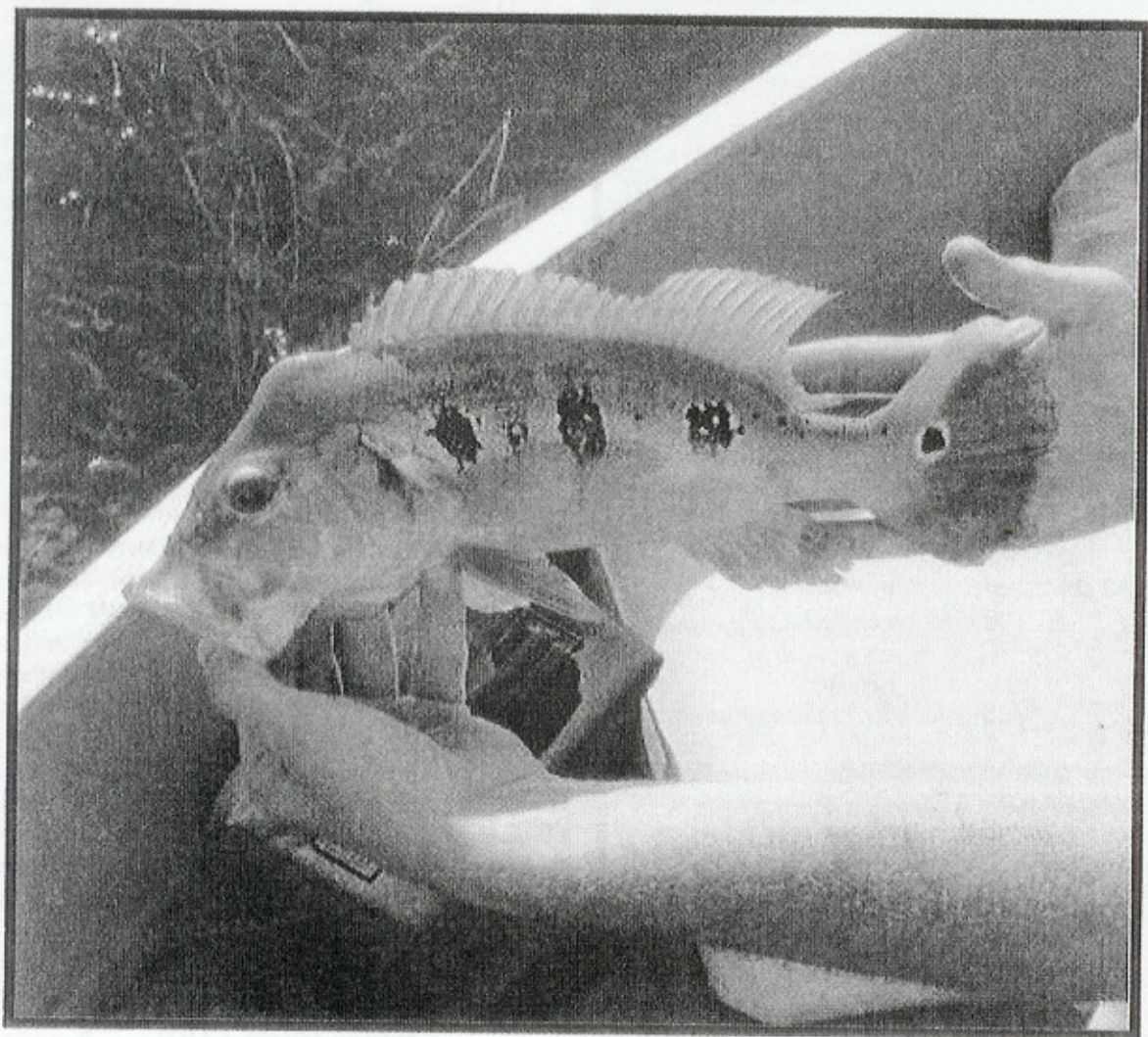


DELTA TALE

Official Publication of the  
**POTOMAC VALLEY AQUARIUM SOCIETY**

Volume 32, Number 4  
July/August 2001





# DELTA TALE

Volume 32, Number 4

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 through the dissemination of information and advice, and the promotion of good fellowship among the membership by organized activities and competitions.

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"Cichla ocellaris" by PVAS  
Member R. Shane Linder

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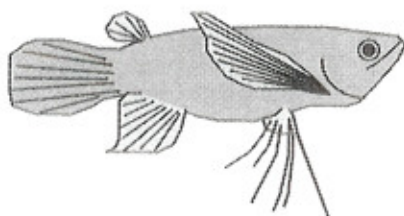
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Line drawing by PVAS member Gene Moy

### Fall Fish Festival

The biggest news is our Fall Fish Festival. On Saturday, November 3rd, we will have our Tropical Fish Workshop and Banquet followed by our Fall Tropical Fish Auction on Sunday, November 4th. We have a great lineup of speakers for our workshop. This year's slate of speakers and their presentations are: Kent Webster - Rainbows, Mike Trzonkowski, Aquatic Plants, Dave Herlong - Malawi Cichlids, Rosario LaCorte - Killies, and Ray "Kingfish" Lucas - Collecting in Peru.

Ray Lucas will also have his Kingfish Products on display. Remember, Ray donates a large portion of his displayed products to PVAS for our auction. Make sure you bid on his items, as all the proceeds go to PVAS for future workshops and auctions. When you see Ray Lucas, make sure you thank him for attending our event. His schedule is limited to only a couple of events each month, and PVAS is very fortunate to have him return for another year. Thanks Ray!

The workshops are free, but advance dinner registration and payment is required. The banquet main courses will be chicken and beef. All dinner registrations must be received by October 29th. The cost is \$20 for PVAS members and \$30 for non-members. Make checks payable to Potomac Valley Aquarium Society and send them to Peter Thrift/PVAS Workshop, 5809 Lane Drive, Alexandria, VA 22310. Pete must have your payment by October 29th.

Visit the PVAS website at <http://www.pvas.com> for the latest updates on the Fall Fish Festival.

### Nominations Month

It's nominations time. PVAS elections are to be held during the November monthly meeting. PVAS needs to have individuals nominated for officer and board positions during the October monthly meeting. Being a PVAS officer or board member is a great way of getting involved with your hobby. If you are interested in any PVAS position, see any current PVAS officer or board member. You do not have to be an experienced hobbyist to help run PVAS.

## Membership Update

Francine Bethea

PVAS would like to welcome these new members:

**Frank Bennett** of Gaithersburg, MD  
His interest: Red Devils, cleaning and maintaining aquariums

**Genevieve Nelson** of Kensington, MD  
Her interest: Kissing gouramis, Siamese Algae Eaters

**Lara Zamarripa** of Fairfax, VA  
Her interest: Marine fish, Goldfish

**Christopher Downing** of Kensington, MD  
His interest: Marine

**Evan Jones** of Burke, VA  
His interest: Cichlids

**Ari Winer** of Clifton, VA  
His interest: Eels, Loaches, Gouramis and Tetras

This brings the membership total to 110 members!

### PVAS Membership Card Contest

The PVAS Board has decided to hold a membership card design contest. We want you to submit ideas and suggestions for the PVAS Membership Card that will be issued in 2002. The winner of the contest, to be announced at the PVAS Holiday Party, will receive a gift certificate or a PVAS auction credit worth \$50.00. Each year there will be a new membership card, so if your design is not selected for 2002, submit it again for 2003.

