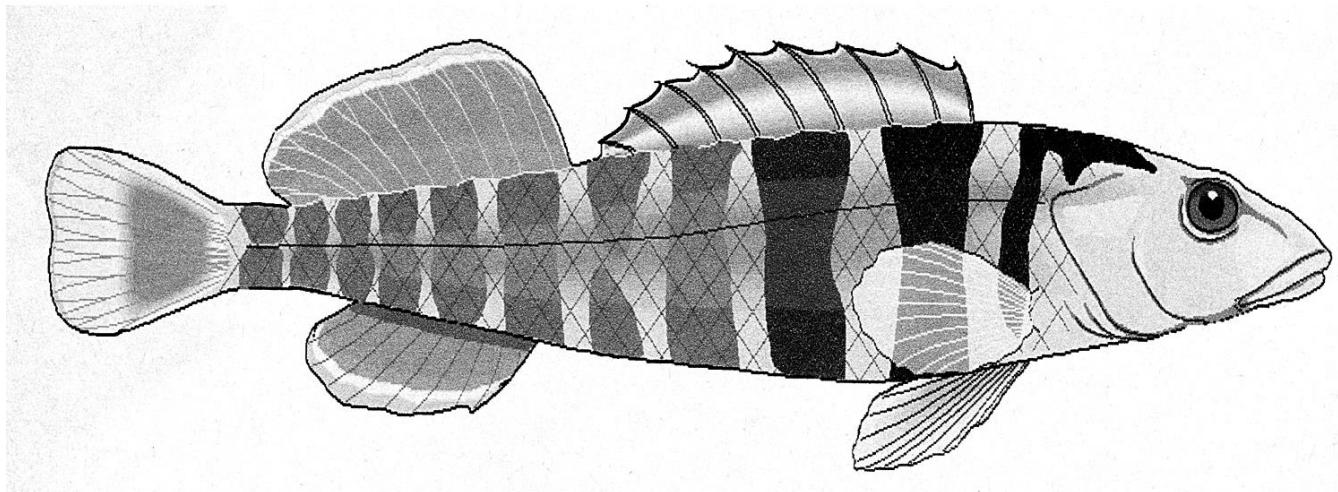


# The Darter

March - April 2008



**Missouri Aquarium Society, Inc  
St. Louis, Missouri**

## 2007-2008 MASI OFFICIALS

**PRESIDENT:**

Mike Hellweg  
511 Sunward Drive  
O'Fallon, MO 63368  
636-240-2443  
[mhellweg511@charter.net](mailto:mhellweg511@charter.net)

**VICE PRESIDENT:**

Gary Lange  
2590 Cheshire  
Florissant, MO 63033  
314-837-6181  
[gwlange@sbcglobal.net](mailto:gwlange@sbcglobal.net)

**TREASURER:**

Steve Edie  
5 Green Ridge Ct.  
St. Peters, MO 63376  
636-922-4232  
[sredie@charter.net](mailto:sredie@charter.net)

**SECRETARY:**

Angela Hellweg  
511 Sunward Drive  
O'Fallon, MO 63368  
636-240-2443  
[pugdog64@yahoo.com](mailto:pugdog64@yahoo.com)

**EXECUTIVE COUNCIL:**

Roy Brandhorst	<a href="mailto:Skipperoy4@juno.com">Skipperoy4@juno.com</a>	314-838-8093
Tammy Clemente	<a href="mailto:wazzup63011@aol.com">wazzup63011@aol.com</a>	314-603-7322
Charles Harrison	<a href="mailto:csharrison@inkmaker.net">csharrison@inkmaker.net</a>	314-894-9761
Mark Theby.	<a href="mailto:markrehabber@yahoo.com">markrehabber@yahoo.com</a>	314-428-3536
Pat Tosie	<a href="mailto:pattosie@yahoo.com">pattosie@yahoo.com</a>	636-225-7625
Andy Walker	<a href="mailto:awalker02@sbcglobal.net">awalker02@sbcglobal.net</a>	636-443-1440

