gravel bottom. Aeration was furnished by a sponge filter -- no, I did not build the sponge filter, I bought it!

The water temperature at the time of transfer was 76°F., the ph = 7.2, the Dh = 4.0. Within hours of the transfer, there was definite indications that spawning had begun. You could not tell from the bubblenest, however, as the nest looked as if it had been let as a government contract sponsored by HUD. BUbbles were scattered all over the tank, while the eggs -- they were laid a few at a time over about 24-36 hours, were kept together in what appeared to resemble a mosquito egg raft.

When hatching began, I presume the parents -- yes, I said parents, as both cared for the young, at first, I presume they kept the young in the plants. At the end of four days, however, a rather small cloud was visible as the fry moved to a spot on the side of the tank and stayed there, close to the glass. The fry, from D+1, were fed a rotatation of green water, infusoria, and Liquifry (basically eggyolk in suspension). In all there were less than 50 fry, that were about 1/64" in size when first observed.

The young remained in the original tank, but the adults, first the female, and then the male, were removed. At the end of 60 days the young averaged ½ - 5/8" and were already showing color -- these were the blue strain.

I strongly recommend the Paradise Fish as one easy enough for the beginner, and interesting enough for even the most jaded expert.

---

* William T. Innes, Exotic Aquarium Fishes (Philadelphia: Innes Publishing Co., 1945, p. 369.

N.B. Before I am taken to task for failing to mention the "white" or albino Paradise strain that is truly beautiful in its own right, let me defend myself by pointing out that albinism is a state where color pigmentation is absent. Hence, an albino is not really any color at all!

The Not-So-Bad Badis badis

Kay and Jerry Wagner

The Badis badis belongs to the family Nandidae although it is considerably different in temperment, physical characteristics and habits from other nandids. Instead, this little fish possesses many of the characteristics of the dwarf cichlids. However, there is no doubt that it does not belong to the cichlid family. The badis has fluctuated considerably in demand and popularity. The popularity of the badis has usually been due to the publicization of a myriad of magnificent color variations (sometimes reportedly exaggerated). The unpredictable temperment of this little fish and its purported requirement for live foods on a daily basis has given the badis somewhat of a bad name.

Our badis were purchased from a local aquarium shop and were maintained in a 20 gallon high tank with assorted other fish, including honey dwarf gouramis, guppies, killifish and of course a few corydoras. The tank was heavily planted and there were several hiding places constructed of ceramic and stones. Our badis tended to be somewhat on the shy side and prefered to lurk in the darker niches of their environment. The water temperature was about 80° F and the pH was about 7. Water hardness did not appear critical and was not monitored. The diet consisted primarily of dried flakes with an occasional feeding of frozen brine shrimp or bloodworms. It must also be assumed that periodically a young guppy or two were invited to dinner!

A pair of badis, selected because of the male's more brilliant coloration and the pair's tendency to fraternize were placed in a 10 gallon tank with an overturned flower pot and several nylon mops, both floating and on the bottom. The breeding tank temperature was 80° F, pH 6.8 and the hardness was between 1 and 2 degrees. The tank was provided with an outside power filter; a block of foam rubber was cut to fit over the intake tube so that the fry, when they arrived, would not be pulled into the filter. The pair hid in the nylon mops most of the time, darting out only for their meal of frozen bloodworms.

After about three days, the male took up housekeeping inside the flower pot. An area on the side of the pot was thoroughly cleaned by the male and spawning took place soon afterwards. Both parents tended the 100 or so eggs they remained inside the flower pot almost constantly and often peered out at the peeping Tom who was peering in. The fry were free swimming in about 4 days and the parents were removed from the tank two weeks later. The fry were fed newly hatched brine shrimp twice daily and the parents were maintained on their diet of frozen bloodworms. The parents showed no interest in devouring their fry during this time, although they became noticeably belligerent when returned to the community tank. The fry grew slowly although virtually all survived to the 60 day point.