### From the Editors' Tank

Andrew Blumhagen

You might notice something a little different about this edition of the Delta Tale. Gussed it yet? There're no articles! OK, that's not completely true; we still have Shane's Venezuela Collecting Diary and some other things that we've put together, but I don't have any articles by PVAS members. So, got an article for us? We'd love to put together a great issue in time for the Fall Workshop and Auction but we need articles from you to make it a great issue. Remember, they don't have to be BAP articles. As long as they are fish or aquarium related, it's good to go in the Delta Tale.

We've printed the rules of the Breeders' Award Program in this issue. This is something we do periodically to remind members of how to participate in the program. There's been a lot of activity in the BAP recently with some new names added to the standings and a new leader. Don Kinyon recently knocked off Gerry Hoffman's long standing point tally and amazingly breached the 1,000-point plateau. Way to go, Don! How long will his record stand? Well, everyone thought that Mark MacGuire's single-season home run record couldn't be beaten either. Hopefully some new folks will take the challenge.

On a more serious note, one thing we did do for this issue is put together a number of excerpts from the various e-mail lists of sentiments from around the country and around the world expressed in response to the attacks on New York and Washington, DC. Even though it's been more than a month since then, many are still having difficulties in the aftermath of the national tragedy. We thought that printing some of the things that other aquarium hobbyists had to say might be helpful.

### Upcoming Bowl Show Classes

**October 2001**

Class I Discus

Class II Synodontis Cats

Class III Molly

**November 2001**

Class I Danios

Class II Rainbowfish

Class III Malawi Cichlids

**December 2001**

No Bowl Show

## The Bowl Show Rules!

### August 2001 Bowl Show Results

#### Class I Apistogramma

1<sup>st</sup> Place Francine Bethea -- 5pts

- *Apistogramma Panduro*

2<sup>nd</sup> Place Don Kinyon -- 4 pts

- *Apistogramma "Redspot Black Seam"*

#### Class II South American Killifish

- No Entries!

#### Class III Gouramis

1<sup>st</sup> Place Michael Kaiser -- 5 pts

- *Trichogaster leori*

2<sup>nd</sup> Place Michael Kaiser -- 4 pts

- *Trichopsis pumillus*

3<sup>rd</sup> Place Michael Kaiser -- 3 pts

- *Trichopsis vittatus*

Show Hank Darin -- 1 pt

- *Trichogaster leori*

#### Best in Show

Michael Kaiser -- 2 pts

- *Trichogaster leori*

### September 2001 Bowl Show Results

#### Class I Tetras

1<sup>st</sup> Place Pierre Gagne -- 5 pts

- Emperor tetra

2<sup>nd</sup> Place Nancy Johnson -- 4 pts

- Congo tetra

3<sup>rd</sup> Place Hank Darin -- 3 pts

- Red Blue Columbian tetra

Show Don Kinyon -- 1 pt

- *Pyrrulina sp.*

#### Class II Guppy

1<sup>st</sup> Place Hank Darin -- 5 pts

- Red guppy

2<sup>nd</sup> Place Hank Darin -- 4 pts

- Blue guppy

3<sup>rd</sup> Place Hank Darin -- 3 pts

- ¼ Black Yellow Tail guppy

Show Hank Darin -- 1 pt

- Albino guppy

#### Class III West African Cichlid

1<sup>st</sup> Place Nancy Johnson -- 5 pts

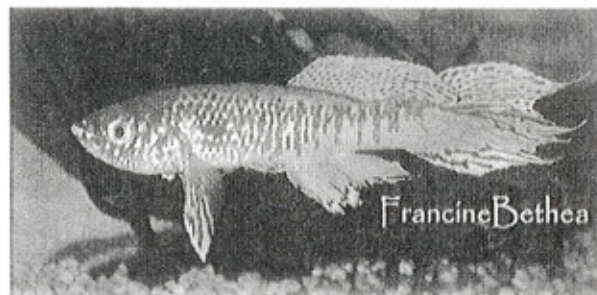
- *Pelvicachromis rotoli*

#### Best in Show

Pierre Gagne -- 2 pts

- Emperor tetra

The Bowl Show is really picking up. A heartfelt thanks goes out to all who bring their fish in to be shown. A special thanks also goes out the members willing to judge when asked.



## What's Happening

### PVAS Calendar

October 15: Monthly meeting, Fairfax, VA

*Note: Third Monday of the month*

November 2-4: Fall Fish Festival

November 12: Monthly meeting, Fairfax, VA

December 10: Holiday Party, Fairfax, VA

### Other Local Aquarium Clubs

CAKC-Chesapeake Area Killifish Club,

[www.pvas.com/cakc](http://www.pvas.com/cakc)

CMAS-Chesapeake Marine Aquarium Society,

[www.cmas-md.org](http://www.cmas-md.org)

GWAPA-Greater Washington Aquatic Plants

Association, [www.pvas.com/misc/plants.htm](http://www.pvas.com/misc/plants.htm)

NANFA-North American Native Fishes Association,

[www.nanfa.org](http://www.nanfa.org)

Contact information for local NANFA events,

[www.pvas.com/calendar/calendar.htm](http://www.pvas.com/calendar/calendar.htm)

WAMAS-Washington Area Marine Aquarium Society,

[www.wamas.org](http://www.wamas.org)



Line drawing by PVAS member Gene Moy

PVAS meetings are held at the John C. Wood Facility, Fairfax, Virginia. Directions and map are printed on the back cover of the Delta Tale.

## Fall Fish Festival November 3-4

A weekend of tropical fish fun featuring an outstanding slate of internationally known speakers and our annual fall auction, which has grown to be one of the largest and best in the country!

The featured speakers will give presentations at different times throughout the day Saturday and the auction will be held on Sunday. The event is FREE.

This year's slate of speakers:

Ray "Kingfish" Lucas - Collecting in Peru  
Rosario LaCorte - Killies  
Kent Webster - Rainbows  
Mike Trzonkowski - Aquatic Plants  
Dave Herlong - Malawi Cichlids

### Workshop Schedule

#### Saturday, November 3th

9:00 am.....Registration desk opens  
10:00 am..... Mike Trzonkowski - "Aquatic Plants"  
11:30 am..... Lunch break  
1:00 pm..... Kent Webster - "Rainbows"  
2:30 pm..... David Herlong - "Malawi Cichlids"  
4:00 pm..... Rosario LaCorte - "Killiefish"  
6:30 pm..... Dinner Banquet & Program  
Catered by R&R Catering

#### Banquet Speaker:

Ray "Kingfish" Lucas - "Collecting in Peru"  
\$20 for members. \$30 non-members  
(Registration is required by October 29)

### Auction Schedule

#### Sunday, November 4th

9 am.....Registration desk opens  
10 am.....Auction begins  
7pm.....Approximate end of Auction

Please see [www.pvas.com](http://www.pvas.com) for details

## Venezuela Collecting Diary

R. Shane Linder

#### April 10, 2001: General Catfish News

*Glyptopteryichthys* in Indonesia! I recently received an e-mail from a Discus breeder in Indonesia who sent me some pictures of a strange catfish common in ditches near his home. I knew that there were "wild" sailfin plecos in Singapore, Hawaii, Texas, and Florida but this is the first report I have heard of from Indonesia.

Feeding Problem Plecos: I wish I could take credit for this, but my hat is off to Norbert Flaugger of Casa Maria. I believe that this method could work wonders for raising tough fry and picky loricatoriids. Step 1) Grind your favorite fish food to bits. You can add any kind of fish food and even ground dried vegetables. 2) Separate an egg white from the yolk. 3) Mix the egg white and fish food. 4) Paint the resulting mixture on a flat rock or driftwood. 5) Let it dry rock hard. 6) Place it in the tank. The dry egg white will only dissolve very slowly in water. Your happy loricatoriids will eat away since this mimics their "natural" foods. Fry also benefit from the protein in the egg white.