**COMMITTEES:**

Advertising & Promotions	Mark Theby	314 428-3536
Auction Chairman	John Van Asch	618-277-6165
Breeders' Award Program	Steve Edie	636-922-4232
Corresponding Secretary	Patrick A. Tosie, Sr	636-225-7625
Editor	Steve Deutsch	314-741-0474
editor@missouriaquariumsociety.com	9 Old Jamestown Ct.	Florissant, MO 63034
Educational Outreach	Bart Kraeger	314-443-1038
Exchange Editor	Steve Deutsch	314-741-0474
Fish Raising Contest	Bob Buckles	314-394-0587
Horticultural Award Program	Mike Hellweg	636-240-2443
Historian	Klaus Bertich	314-849-2164
Librarian	Dave Rush	314-291-8932
Membership	Kathy Deutsch	314-741-0474
Monthly Bowl Show	OPEN	
Points Tabulator	Ed Millinger	573-883-9943
Postman	Gary McIlvaine	314-352-3334
Printer	Charles Harrison	314-894-9761
Refreshments	Roy Brandhorst	314-838-8093
Show Chairman	Gary McIlvaine	314-352-3334
Social Events Coordinator	Cory Koch	314-220-9073
Swap Meet	Bob Buckles	314-849-0587
Web Mistress	Michele Berhorst	314-894-5543
Welcoming	Ron Huck	314-481-2915

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MASI's official web page: [www.missouriaquariumsociety.org](http://www.missouriaquariumsociety.org)

Join the MASIFishHeads Yahoo Group. See web page for instructions.

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# Places to Be / Things to See

THURSDAY April 17, 2008

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

ALL WEEKEND April 18, 19, and 20

Annual Show, Banquet, and Auction @ the Stratford Inn

Contact: Gary McIlvaine - 314-352-3334

SATURDAY April 26, 2008

Executive Council, hosted by John Van Asch

THURSDAY May 15, 2008

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

SATURDAY June 14, 2008

MASI picnic at Jim and Brenda Thale's, 2:00

Executive Council following picnic

THURSDAY June 19, 2008

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

SATURDAY June 28, 2008

Executive Council, hosted by Roy Brandhorst

THURSDAY July 17, 2008

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

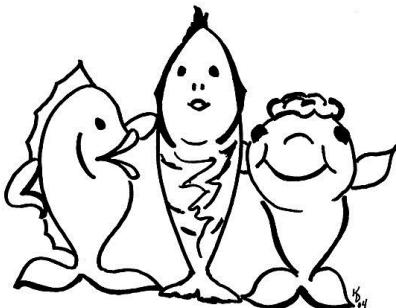
SUNDAY August 17, 2008

Auction @ the Stratford Inn

THURSDAY August 21, 2008

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

## Membership



Yearly membership in the Missouri Aquarium Society, Inc. is \$20 per calendar year. Membership includes the Darter subscription for the year, which is currently 6 issues. New memberships and renewals can be submitted at club functions such as meetings and auctions, or by contacting our membership chair, Kathy Deutsch at 314-741-0474, [kathy@skdeu.com](mailto:kathy@skdeu.com), or 9 Old Jamestown Ct. Florissant MO 63034

# Presidential Preamble

By Mike Hellweg

Spring is almost here! Spring Training started last week, so even though there is snow coming down, we all know that pond season and the Annual Show is only a short time away.

Gary McIlvaine and his Show Committee have done a great job getting everything ready for the 49<sup>th</sup> Annual MASi Show and Weekend Workshop with our traditional Giant Spring Auction. We've got some fantastic speakers lined up – Cichlid author, *Cichlid News* Editor, fish collector, explorer and naturalist Ad Konings; Livebearer specialist, Fellow of the American Livebearer Association and aquarium book dealer Mike Schadle; Manufacturer's Rep and the man with his finger on the pulse of both the hobby and the industry, Ray "Kingfish" Lucas; and native fish collector, fish breeder extraordinaire, and all around entertaining speaker, Charley Grimes.

We'll have some Vendors at the show this year, so come by and take a look at what they have to offer. Mike Schadle will be bringing his huge book display, Kingfish will be setting up his manufacturer's display, and we'll have a couple of other vendors to round things off.

We've got two great raffles for this year's show. You'll have to come to the weekend to get your tickets. One is for a V.I.P. behind the scenes tour of the Penguin Exhibit at the world famous St. Louis Zoo led by our own Rick Smith; the other is for a large tank donated by Chuck Dyn and the guys at Tropical World Pets on Watson.

Don't forget, while we still encourage set up display tanks with your entry, we've relaxed the rules a bit and you can show fish in covered bare tanks if you choose. I hope this encourages everyone to enter at least one entry in the show this year.

Well, that's enough for now. I hope you'll all come out and support your club, buy some raffle tickets, enjoy the speakers, and spend some time with your fishy friends in MASi.

...and for now, 'nuff said...