BAP REPORT

NAME	POINTS AWARDED
Garland Neese	640***
Pat and Maggi Mahoney	535***
Woody Griffin	505***
Gerry Hoffman	475***
John Jessup	365***
Darrell Holman	345***
Ruth Brewer	305***
Vince Edmondson	280**
Jim Hajdics	190**
Kenny Warren	90*
Gene Aldridge	80*
Tom Wright	80*
Thompson Family	55*
Gerry and Karen Wagner	55*
Ken Fisher	30
Amy Stirman	20

RECENT POINTS AWARDED

Woody Griffin ---------- Haplochromis similis (Red Empress) 10 points
" linni 10 points
Heterandria formosa (Mosquito Fish) 10 points

John Jessup ---------- Heterandria formosa 10 points

Pat and Maggi Mahoney -- Poecilia latippina (Albino Sailfin Molly) 10 points

Thompson Family -------- Aphyosemion gardneri (Nsukka) 10 points
Poecilia reticulata (Guppy) 10 points

Gerry and Karen Wagner - Badis badis 15 points
Betta splendens 15 points
Pterophyllum scalare (Angelfish) 15 points
Brachydanio rerio (Zebra Veil Danio) 10 points

Welcome to the BAP, Gerry and Karen Wagner, and belatedly, Ken Fisher, who scored last month, but was forgotten in the layout and missed the printed page.

BOWL SHOW RESULTS AND STANDINGS, OCTOBER, 1981

CICHLIDS

New World Mouthbrooder

No Entries

Pseudotropheus

1st - Ice Blue Zebra - John Mangan
2nd - Cobalt Zebra - Jim Hajdics
3rd - Ps. lombardoi(male) - "

Open

1st - Pink Convict - Jim Hajdics
No Other Entries

CICHLID STANDINGS	M	Q	Y
Jim Hajdics	12	12	84
G&K Wagner	0	0	30
Amy Stirman	0	0	24
John Mangan	6	6	12
Woody Griffin	0	0	12
Wayne Hilburn	0	0	10
Bill Kent	0	0	6
Leslie Stirman	0	0	4
Garland Neese	0	0	4

Novice Class - No Entry
Members Choice - None

November Categories - EXPANDED SHOW:

Cichlids
1)Angels/Discus
2)New World, All Other
3)Mbuna
4)Haplochromis
5)Rift Lake, Non-Mouthbrooder
6)Open

EGGLAYERS/LIVEBEARERS

Goldfish and Koi

1st - Calico Ryukin - Wayne Hilburn
2nd - Gold Koi - Wayne Hilburn
3rd - No Entry

Characins and Tetras

1st - Buenos Aires Tetra - Michelle Mangan
2nd - Silver-tipped " - G&K Wagner
3rd - Buenos Aires " - Jim Hajdics

Open

1st - Aphy. maroratum - Jim Hajdics
2nd - Lepoms cyanellus - Wayne Hilburn
3rd - Aphy. Lou essesn - Jim Hajdics

EGGLAYER/LIVEBEARER STANDINGS	M	Q	Y
Jim Hajdics	10	10	98
Wayne Hilburn	14	14	40
Ruth Prendergast	0	0	30
Gerry and Karen Wagner	4	4	26
Michelle Mangan	6	6	22
Amy Stirman	0	0	16
John Mangan	0	0	12
Woody Griffin	0	0	12
Gerry Hoffman	0	0	10
Jimmy Hajdics	0	0	8
Leslie Stirman	0	0	6
Bill Kent	0	0	2

Judges: Cichlids - Kenny Warren
Egglayers/Livebearers - Pete Tietjen

Egglayers/Livebearers
1)Livebearers
2)Characins and Tetras
3)Catfish
4)Sharks and Loaches
5)Anabantoids
6)Open


NOVEMBER
20·21·22
1981
HOLIDAY INN
U.S. #22
SPRINGFIELD, NJ.
Special Guest Speaker
Rosario La Coste
NOTED AUTHOR · LECTURER · EXPLORER
JUST RETURNED FROM COLLECTING
IN BRAZIL · EXCLUSIVE
PRESENTATION
TROPICAL FISH
WORKSHOP
·CICHLIDS·
·CATFISH·
·SALT WATER·
·FILTRATION·
·FISH CLUBS·
·BETTAS·
·FOODS·
PLUS: BRING YOUR OWN SLIDES
AUCTION
SLIDE PROGRAMS
FORUMS·LECTURES
PHOTO COMPETITION
$25.00 REGISTER FEE
INCLUDES:
SAT. DINNER(!)
SUN. CONTINENT. BREAKFAST
FOR INFO CALL = GEORGE: 754-0022
(DAY)
AL: 538-2263
$15.00 REG. FEE
NO MEALS
$12.50 EA. Addition Meal