#### July 5, 2001: The Hunt for *Farlowella*

I traveled to Aragua State in search of *Farlowella acus*. *F. acus* has a very small distribution range and is known only from the Lake Valencia drainage system. Sadly, most of this drainage is heavily populated with the result that the majority of the rivers and streams are very polluted. Previously, I had driven along the eastern end of the lake, from Maracay to San Francisco de Asis, and was unable to locate a single viable collecting location. However, I was not ready to give up and so I spent hours with a map tracing the courses of the rivers that flow into Lake Valencia trying to find one that might still be clean. I located two possible collecting locations northeast of the lake, the headwaters of the Rio Aragua above the town of La Victoria and the Rio Guayabita above the village of the same name. The map showed no towns upstream of the collecting locations, and I had driven past the headwaters of the Rio Aragua before and remembered that it appeared clean. The first collecting location was at the confluence of the Rios Aragua and Macanilla near the village of Santa Rosalia about 5 km north of La Victoria. The water at this location was crystal clear and about 70F. Both rivers were 15 to 20 feet wide with an average depth of 8-10 inches with occasional pools and cut banks up to three feet deep. The

substrate was fine sand and gravel in the slower portions and fist-sized rocks in the riffles. The banks were lined with bamboo and in many places the bamboo branches reached down into the water. There was very little driftwood, since the area is mostly treeless, and there were no aquatic plants.

Knowing the typical habits of *Farlowella*, I first sampled the overhanging, and partially submersed, bamboo leaves near the bank with a two by three foot hoop net. The first try brought up only a small *Rhamdia* sp. and the second a two-inch pike cichlid. My third scoop through the bamboo, however, struck gold and contained a single six-inch *Farlowella acus*. I immediately knew that I had the right fish when I saw the very short and broad rostrum. This *Farlowella* is a very pretty red-brown after capture, but turns golden with the two distinct darker dorsal stripes common in this genus shortly after capture.

Luckily, *F. acus* turned out to be the most common fish in the river and in 45 minutes I had captured over 25 specimens. I noted two distinct populations in regards to size. About half of the fish measured 2.5 to 3 inches SL and the other half all measured 4 to just over 5 inches SL. The smaller fish must represent last year's fry while the largest are all full-grown adults. All of the largest specimens (5 inches and over) are adult males. Since it is still early in the rainy season, and thus the breeding season, all adult males possess a full growth of odontodes along the rostrum.

I sampled about 200 feet of the river's course and only found *F. acus* among submersed bamboo leaves in areas with a moderate current. The water had a pH of near neutral and was very soft. Perhaps due to the low amount of nutrients, there was very little algae growth in the river. I believe that the diet of *F. acus* probably consists aquatic insects and larvae found on the bamboo leaves, as well as (possibly), the bamboo leaves themselves. The only other fishes captured at this location were guppies, a species of pike cichlid, L. 122, a *Rhamdia* sp., and an unattractive *Croagrus* sp. of tetra.

Shortly after I started collecting, a group of local men came to the river to collect rocks for the plaza in La Victoria. Interestingly enough, none of them had ever seen *Farlowella acus* and they had no common name for it. One guy stated that he had lived in and around

Lake Valencia his entire life and had never seen *F. acus* before.

*F. acus* is a very distinctive *Farlowella* with a short blunt rostrum similar to that of *Sturisoma* spp. All of the hobbyists catfish books that I am aware of misidentify this species (see Burgess, 1989: 747; Baensch, 1987: 488; Kobayagawa, 1991: 53; Axelrod, 1987: 451) and it is extremely unlikely that *F. acus* has ever been imported for the aquarium hobby. This is very sad, since given its endangered status, a captive breeding program should be undertaken by the hobby.

According to Retzer and Page (1997), there are two distinct populations of *F. acus* in the Lake Valencia basin. One population is from the northern and eastern tributaries and a second from the Rio Torito and southern tributaries. Their caudal markings and the relative position of the eye can differentiate the populations.

The second collecting location was the Rio Guayabita near the village of Polvorin about 8 km north of Turmero. This river was an example of what can happen to the habitat of *F. acus*. Small orange orchards populate the valley along the river. Unfortunately, the farmers have taken to using the river as their private trash dump. I observed the rather strange sight of a group of L. 122 rasping at algae on an old vinyl car seat in the clear water. After about 30 minutes of sampling I only turned up a few L. 122 and some guppies, both of which from my experience, can adapt to fairly polluted waters. The tetras, cichlids, and *Farlowella* were all absent from this environment.

Recreating the *F. acus* biotope: Although it is unlikely that this fish will ever be imported, this same information applies to *Farlowella vittata* as well. A 20 or 30 gallon "high" tank should be set up with a substrate of sand or small gravel. A power head with a sponge prefilter should be placed in each rear corner to provide a moderate current as well as biological filtration. If the aquarist has access to bamboo, simply cut a number of bamboo shoots, with the leaves still attached, and arrange them along the back and sides of the tank with the bottom of the shoot buried in the substrate. The shoots can then be replaced every few months after the leaves turn brown and start disintegrating. Bamboo shoots, especially in a tank with bright light, actually live a long time even under water. Alternatively, the bam-

boo can be replaced with a maze of branches or ton kin reeds.

#### July 8, 2001: Rios Tuy and Guare

We traveled to the upper Rio Tuy drainage in hopes of finding some viable collecting locations. On Highway 1 between Caracas and Maracay we exited south on Highway 6 towards Tacata. The map shows that Highway 6 crosses the Rio Tuy in the mountains and then follows the Tuy all the way to the town of Cua. After about 30 minutes on some very windy roads (although the views were fantastic) we crossed the Fila Las Vargas and descended into the Tuy drainage.

As is typical in the upper courses of rivers, the Tuy here does not run through a large flat floodplain but instead the river sits in a steep gorge making its way through the mountains. I was very excited when we finally reached the bridge before Tacata and unloaded the collecting equipment. Then the worst kind of disaster struck... no fish! We sampled about 200 feet of the river including pools, riffles, overhanging plants, and structure with both a ten-foot seine and a three foot hoop net and we did not turn up so much as a guppy. There are no major towns upriver from this collecting location and the pollution (tires, cans, and other trash) appeared no worse than normal

Upriver, the Tuy does form a large floodplain near El Consejo that is extensively used for growing sugar cane. Perhaps the farmers are using some sort of fertilizer and/ or pesticide that has killed off the fish? During my trip earlier in the week to the Rio Aragua, locals told me that there were lots of fishes in the Tuy above El Consejo at Quebrada Seca. So we know that there are fishes above El Consejo, and in the two largest tributaries of the Tuy after El Consejo (Rios Tarma and Guare), but we could not find any in the Tuy itself. This is really a shame since if you are familiar with Schultz' (1945) "The Catfishes of Venezuela," then you are aware that many catfishes were described or recorded by him at from the Tuy at El Consejo.

After all that driving, I was hardly ready to call it a day and we continued southeast to Tacata. From Tacata, a small road (Road 7) branches south and runs through the village Tacata Arriba and continues to Altagracia de La Montana basically following the Rio Guare. We decided to take this road and see if the Rio Guare was in a better state than the Tuy. We finally stopped where Road

7 crosses the Rio Guare above Tacata Arriba (I mean literally crosses as there is no bridge and the river must be forded).

We quickly learned that the Rio Guare is still teeming with fish and the first scoop of the hoop net produced a big surprise, a *Farlowella*. I have carefully checked all of my resources at hand and can find no previous records of *Farlowella* from the Rio Tuy drainage. Schultz (1945) mentions a specimen of *F. acus* that he observed from Eigenmann's 1920 collection with the locality "El Consejo, Rio Tiquirito, Venezuela." I am unable to locate the Rio Tiquirito on any map (perhaps the name has changed), but just east of El Consejo is the village of Tiquire (Tiquirito means little Tiquire) that is located in the Lake Valencia drainage. This would be a logical location for *F. acus* since this fish is known only from the Lake Valencia drainage. However, it still means that there are no records of any *Farlowella* species from the Rio Tuy drainage.