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## MASi Annual Picnic

Once again MASi will be having their annual picnic at the home of Jim and Brenda Thale. It will be on Saturday June 14, 2008 from 2:00 PM until it's over. Please bring a side dish fit for a hamburger, hotdog, bratwurst picnic! Sign up for side dishes at the May General Meeting. Maps will be available at the May General meeting as well. Jim and Brenda always make a good time of this, and the picnic is followed by the Executive Council meeting, which is open to all interested visitors. Come early, come hungry, and have a good time talking to your MASi friends in a relaxed atmosphere. Rain date, should it be needed, is June 21.

# Adventures of an Apprentice Hobbyist

## - What Did I Just Win at the Fish Auction?

By Bart Kraeger

I sent my wife an email in December. To paraphrase, it said: “I’m going to the fish auction all day on February 10. Please tell me what you would like to do instead.” She replied that she was ROTFOL – Rolling-on-the-Floor-Laughing-Out-Loud. I reminded her of the time when she spent 15 minutes with me at an auction and she was very thankful we had brought 2 cars and she could leave and find other things to do. All couples have common interests, but my wife and I don’t share that intense, day-long interest in tropical fish auctions. After a little negotiation – dinner and a movie – I was free to spend the entire day at the auction.

I consider myself a flawed, evolving fish enthusiast apprentice – let’s not use the term geek. Just because I like fish and computers does not mean I am a geek. While I can appreciate mouth-brooding, peat-spawning, bubble-nesting, live-bearing fish, I could not reliably tell you which fish did what to reproduce. Many of our members know this not only about the fish they keep, but families of the fish they keep, fish they have never kept, and fish that reside in small, mountainside rice-paddies or desert oases halfway around the world. They know whether fish are extinct or near extinct in the wild, the current status of the re-classification of the Celestial danio, a history of fish actually breeding during previous meetings, HAP and BAP rules and standings, and many other esoteric things.

When these people decide to sell off their surplus fish and plants and equipment at the auction, I will line up early to walk past every bag, box, or bucket. I can admire pretty Discus and Red plants and other things that I cannot buy – at least not now. I will carry my bidder number on my hip like a western gunslinger. I will buy any hardware I don’t have three of, any plant that doesn’t need CO2, and any fish that won’t eat my other fish. But I will only buy at bargain prices; “\$7! OK, \$9. \$11? To me? No sir, not me, not today, no way. That’s crazy money.”

During our fish auctions, I cannot just sit still. I will float around and help wherever it seems I am needed and leave when it seems I am not needed there any longer. If no one is running the silent auction, I’ll put myself in charge and try to get it done. Until recently, I would also take my turn selling raffle tickets, but since the perky and vivacious Laura has taken over this job exclusively, sales have increased dramatically. (Well good for her. We all need to be open to new, more productive ways of doing things.) If we are short runners, I will pitch in until there is an overabundance and then sit down. When you add lunch, restroom breaks, and talking with all the longtime auction attendees, local club members, and out-of-town guests, our auctions can be just a step short of total chaos. No wonder the auctioneers need amplification.

Working as a runner is my favorite job. It is also the job for which I am most qualified. It involves little more than holding up a bag of fish or plants in front of a crowd, watching the spirited bidding, and recording the seller number and sale price on the duplicate auction slip. Let the winner sign, give them the yellow copy and put the white copy in the in-box. All of these steps go by without notice hundreds of times each auction unless you drop any bag of fish. Nothing spells embarrassment like hearing a large crowd gasp in unison to something unfortunate you have just done in front of all of them.

No one gets a better look at that bag of fish or plants than the runner. The accounting department doesn’t even touch the bag. The people writing tickets have a busy job to keep up. The auctioneer only has time to read the seller and item number, and may have time to describe whether it’s a trio and whether those are quarter or half-dollar size Angelfish. Then the bidding starts and it’s his job to keep it

moving. Some bidders take careful notes, and some ask to see the bag while the bidding takes place, but how long can you look at a fish while the auctioneer and the whole roomful of people waits for you to make up your mind. I would cave in to the pressure, but some bidders won't be rushed.

The runners see everything. We see that bag on the table two or three times during the process of selling one bag and coming around again for our next run. We can pick it up and see if the fish are all the same size from the same hatch, or if they are a community of young and old. Are the fish bagged well? Are they doing OK? The runners see it firsthand. We can often compare one bag of yellow labs to another one waiting to be sold. We have time to pick up the bag of fish, admire it, and gossip about it. Who's the seller? Where did he get the fish? What did he feed it and how did he breed it? Collectively, the club knows because, while many of us may be shy, we are not humble. Anglers do not weave bigger fish stories than a dedicated hobbyist with a 20-point fish or bloom on that aquatic plant.