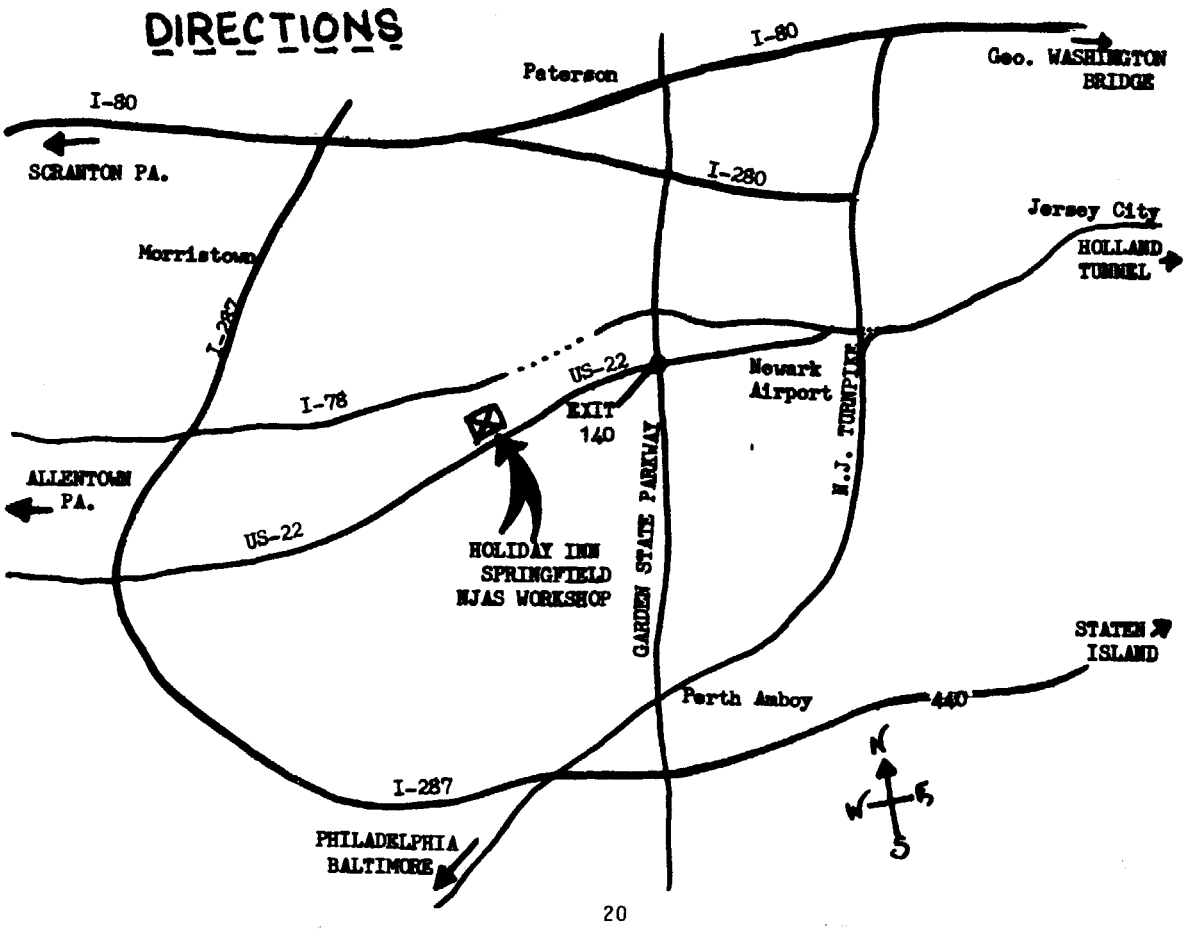
AUCTION INFORMATION
******* **********

1. THE AUCTION WILL START PROMPTLY AT 7:00 p.m. ON SUNDAY, NOV. 22,1981.

2. THE AUCTION IS OPEN TO ANYONE FREE OF CHARGE, WHETHER OR NOT YOU ARE ********** REGISTERED FOR THE WORKSHOP. **********

3. CASH, MASTERCARD, OR VISA WILL BE ACCEPTABLE PAYMENT FOR ITEMS BID AT THE AUCTION. YOU MUST REGISTER CREDIT CARDS IN THE MORNING BEFORE THE AUCTION BEGINS.