Despite my early luck, I was only able to collect two three-inch specimens over the day. This *Farlowella* has a long thin rostrum like *F. vittata* and the caudal fin markings are very distinctive. There is dark brown pigmentation along the upper and lower portions of the caudal, but the pigmentation is completely broken halfway along the fin by a clear ocelli. According to Retzer and Page's 1997 revision of *Farlowella*, this caudal pattern is not present in any long-nosed Venezuelan *Farlowella* species.

We also turned up more specimens of L. 122. The distribution of this species raises several questions since I have now found it in the Orinoco basin (Rio Zuata), Lake Valencia basin (Rio Aragua), and the Rio Tuy basin (Rios Guare and Tarma). Either this species has a very wide distribution or we are dealing with a complex of closely related loriciids found throughout northern Venezuela. I have on hand specimens from the Rio Aragua and will collect some soon from the Rio Zuata in order to make detailed observations of the three populations. There is also a very similar appearing species from the upper Rio Orinoco in southern Venezuela that has a deeply forked caudal and has also been imported to Germany as L. 122.

Lastly, we found a little *Chaetostoma* species very similar to L. 187 (Aqualog p. 70). This fish was abundant and we caught specimens ranging from fry that had just absorbed their yolk sac to adults measuring four inches total length. Other fishes captured included a species



of tetra with a small red spot on the caudal peduncle (very similar to the tetra sp. in the Rio Zuata), a pike cichlid, and guppies.

#### August 26, 2001: *Ancistrus* and other things

While doing my weekly water changes I found out that my *Ancistrus* sp. "Rio Chirgua" had spawned. The fry look to be a few days old. Quite a surprise as this is the first species of loricatoriid that I have collected myself, maintained, and eventually spawned. I missed the entire act and simply found the fry when I moved a piece of driftwood. A pretty amazing spawning since they were in a 40 gallon tank with 7 *Ancistrus*, 2 *Farlowella*, 7 *Rineloricaria*, a handful of tetras and a five inch *Gymnotus carapo*.

We went down to Camatagua to do some collecting and fishing, but neither worked well. The rivers and streams are so full of water that collecting is just not practical. The hook and line fishing was better and my little brother (who is visiting) was very happy to catch a 16 inch *Cichla temensis*. We also caught *Cichla ocellaris*, but no silver dollars, piranhas, or catfishes, which are all normally very common. The rain is pretty heavy and we spent two hours on our small boat in a heavy tropical rain-storm. My brother could not believe how heavy the rain was, nor the fact that it was 90F and pouring on us!

### Supporting Shops

The following local shops have donated to PVAS auctions or assisted in distributing the *Delta Talo*:

Centreville Aquarium  
13830-15 Lee Hwy  
Centreville, VA 20120  
Phone: (703) 266-2100

Congressional Aquarium  
142 Congressional Lane  
Rockville, MD  
Phone: (301) 881-6182

Noah's Ark  
29 East Jackson Street  
Front Royal, VA  
(540) 622-2899

Pets World Incorporated  
13633 Dumfries Road  
Manassas, VA  
(703) 791-5565

Totally Fish  
14332 Layhill Road  
Silver Spring, MD 20906  
Phone: (301) 598-2229  
[www.totallyfish.com](http://www.totallyfish.com)

Tropical Fish World  
Walnut Hill  
Shopping Center  
Gaithersburg, MD 20877  
Phone: (301) 921-0000  
[www.tropicalfishworld.com](http://www.tropicalfishworld.com)

Tropical Lagoon  
9439 Georgia Avenue  
Silver Spring, MD  
(301) 585-6562

Special thanks to *Totally Fish* for their generous donations of gift certificates and merchandise for the Summer auction.

## Worldwide Sympathy

Alysoun McLaughlin

As we stared in awestruck horror, a month ago, at the first searing images on our television sets of the devastation at the World Trade Center, we were also shocked to learn of a second attack in our own area, at the Pentagon. Several PVAS members were worried about relatives, friends, neighbors and colleagues who work in the Pentagon, or in the financial district in New York, or who were scheduled to travel that day. Many of us who work downtown were evacuated from our office buildings and joined in the confusion of traffic trying to reach the safety of our own homes. Living and working in the shadows of the nation's monuments and the seat of the federal government, we remain worried about the potential for a nuclear, chemical or biological attack.

Our thoughts continue to return to the horrible images of the devastation in New York. Our heartfelt sympathies and warmest wishes go out to those who were affected by that attack, particularly our exchange partners in the Greater City Aquarium Society, the Brooklyn Aquarium Society, the Central New York Aquarium Society and the North Jersey Aquarium Society.

Although the attacks have disrupted many of the normal activities of our lives, such as the aquarium hobby in which we find so much peace and enjoyment, we also gain comfort in the warmth of human contact with the friends and acquaintances we have all made through our involvement with the hobby. In addition to the friends that we have all made within PVAS, many of us have developed a camaraderie with other "fish geeks" around the world through our participation in online listservs and discussion boards. We were touched by the warmth of feeling contained in messages such as these below, posted to the Aquatic Plants Digest and the Apistogramma Mailing List:

\*\*\*\*\*

Subject: Shock  
Date: Tue, 11 Sep 2001

While this is off topic, I hope that it is appropriate.....

I'm both shocked and saddened by today's events in Washington and New York. My thoughts and prayers are with those affected in any way by these cowardly acts of terrorism. I trust in the strength and integrity of

the United States as a country and its citizens as individuals to weather this latest situation. To all my American friends, the world is with you.

Toronto

\*\*\*\*\*

Subject: deepest sympathy  
Date: Wed, 12 Sep 2001

Words cannot begin to express the deep sense of shock and sorrow my wife and I felt when we saw the images on TV of the twin towers imploding upon themselves. We may be very far away but our hearts are with you. God bless America.

Singapore

\*\*\*\*\*

Subject: Shock and Sorrow  
Date: Wed, 12 Sep 2001

In over 20 years of working in SE Asia and Japan as a writer and newsman what I have seen on CNN and the BBC is a shock. I have survived the Tokyo subway gassing by Aum Shinryikyo, been in Beirut and traded comments with the Maoists in Nepal. But, yesterday was the worst day this boy from Stoney Creek has ever known. I was talking to a friend in NY on Yahoo Messenger and she went offline in midsentence. She didn't come back online. That was 11pm JST or around 9am NYT. Today, I found out she was at work when we were chatting and her company's offices were on the top floors of WTC. I think we have all lost friends but, never did I think one of my friends would be in danger's way.

Tokyo

\*\*\*\*\*

Subject: Terrorism  
Date: Wed, 12 Sep 2001

We at Bolton Museum would also like to pass on our feeling of shock and disgust by yesterday's events, and our deep sorrow to the people of the U.S.

Bolton Museum Aquarium  
United Kingdom

\*\*\*\*\*

Subject: Re: Shock and Sorrow  
Date: Tue, 11 Sep 2001

I live in Manhattan, have spent a lot of time in and around the World Trade Center, and was just there on Friday, 9/7. As fish keepers, we should perhaps be more aware than most people of just what a fragile and valuable thing life is — not just the lives of Americans or even just the lives of human beings. Americans, Chinese, Arabs, fish, plants — to name just a few — we are all denizens of one big glass tank. I would like to think that had the perpetrators of this horrible crime been members of our hobby, they could have not found it in themselves to wreak the wanton death and destruction that they have.