Runners are also very close to the auctioneer. When we hand him the bag and make eye contact, we can sometimes get in a quick, opening bid. I was the proud opening bidder at \$30 for a bag of several discuses that sold for \$108; the auctioneer was kind in not laughing at me. So when I passed the bag "308-14. 6 Wild-Caught Clown Killies - *Epiplatys annulatus*" to a different auctioneer and quickly bid \$10 for those 6 tiny fish, I thought \$10 would be a great starting bid - not the winning bid and certainly not the only bid. \$10 might be an average price for a pair of killifish, but surely a roomful of bidders who would pay \$12 for a clump of Java Moss would raise my \$10 bid for 6 fish. Wouldn't they?

Please allow me a brief rant. "My God, people! Java Moss is Java Moss is Java Moss. Unlike E-Bay says, it is not better if you win it. Those of us who have it in our tanks throw it away when it grows out of control. Do we really need to spend 30 extra minutes every auction to see 30 bags of it sell at various prices from \$12 at 2:30 to \$1 at bargain-time 5:00? I know that some bidders need some, but let's be reasonable. Make every bag of Java Moss a donation to the club. Put it on the bar when the silent auctions end and mark it at \$5 per bag. Mark it down \$1 every now and then until it's gone. Thank you.

For opposing viewpoints, please author your own article and insert your own rants. Now just fade back to the bidding part of the story like in the movies when Willie Wonka -- Johnny Depp not Gene Wilder-- is done reliving his childhood.

The crowd was silent. What were they thinking? "A \$10 opening bid? What is he thinking? That crazy man wants those fish!" The auctioneer -- the one who loves cichlids but bids \$1 for everything else -- gave a lukewarm endorsement of "the cute little killifish," but no one budged. "Sold. \$10. To the runner." But there was no time now to celebrate. There were more bags to run, another round of silent auctions to close, and lunch to order. Note to everyone: if your diet lets you enjoy a great \$5 cheeseburger with fries and a soft drink, don't miss the Adult Happy meal at the bar.

Starting around 2:30, some bidders are satisfied and check out. They have a few bags of fish, usually contained neatly in a small tote or container. They have bought exactly what they came for and are leaving. Respectfully, I am not an early-leaver. I want to stay late and see who wins each bag of COBRA guppies and/or COBRA green guppies. Will the crowd thin out enough so that there are bargain bags at the end? What are my favorite words at the auction? "First dollar gets it!"

I try to wait until the bitter end. People who leave at the end have luggage carts stacked high with Styrofoam shipping containers and need to make several trips to the car. Standing in line at 5:30 behind the tired, diehard bidders is a time to wonder if I overspent: 3 items for \$17 total: fish, plants, and hardware. No. I did ok. I got exactly what I wanted. Except that I have 20+ empty tanks and equipment waiting to be set up in my wonderful, new, imaginary fish room. I only have 2 large, peaceful community tanks for my Clown Killies. They are heavily-planted tanks full of plain, home-grown Java Moss. Luckily, since almost all killis/killies are jumpers, my tank has a cover.

After leaving the auction, I have a short, 20-minute drive ahead. Others will leave for Kansas City or mid-central Illinois or points south of St. Louis. While I have 1 bag of fish to acclimate and put in a tank, I know that others have 5 or 10 bags or more. Are they up until midnight?

Now what about the fish? I carefully siphon a little water from the tank into the bag of killifish, a trick I learned at a saltwater fish shop. While I was waiting for the fish to acclimate, I decided to research them on the internet. My 85-or-so year old uncle recently asked me what the internet was. I told him it was a place to find out any information that people think is important. The first stop I made on the Internet is Google. While searching for "killifish Epiplatys annulatus," I see that there are about 2,070 entries. There are volumes of data about this small fish. I may know nothing about this fish, but the Internet knows. There must be definitive answers out there. At least people think this is a noteworthy fish.

Site 1: <http://www.aquaticcommunity.com/killi/clown.php>. Breeding Clown Killies. Epiplatys annulatus. Introduction to Pseudepiplatys annulatus. Is it Pseudepiplatys or Epiplatys annulatus? Is this something I should just know? All the data seems to work with the little fish I have now: Pseudepiplatys annulatus is an egg-hanger, i.e. it will attach the eggs to fine leafed plants. This is why Java moss is such an excellent choice for the breeding aquarium. Pseudepiplatys annulatus is also known to appreciate roots of floating plants as spawning site. (Darn, did I need some of that red-root floater? There were about 10 bags. Did I need the \$2 bag or the \$8 bag?)

Newly hatched Pseudepiplatys annulatus feed on the infusoria that develops on the Java moss. (Does my Java Moss have infusoria? I'll bet the \$12 bag had some!)