4. TO AFFORD ALL WHO ATTEND A VARIETY OF FISH, WE WILL ACCEPT FISH FOR AUCTION FROM ANYONE REGISTERED FOR THE WORKSHOP, UNDER THE FOLLOWING CONDITIONS:
   A. LIMIT 5 BAGS OF FISH PER WORKSHOP REGISTRATION.
   B. ALL FISH MUST OF ACCEPTABLE QUALITY AND CONDITION. TYPE OF FISH IS NOT IMPORTANT, GOOD HEALTH AND CONDITION IS A MUST. SICK OR DAMAGED FISH WILL BE TURNED AWAY!
   C. THE CONDITIONS OF SALE ARE :
      1. 50/50 SPLIT - OWNER/N.J.A.S. or
      2. 100% DONATION
   D. ONCE REGISTERED FISH MAY NOT BE REMOVED FROM AUCTION.
   E. REGISTRATION OF FISH WILL BEGIN AT 12 NOON, SUNDAY.



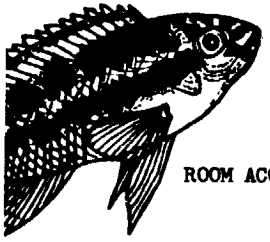
TROPICAL FISH WORKSHOP - A weekend event sponsored by The North Jersey Aquarium Society.

* *

DATE: NOVEMBER 20,21,22, 1981

WHERE: HOLIDAY INN, 304 ROUTE 22 WEST, SPRINGFIELD, N.J. EXIT 140 GARDEN STATE PKWY.

COST: $25.00 REGISTRATION FEE. This includes the entire family (couple & children under 17) to attend all lectures, forums, and auction. Also included is one (1) ticket to the Saturday night dinner and the Sunday morning "coffees & danish" opener. Extra dinners for the Saturday night dinner can be purchased for the sum of $12.50 per person.



A $15.00 registration fee will be charged for those wishing to attend all the functions, but the dinner.

ROOM ACCOMODATIONS - Overnight guests should make arrangements directly with the HOLIDAY INN through the mail, or for more information call (201) 376-9400.
Single or Double occupancy rates are $ 35.00 per night. Room reservations should be made in advance, tell them you are with the North Jersey Aquarium Society Workshop to get this rate.

* *

SCHEDULE OF EVENTS

FRIDAY * NOVEMBER 20, 1981

8:00 PM FAAS Delegates meeting and orientation. Open to all interested in FAAS (Federation of American Aqua. Societ.)

9:00 PM HOSPITALITY SUITE. Free beverages and snacks

SATURDAY * NOVEMBER 21, 1981

10:00am FILTRATION FORUM - four moderators discussing filter functions, methods, systems, and tricks of the trade. Don't miss it!

11:15am CATFISH - Chuck Davis' slide and talk on the maintenance and identification of catfish.

12:15pm LUNCH - you're on your own.

2:00 pm CICHLIDS - Gene Aldridge & Mike Sheridan team up to present a slide show on all types of cichlids - Cent. & So. American, dwarfs, and Africans.

3:15 pm FOODS - Forum, display & discussion on live foods, frozen foods, dry foods, & home-made preparations.

SAT. NOV. 21 (continued)

4:15pm ROSARIO LA CORTE Collector, author & master breeder gives us an exclusive slide & talk on his latest trip to So. America. The Hi-lite of the Workshop.

5:30pm BETTAS - Bob & Barbara Beck, certified IBC judges, they maintain the IBC slide program.

8:00pm BANQUET - dinner served Review of Slide Contest & winners announced.

9:30pm SHOW & TELL Bring your own slides. Projectors & screens provided. Socialize with pay bar.

SUNDAY * NOVEMBER 22, 1981

9:00am Coffee & danish eyeopener.

9:30am FAAS delegates meeting.

11:30am SALTWATER - slides, talk Jim DeBernardo - FAMA columnist - beautiful pictures & good info!

2:00pm AUCTION - OPEN TO THE PUBLIC

SLIDE CONTEST RULES

CLASSES:

A. GUPPY	E. CICHLID
B. BETTA	F. MARINE
C. KILLIE	G. OTHER LIVEBEARER
D. CATFISH	H. OTHER EGGLAYER

I. COMMUNITY TANKS

AWARDS: Awards will be given for first, second, third in each class; plus a special award for BEST OF COMPETITION.

We are attemping to get some or all of the winners printed in a nationally known monthly magazine, so you must sign the release on each entry form. Your co-operation is appreciated.

Slides will be judged on the following criteria:

1. Photographic expertise (40%)
   - A. Clarity & focus
   - B. Color tones and shading
   - C. Sharpness and imagery
2. Art Form (40%)
   - A. Highlight of subject
   - B. Blend of foreground & background
3. Subject matter (20%)
   - A. Quality of subject
   - B. Difficulty to photograph
   - C. Behavior/deportment of subject in photo.