New York

\*\*\*\*\*

Subject: Shock  
Date: Tue, 11 Sep 2001

>I'm deeply shocked by yesterdays events. My prayers  
>go out to the victims and their families. This was a  
>brutal mass murder of innocent civilians.  
>  
>Maryland

I know what you mean. It's hard to believe it's real. I live in Philly and we were pretty concerned too. Prayers are a good thing. The same one who made the fish we love so much also I believe wants to bring us comfort at this time.

Pennsylvania

## Industry Supporters

Aquarium Pharmaceuticals, Inc.  
Aquarium Systems  
E. G. Danner Mfg., Inc.  
Freshwater and Marine Aquarium Magazine  
Hikari Sales USA  
Jungle Laboratories Corp.  
Marineland Aquarium Products  
Novalek  
Omega One  
OSI Marine Lab., Inc.  
Penn Plax, Inc.  
St. Jon Group (parent of Mardel Labs)  
Tetra  
TFH Publications

## BAP Corner

John Mangan

### Standings

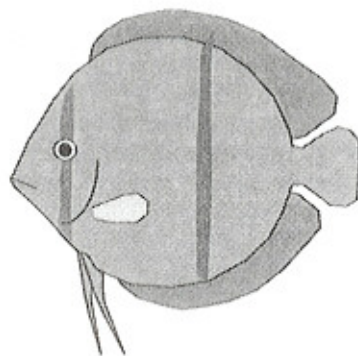
<u>PVAS Member</u>	<u>Points</u>	<u>Award Level</u>
Don Kinyon	1035	Master Breeder
Gerry Hoffman	945	Master Breeder
Jeffrey Burke	445	Advanced Breeder
Lorne Williams	345	Advanced Breeder
Gene Moy	290	Intermediate Breeder
Francine Bethea	235	Intermediate Breeder
John Mangan	185	Intermediate Breeder
David Snell	170	Intermediate Breeder
Dov Goldstein	165	Intermediate Breeder
Bill Pabst	125	Breeder
Shane Linder	85	Breeder
Lee Hardy	30	Breeder
Robert L. Smith, Sr.	20	Breeder
Debbi Smith	20	Breeder
Kelly Kinyon	10	Breeder

Although it seems like Summer just ended its not too soon to start thinking about the end of the year where the BAP is concerned. If you need to get some more points to bring you up to the next level get those fishes breeding soon. Paperwork needs to be in my hands by December 3rd so everything can be processed and award certificates made up. For those new members not familiar with the BAP - there are several levels of achievement within the program. Points are given for each different species of fish you breed and as your points add up you receive awards that are given out at the December PVAS meeting. The complete BAP rules are being printed in this issue of Delta Tale. Anyone having any questions can see me at one of our meetings or the upcoming auction.

***More checkers are needed. There are a number of areas where we don't have anyone. Even if there is someone already listed for your area we could always use someone else to help spread the work around.***

## BAP Checkers

<u>Checker</u>	<u>Area</u>
David Snell.....	Centreville/Chantilly/Manassas (703) 968-9084
Mike Cardaci.....	Centreville (703) 222-3833
Robert "Smitty" Smith.....	East Prince William County/ Springfield (703) 490-4048
Dov Goldstein.....	Frederick (301) 694-7582
Don Kinyon.....	Manassas/Rte 66 Corridor/ Far West Suburbs (540) 635-9559
Gene Moy.....	Mt Vernon/Alexandria (703) 765-0865
Rick McKay.....	Oakton/Vienna (703) 281-1647
Francine Bethea.....	North Prince George's County (301) 809-3894
Lorne E Williams.....	South Prince George's County (301) 630-7674
Doug Patac.....	Prince George's / Montgomery Counties (301) 743-6908
Pete Thrift.....	Springfield/Franconia (703) 971-0594
Gerry Hoffman.....	Warrenton/Manassas (540) 347-7486
John Mangan.....	Occuquan/Lake Ridge (703) 491-4980



*Line drawing by PVAS member Gene Moy*

## Breeders' Award Program Rules

### Purpose:

The purposes of the program are:

1. To promote the keeping and breeding of fishes
2. To recognize outstanding achievements in the breeding of fishes
3. To encourage research into the spawning of the more difficult species of fishes
4. To make accounts of successful spawning techniques available through the Delta Tale and through association at the general meetings

### Program Eligibility:

All members of PVAS in good standing, except for corresponding members, are eligible to participate in the program.

### BAP Committee:

The BAP Committee shall consist of five members. The Chairman shall be appointed by the President of PVAS. The remaining four members shall be appointed by the Chairman, with the consent of the Board of Governors. The President of PVAS is *ex officio* a member of the committee.

### Function and Authority of the BAP Committee:

The committee shall oversee and enforce all of the rules and regulations governing the BAP. Among these are verifying and awarding points to qualifying members, keeping proper records, making appropriate awards to qualified members, and reviewing the rules and regulations at least once a year for possible improvements.

### BAP Checkers:

The BAP Checkers are appointed by the BAP Chairman and are empowered to verify all spawnings. If you have a spawning which needs to be verified, contact the checker nearest to you and arrange for the necessary appointment to check the fish. If you are unable to contact your nearest checker contact one of the other checkers or a BAP Committee member. BAP Committee members are empowered to verify all spawnings. The forms which must be completed to report a spawning may be obtained from a checker or a BAP Committee member.

### The Program:

The program is composed of five levels of achievement. These levels and their requirements are as follows:

**Breeders' Award** - Attainment of 50 breeding points from any of the categories.

**Intermediate Breeders' Award** - Attainment of Breeders' Award status and a total of 150 points from any of the categories.

**Advanced Breeders' Award** - Attainment of Intermediate Breeders' Award status and a total of 300 points, including at least 100 points from category 2 or category 3. Fishes from category 7 worth 15 points may also be included.

**Master Breeders' Award** - Attainment of Advanced Breeders' status and a total of 500 points, including at least three species from the Category 5 (Difficult List) and Category 6 (Target List).

**Grand Master Breeders' Award** - Attainment of Master Breeders' Award status plus spawning of at least one additional species on the Target List (Category 6) over and above those spawned for Master Breeders' status.

### Acknowledgments:

Attainment of any of the five levels will be recognized in the Delta Tale and at the next general meeting. Awards are presented each December at the annual Christmas meeting. Acknowledgments are also posted on the PVAS web site.

### Requirements:

Breeding points are awarded upon proof of spawning in any of the categories. Points may be gained only once for each species. Color morphs are not eligible for additional points. The one exception is albino. In general, albino forms are thought to present some additional difficulty in regards to sensitivity and raising of fry.

Spawning is defined as: for 10 point fish, raising at least 10 fry to 30 days of age after hatch/birth, or release of fry in the case of mouthbrooders. For all higher point fishes, raising at least 10 fry to 60 days of age.

Spawning is defined as the physical act of mating. A mating of killifish is considered to be the total quantity of eggs deposited and fertilized during a one week period, and all of the fry hatched from the one week breeding are counted as part of one brood for the purposes of satisfying the BAP requirements.

Spawns must be the product of eggs fertilized through breeding a pair of fish in one's own tanks, and not the result of obtaining eggs or gravid fish from another breeder and then hatching the spawn.

Any fish not included, or not adequately covered, in the existing categories may be assigned points by the BAP Committee upon written request. This request must be made prior to the awarding of points.

Following a successful spawning, it is the breeder's responsibility to assure that his points have been properly verified and reported. A spawning report must be submitted in order to receive points. A copy of the Breeder's Award Form, that is to be used for this purpose, is attached. This may be photocopied, or additional forms may be obtained from any checker or the BAP Chairman.

***The first verification/inspection for all categories of breeding must be performed within 10 days of hatching/birth.***

The requirement for 10 fry may be waived by the BAP Committee when a fish is known to generally produce less than that number in an average spawn. Requests for such a waiver must be made to the BAP Committee in writing prior to awarding of points.

There is no intent under this program to require the tearing down of a tank to look for eggs. The sight of free swimming fry is enough to trigger the start of the reporting process. Questions in this area should be referred to a BAP Committee member for resolution.

#### **Proof of Spawning:**

The first verification/inspection for all categories of breeding must be performed within 10 days of hatching/birth. For 10 point fishes, this first notification may be made by telephone to a checker, or any other member of PVAS in good standing, who can then verify the call by signing the BAP Form at the next general meeting. All 15 and higher point fishes must be verified and inspected within 10 days by a BAP Checker or Committee Member.

The second verification and inspection for all categories must be made by a BAP Checker or Committee Member. Depending on the category, the fry must be at least 30 or 60 days old, and in the correct number (at least 10 unless approved otherwise), at the time of the inspection. The fry may be brought to a general meeting for verification.

For all 15 point and higher category spawnings a sum-

mary of the spawning procedure must be submitted. This may be in writing, for publication in the Delta Tale, or as an oral presentation at a general meeting. This written or oral report must be submitted within 4 months of submission of the BAP Form to receive credit for the spawn.

For all categories a Breeder's Award Report Form must be submitted to the BAP Committee. Any spawning may be investigated at any time by the BAP Committee.

Any BAP Committee Member or Checker wishing to claim points must do so in the prescribed manner. BAP Committee Members or Checkers may not verify their own spawnings.

#### **Changes and Modifications to the Rules:**

From time to time the Committee may feel that certain changes or modifications in the rules may be advisable. The Committee will adhere to the following procedures should it wish to make changes to the rules and regulations:

A date of the modification or change will be chosen by the Committee.

The proposed change, with the effective date will be published in a conspicuous manner in the Delta Tale at least 3 months before the effective date of the change. Requests for category changes must be submitted to the Committee in writing. The requester will be notified in writing as to the action taken.

All appeals from the ruling of the BAP Committee must be made in writing to the PVAS Board of Governors for a final decision.

No reduction in points is retroactive. However, when a change results in upgrading points, award of the additional points to the breeder depends upon meeting any and all of the additional requirements imposed upon the new category.

#### **Categories:**

##### **Category 1 - 10 point fishes:**

Any Species of livebearing fish, except as noted elsewhere

***The second verification and inspection for all categories must be made by a BAP Checker or Committee Member.***

Any Species of cichlid, except as noted elsewhere  
Any species of Cyprinid (barbs, danios, white clouds, etc.) except as noted elsewhere  
Any species of rainbowfish, except as noted elsewhere  
Any species of plant/mop spawning killifish, except as noted elsewhere

#### Category 2 - 15 point fishes:

Any *Gambusia* species, except as noted elsewhere  
*Brachyrhaphis rhabdophora*  
*Heterandria bimaculata*  
Any species of dwarf cichlid (under 4" at maturity), except as noted elsewhere  
Any endemic Rift-lake substrate spawning cichlid, except as noted elsewhere  
Any species of *Geophagus*, except as noted elsewhere  
Angelfish (freshwater)  
*Cyphotilapia frontosa*  
Goldfish & Koi  
Rainbowfishes of the genus *Glossolipsis*  
Bottom spawning African Killifish (see appendix I)  
Any species of Anabantoid, except as noted elsewhere  
Any species of goby, except as noted elsewhere  
*Badis badis*  
*Elassoma evergladei*

#### Category 3 - 20 point fishes:

New World large cichlids, except as noted elsewhere  
Chromides (*Etoplus*)  
Any species of catfish, except as noted elsewhere

#### Category 4 - 25 point fishes:

Bottom spawning South American killifish (see appendix I)  
Any species of Characin, except as noted elsewhere

#### Category 5 - Difficult species, 30 point fishes:

The following species whose spawnings have been recorded, but are still rare or considered difficult.  
*Anableps* species  
*Belonesox belizanus*  
Any species of discus (*Symphysodon*)  
*Cichlasoma severum*  
*Crenicara filamentosa*  
*Geophagus jurupari*  
Kissing gourami (*Helostoma*)  
Chocolate gourami (*Sphaerichthys osphromenoides*)  
Neon tetra  
Cardinal tetra  
Any species of silver dollar or piranha (*Serrasalmus*, *Roosevolfiella*, *Pygocentrus*, *Metynnis*, *Myopus*, etc.)

Any species of Rasbora  
Any species of puffer (Tetraodontidae)  
Any species of whiptail cat (Loricaria)  
Any species of bristle-nose cat (*Ancistrus*)  
African butterfly (*Pantodon buchholzi*)  
Any species of leaffish (*Monocirrhus*, *Polycentropsis*, *Polycentrus*, etc.)  
Any species of halfbeak (Hemiramphidae)  
Any species of stickleback (Gasterosteidae)  
Spotted headstander (*Chilodus punctatus*)

#### Non-designated species:

A difficult species of the breeders choice may be substituted for one of the above. In order to qualify species for this, the breeder must submit a written request to the BAP Committee prior to the awarding of points. A complete explanation of the request is required. This sub-category may be used more than once to qualify for Master Breeder status.

#### Category 6 - Target species, 50 point fishes:

The following are species whose spawnings have not, or very rarely, been reported by the home aquarist.  
Any species of loach  
Any species of Loricariidae, except as noted elsewhere  
Glass Catfish  
Any species of *Scatophagus*  
Any species of Headstander (*Anostomidae*), except as noted elsewhere  
Any species of fish naturally found exclusively in salt-water, except as noted elsewhere  
Any species of Hatchetfish (Gasteropelecidae)  
Any species of Glassfish (Centropomidae)

Non-designated species - A difficult species of the breeders choice may be substituted for one of the above. In order to qualify species for this, the breeder must submit a written request to the BAP Committee prior to the awarding of points. A complete explanation of the request is required. This sub-category may be used more than once to qualify for Master Breeder status or Grand Master Breeder status.

#### Category 7 - Special Assignment:

7A 10 points, less than 10 fry of the following will be accepted.  
*Heterandria Formosa*  
*Poecilia latipunctata*  
7B 15 points, less than 10 fry of the following will be accepted.

*Cyprichromis nigripinnis*  
*Lamprologus moeli*

### Appendix I

The three different categories into which killifish are divided in this program reflect the varying degrees of difficulty found in spawning these fishes.

Category 1 - 10 point fishes covers all of the plant spawners. They spawn readily in mops or in a planted tank and the eggs hatch in about two weeks. In general the fry are not difficult to raise.

Category 2 - 15 point fishes covers the African bottom-spawners. While they are usually spawned over a peat or fine sand bottom, many of them will spawn on bottom mops. The usual method of hatching involves storing the eggs in peat moss for a period of several weeks or months during which time the eggs may be lost to fungus or bacteria. It is this additional step that gives the added point value to these fishes.

Category 4 - 25 point fishes covers the South American spawners: *Cynolebias*, *Pteolebias*, *Austrofundulus*, *Rachovia*, *Simpsonichthys*, etc. These are the true "ploughs" who completely bury themselves in the spawning medium (usually peat) before the eggs are released. They have been found to be more difficult to maintain and to spawn than the African bottom-spawners and the fry are generally more difficult to raise.

### Appendix II

The names, both common and scientific, used above are to be considered as an aid to identification and placement of species only. A fish may be known under a number of different common names, and scientific names may change. If there is any doubt about placement of identification of a species consult the BAP Committee for assistance.