Slides may be of single fish, pairs, or groups of the same species of fish. Slides of different fish must be entered in the community tank class, That is different fish in one picture.

ONLY COLOR SLIDES MAY BE ENTERED IN THIS COMPETITION!

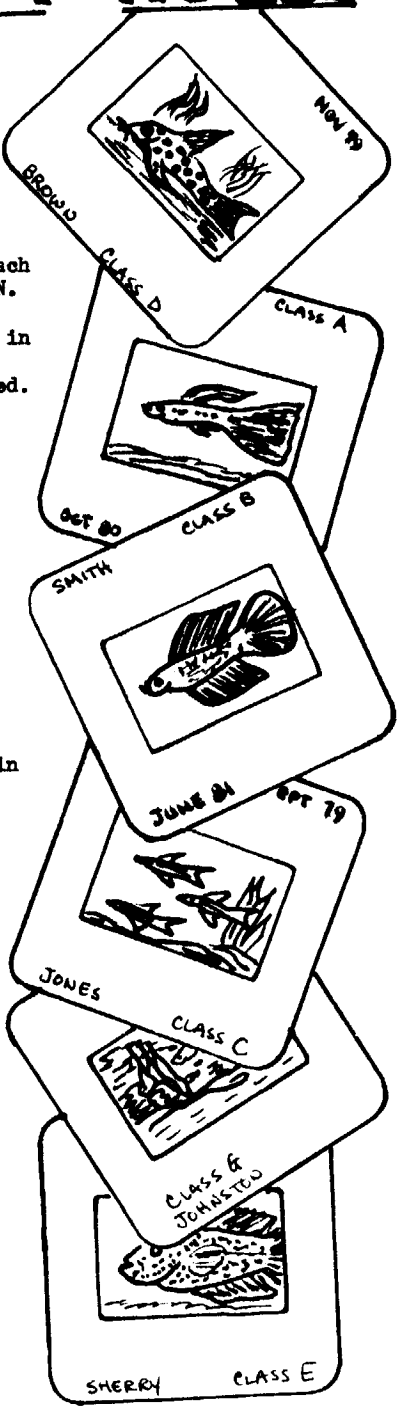
If you want the slides returned to you, enclose an addressed shipping container with the postage (stamps). Winners to be printed in the magazine will be returned at a later date.

We will expect that the slides entered by you, were taken by you.

YOU NEED NOT BE PRESENT TO ENTER THE SLIDE COMPETITION; MAIL-IN ENTRIES WILL BE ACCEPTED. Send all mail in entries to: Mr. AL BROWN Tel. # (201) 538-2263
54 BURNHAM PKWY.
MORRISTOWN, N.J. 07960

THERE IS A 50¢ FEE FOR THIS EVENT, FOR EACH SLIDE.

PLEASE MARK ALL SLIDES WITH YOUR LAST NAME AND CLASS ENTERED (AS SHOWN AT RIGHT).



POTOMAC VALLEY AQUARIUM SOCIETY
PO BOX 6219, SHIRLINGTON STATION
ARLINGTON, VIRGINIA 22206

Date _____ 19____

APPLICATION FOR MEMBERSHIP

NAME _____

STREET _____

CITY _____ STATE _____

PHONE _____ ZIP CODE _____

Number of tanks _____

Type of fish _____

Time in hobby _____

Fish you have spawned _____

_____

What you would like to do in this Club? _____

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

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

Occupation _____

Membership dues for the Potomac Valley Aquarium Society are:

Family	$10.00	Corresponding	$5.00
Individual	$ 7.00	Junior (under 18)	$3.00

Completed applications accompanied by your check or money order should be mailed to P.V.A.S., P.O. Box 6219, Arlington, Virginia 22206.

Please attend our meetings at the Cocoa-Cola Bottling Plant, 5401 Seminary Road, Alexandria, Virginia at 8:00 P.M.

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

FIRST CLASS MAIL

1981 MEETING DATES:

JAN. 12	APRIL 13	JULY 13	OCT. 12
FEB. 9	MAY 11	AUG. 10	NOV. 16
MAR. 9	JUNE 8	SEPT. 14	DEC. 14

Meetings are held at the Coca-Cola Bottling Plant hospitality room, 5401 Seminary Rd., Bailey's Crossroads, Alexandria, Virginia.

Meetings start at 8 p.m. Doors open 7:30 p.m. Bowl Show registration 7:45 p.m., to 8 p.m.