### Trading Post

**For Sale:** Plastic fish bags and back issues of aquarium magazines, many different titles. Send SASE for catalog to John Mangan, 12633 Oakwood Dr., Woodbridge, VA 22192.

**Your Ad Here:** PVAS members may place an ad in the *Delta Tale* for free. Simply e-mail your notice to [delta@pvas.com](mailto:delta@pvas.com) and it will be included in the next issue.



Photo by PVAS member Francine Bethea

## Exchange Report: Reprints of Recent Delta Tale Articles

Nancy Johnson

The following articles by PVAS members were recently reprinted by other aquarium societies with which we exchange publications:

Book review of North American Native Fishes for the Home Aquarium, reviewed by Nancy Johnson in *Delta Tale*, reprinted in *Modern Aquarium*, Greater City Aquarium Society, NY

Advice for a New Planted Tank, by Bill Pabst, reprinted in *The Fish Fancier*, Houston Aquarium Society, July/Aug. 2001

*Nanochromis transvestitus*, by Francine Bethea, briefed in *All Cichlids*, Michigan Cichlid Association and reprinted in *Tank Topics*, Greater Akron Aquarium Society

Mentioned in *Fin Fax*, Delaware County Aquarium Society:

My First Reef Aquarium, by Andrew Brumhagen  
The Colors of *Corydoras*, by Don Kinyon  
Advice for a New Planted Tank, by Bill Pabst

Mentioned in *Aquatica*, Brooklyn Aquarium Society:

*Ancistrus dolichopterus*, by Gene Moy  
*Apistogramma geophyra*, by Francine Bethea  
*Aplocheilichthys lineatus*, by Bill Pabst  
*Corydoras duplicarous*, by Don Kinyon  
*Corydoras elegans*, by Gene Moy  
*Neolamprologus brichardi*, by Don Kinyon  
*Tanichthys albonubes*, by Francine Bethea

## Research Grant Available

The North American Native Fishes Association (NANFA) will award a minimum of \$1,000 in one or more grants for research to aid the conservation of native fishes, particularly those threatened or endangered. Academic researchers, conservation groups and hobbyists are all eligible.

"Forty species and subspecies of American fishes are extinct. About 34 percent of the remaining 1,020 species are endangered or threatened, or at risk. "North America's temperate ecosystems are dying out as fast as those in tropical forests," according to NANFA president Bruce Stallingsmith, Ph.D.

Details: <http://www.nanfa.org>. You can reach Stallingsmith at 256-824-6992 or fundulus@hotmail.com.

## Flowering *Didiplis diandra*

Winnie Pitzeruse

*This article is reprinted from The Reflector, a publication of the Central New York Aquarium Society.*

*Didiplis diandra*, also known as water hedge, is a small bunching plant that resembles a pine tree branch. I purchased two clumps that had several plants in each, removed the bottom leaves (soft needles) and planted them about 1 inch apart in a group. Half were planted in a 55 and half in a 10 gallon. I discovered very small flowers in the junction of the stalk and leaf.

Several months passed; the *diandra* grew taller and new shoots sprouted from the main stem. The new growth is a lighter green and much to my surprise had flowers. The flowers seem to last and slowly go to seed, turning brown as they do. Seed propagation would be fun if I could figure out how to easily pollinate and collect these tiny seeds.

The temperature is 75 to 78, pH 7.4. I use a single strip-light with a Gro-Lux bulb, and perform a 25 percent water change every two weeks. I don't add fertilizers in this well-established tank with a moderate fish load. However, there are 11 *Corydoras* and their constant movement and nosing in the gravel has uprooted several plants. The *diandra* has stayed planted, housed with guppies that don't disturb it.

## Mouth Brooders: Stripping vs. Holding

Marcelo Casacuberta & Pam Chin

*This article is reprinted in part from the January/February 2001 issue of the CICHLIDAE Communique, a publication of the Pacific Coast Cichlid Association.*

One of the great joys of keeping fish is being able to successfully breed and raise up the fry of your favorite fish. However, there is a certain amount of responsibility that you incur when trying to do this. You must consider the political, moral, ethical, and biological issues, as well as the more practical, effective and more inventive ways. Thus is the case with stripping, which is the removal of eggs or fry from the mouth of brooding females before the incubating period has finished. This technique can help us successfully breed all these species. But, are we abusing it?

This behavior of mouthbrooding is a unique breeding strategy, found in many other fishes, such as catfish, Anabantoids and Arowanas to name just a few. Even some saltwater fish use this technique. Many researchers believe that mouthbrooding means an advance in the evolution of reproductive methods, since it provides an extended protection to the offspring. When the young ones are finally released, they are larger and have a much higher chance of survival.

When a mouthbrooder keeps swallowing, you have nothing to lose by stripping and hatching out the fry yourself. This allows hobbyists to get new and rarer species that the fish farmers have no interest in breeding. Perhaps they are not as colorful, or they are just not in demand, but these mouthbrooders would not be available if the hobbyists were not raising the fry.

Stripping is also performed to shorten the fasting period that many mouth-brooders practice while holding, and to get the fish back in breeding condition sooner. The majority take no food while incubating. They are adapted to do so and can handle it without suffering or physical damage. Which is more stressful: Holding for 21-28 days with no food intake or having your mouth pried open with a paper clip and shaken around in a tub of water for 5 minutes? Do they remember this adventure? It is unlikely; a *frontosa* can't even remember the rock in the middle of the tank. So, it is doubtful that the stress of stripping is going to have a lasting effect.



A good trick to reduce stress in chasing your females to death is to turn off the aquarium light during the day; after dark, turn on the light and the fish will be sleepy and easy to catch. (At least for the first 3-4 minutes.) Catch the female in a jar with water from her tank. Turn the lights off again and use a flashlight to walk to the maternity tank. She won't notice what has really happened until the next morning and incubation can go on normally. Using this simple way, I have never had a female spit or swallow the eggs.

Stress is not the only issue; there are others that believe stripping affects the maternal behaviors of these mouthbrooders. In the wild, a brooding female can swim away from the spawning site and look for shelter. Only the smartest fish are able to reproduce and raise viable fry, which suggests that these progeny would have a much better chance to reproduce also. In our tanks this is just impossible. After a few generations of stripping, however, it is possible that what we are actually seeing are bad parents—fishes that would not have reproduced in the wild. And perhaps that is why we cannot get them to hold in the aquarium!

Some experienced breeders have observed that stripping has no bearing on whether or not females hold. After several successive generations, stripping doesn't seem to affect their ability to hold at all. It appears that holding is an instinct that is imprinted in the fry and has nothing to do with learning it from their parent(s).

You can also find written accounts of hobbyists that suspect there can be serious side effects. Like the experiences of a breeder who used to strip his females after 10 days of incubating the fry. Once those young reached maturity, the females would only hold their fry for ten days, and if not stripped before then, they ate them! Experiencing the whole brooding process, including being released and allowed to reenter the maternal pouch until becoming fully independent could be the way the fish acquire the patterns to follow in their reproductive life.

*Labidochromis* females show no interest at all for offspring once they are out of her mouth. It is equally amazing to see the eyes of the fry swimming inside the maternal pouch, trying to take a look at the world outside, just a couple of days before being released. These are the kinds of sights we miss when we take a shortcut from what should be used more as a last resort. Strip-

*Continued on page 13*

## Some of My Fish Room Blunders

Lenny Ancheta

*This article is reprinted from the January/February 2001 issue of AQUA NEWS, a publication of the Minnesota Aquarium Society.*

I was recently sitting in my fish room after one of the many blunders I have made over the years and thought that maybe I should write an article. Hopefully it will be interesting reading and maybe someone will avoid making a mistake or two. In no particular order, here are some of mine.

### Jumping Fish

This will most likely happen to everyone sooner or later. I have had fish as small as killifish and as large as Chocolate Cichlids jump out at my house. However, at pet shops, I have seen all manner of fishes on the floor. On more than one occasion, I have seen large common plecos, not even thought of as jumpers, on the floor. I find that fish jump at my house for 3 main reasons:

1. Aggression and stress from nasty tank mates. I have been amazed at fish that commit suicide through holes I never thought possible. Never underestimate the desperation and athletic ability of a fish under attack. Keep a tight seal on your tanks and provide plenty of cover in aggressive tanks. Keep in mind fish that are not known as aggressive can become that way when spawning behaviors start.
2. Feeding time is another time I have lost fish to jumping. It only takes a moment of distraction for a fish excited at the prospect of food to jump.
3. At water changing times I usually change a lot of tanks at the same time. Even though the tank top is off you wouldn't think that a fish could jump out with the water level down.

### Overfilling Tanks

So you say you have never done this. Well, you must only have one tank. This is my plea for an inventor/entrepreneur to make his mark on the fish world. Of course my fish room floor won't stay as clean as it does now. Here are my requirements for this device, which must screw on to the end of any standard garden hose.

## Fish Food Experiment

Chris Graham

1. It must attach to the tank but not go into the water so I don't spread things like hydra, snails, duckweed, or diseases from tank to tank.
2. It needs some kind of diffuser for smaller tanks. I just want to flick a switch to lower pressure level. How about high, low & off?
3. The deluxe model could also have a temperature sensor so when some knucklehead flushes the toilet or decides to start running hot water, I'll have some warning and automatically shut off. That way I won't boil or freeze my fish.
4. Oh yeah. Automatic shut off. I need either that or a remote control to turn the water off.

### Dechlor

You may think it's no big deal, but those hard to find, expensive and wild caught fish are always the ones to die when you don't use it.

### Preventative Maintenance (or lack of it)

Once a month or more, turn off the electricity to your fish room for five minutes and then turn it back on. Then go around and see which heaters are sticking on. I use two smaller heaters instead of one large one.

After you have checked the heaters, go around and check the filters. Whichever ones did not come on are the ones that will fail while you are on vacation or too busy to notice. Any filter with an impeller should be checked. I have a dentist pick that I use to restart my impellers, although on some models you can jiggle the J-tube to get them flowing again. However, if you are like me, you will find yourself running to the basement in a panic every time you see a digital clock flash. I try to have 3 kinds of filtration in every tank.

### Rubber Bottom Shoes (the need for)

Electricity and water are a dangerous combination and fish rooms have a lot of potential for shocks. I have experienced voltage leaks from power heads, broken heaters, numerous lights and other electronic devices dropped in the water. I have been OK so far -- as long as I do not touch metal and am wearing rubber bottom shoes.

*This article is reprinted in part from the July/July edition of Tank Topics, a publication of the Greater Akron Aquarium Society. Chris Graham is a 7th grader.*

I began this project in my science class. Then I got very interested in the idea and wanted to know more. Guppies were 1.25 inches for the male and 1.75 for the female, with about 12 fry in each of two 10-gallon experiment tanks: pH 7.4, dH 10. I had duckweed and hornwort floating on the surface. It had a box filter, an incandescent light and a 75-watt heater. Water was kept at 76 to 78 degrees.

Live and frozen foods used: baby brine shrimp, daphnia, blood worms as they matured and adult brine. Dry foods used were WTA select spirulina flakes, WTA select prime flakes and Aquarian tropical flakes. Fish were fed 4-5 times/day, 20 percent water changes twice a week.

A month and 2 days later the live/frozen eating guppies began showing color, but 11 days after that the flake-eating guppies began showing color. Both groups grew to be healthy adult fish, but the group fed live and frozen food matured and bred two weeks sooner. Overall, this experiment helped me to see how foods can really make the fish grow. I would have loved to enter my experiment into the science fair, but I had an aquarium meeting to go to!

I'd like to dedicate this article to my 7th grade science teacher, Mr. Ile at the North Canton Middle School. If it weren't for him I wouldn't have learned what I have about fish foods. I was going to do my research on radiation but he told me I should do my research on something that I love.

*Mouthbrooders, continued from page 12*

ping can make things easier for us, but we may be missing so much of what our fish have to offer us.

Like any controversial issue, stripping has supporters and fierce detractors. Stripping is an ingenious technique that enables the hobbyist to breed some challenging species, or obtain fry from inexperienced or shy females, but it can be tempting to adopt it as a standard procedure to use in our tanks. We just shouldn't over-use it to the point of forgetting what a mouthbrooder really is.

POTOMAC VALLEY AQUARIUM SOCIETY  
Post Office Box 664, Merrifield, VA 22116

**Application for Membership**

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Street: \_\_\_\_\_ Apt.: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

**Optional information**

Occupation: \_\_\_\_\_

Where did you hear about PVAS/get this application?

Number of aquariums: \_\_\_\_\_ Time in the hobby: \_\_\_\_\_

Special interests: (e.g., catfish, cichlids, etc.)

Reason for joining:

Membership dues for PVAS are:

Individual/Family: \$12/yr

Corresponding: \$9/yr

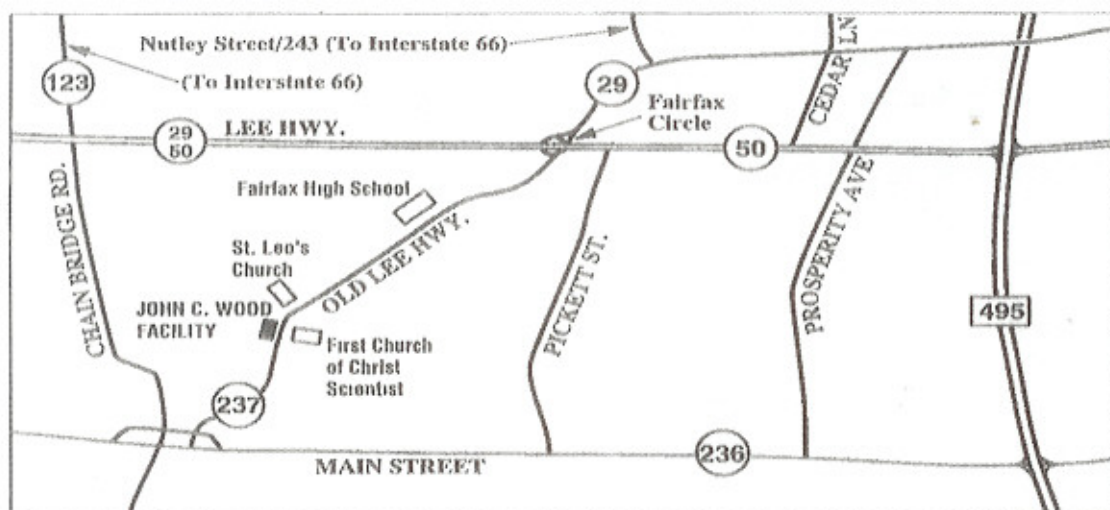
Junior (under 18) \$5/yr

Please send application and check to the address above. Renewals are due in January; at other times of the year, dues will be prorated.

# POTOMAC VALLEY AQUARIUM SOCIETY

P.O. Box 664

Merrifield, VA 22116-0664



**MEETINGS:** are held at the John C. Wood Facility, 3730 Old Lee Highway (Route 237), Fairfax City, VA. We meet in Room 6, which is located behind the police station. Doors open at 7:30 and meetings start at 8:00 p.m.—**EVERYONE IS WELCOME!**