Parents will normally refrain from eating their offspring, but larger fry can eat smaller fry.

Sites 2 and 3 both seem to be the same. I settled down here:

<http://www.aquariumarticles.com/read/?art=2339&t=Care+and+breeding+of+Epiplatys+annulatus>.

The Monrovia population is seldom if ever seen today, it doesn't help that Liberia is such a mess. (My fish bag didn't say where mine came from. It would not surprise me that the seller knows and could tell me the differences.)

Once rare, this fish is "around" more often than not and is not an uncommon import. Once considered difficult to breed (but not to keep) and while not easy, it is not an impossible fish to breed by any means.

There are a lot more articles about this small fish on websites from other cities. The information all seems consistent with a little more or less on each website. Each author's personal opinions are a part of the article, and it all seems the same after reading a few articles. And all of this agreed with the short and sweet advice I got from the seller. Sometimes, I make things more complicated than they need to be.

However, all of this is moot. I may never see these 6 tiny Monrovian or Libyan egg-laying killifish again. Immediately after I put them into the aquarium, they swam quickly into the Java Moss and disappeared.

## Member of the Year Nominations 2007

By Andy Walker

Since joining MASI over two years ago I have learned to appreciate the value of the auctions. They don't run themselves and are the product of many of our members contributions. At the center of that activity is the auction chairperson. Take away that person and a key component of our club's welfare suffers. We put at risk our best forum to share and benefit from one another and to promote MASI amongst local enthusiasts of all skill levels and walks of life. John Van Asch has been that person since I've been a member. With that consideration in mind, I would like to nominate John as our member of the year to acknowledge the thanks he deserves for his efforts and the success the auctions have been.

# Member of the Year Nominations 2007

By Gary McIlvaine

I would just like to take a minute and say thanks to everyone who volunteers their time and effort to MASI. I put emphasis on volunteers for a reason. No one gets paid for their time and effort they put into the Missouri Aquarium Society. My brief stint as show chairman has given me a unique perspective on this. Many people have ideas and suggestions, however when it comes time to execute and follow through on the plan they are no where to be found. The preceding member of the year nominees are not those individuals. They donate their time without thinking. We are lucky to have them as members. This also is by no means the only people I could show appreciation to by nominating them. These are the members I feel have gone above and beyond in my Opinion. I also think this is a great time to suggest that if you are a new member and really want a chance to learn a lot about fish, all you have to do is show up to an executive council meeting. It is a great chance to learn things you had no idea you wanted to know. All are welcome.

I nominate Mike Hellweg for member of the year. Mike continually does the little things behind the scene that most people don't realize. My time spent as show chairman has given me a unique perspective to all the little details that go on and make our club as strong as it is. Mike does this without complaining and we are really lucky to have him as a member of our club. In addition to being a knowledgeable and helpful hobbyist, Mike has also added the title of book author this year to his resume. He also is willing to spend the time to help new hobbyists with their questions and does it in a way that does not make them feel alienated. Thanks Mike for your contributions to the Missouri Aquarium Society.

I would like to nominate Gary Lange for member of the year. Gary spends a great deal of time and effort in making sure the club runs smooth. He has a great many suggestions on what and how to do things. He also helps a great deal with the details of the club. Gary is willing to share information with others in the club. His knowledge of photography is a great asset to the Missouri Aquarium Society and we are lucky to have him as a member of the club. Gary takes care of lining up speakers for our events and is a great asset in council meetings. He has a great fish room and has written articles that have gotten published this year in hobby magazines. I am always amazed when I go out of town and people say things like "Oh, You're from MASI, Gary Lange is in your club you are so lucky, and that must be so cool."

I would like to nominate Steve Edie for member of the year. Steve spends a great deal of time running some of the big projects of the club. We are truly lucky to have him as a member. I have been amazed at the time and effort that Steve donates to the club. I have learned this by being the show chairman and attending the executive council meetings. Steve is a great treasurer. We get our checks for reimbursement in a timely manner. (This is unlike some other clubs in our hobby). He writes all the necessary reports and makes sure our finances are in order so our club can remain strong and have money to do the cool things our club is able to do. Steve also runs our BAP program. This truly is my favorite part of the club. Steve gives his time, fish and plants without thinking twice about things. He is truly passionate about the hobby, and conserving it for future generations. When Steve won the Ralph Wilhelm writing award last year, he instantly and without hesitation instantly donated the prize to project Piaba. (I would have taken the money and blown it on fish) We are truly lucky to have Steve as a member.

# A Reminder on MASI Payment Policy

## By the MASI Executive Council

Due to his generous nature, our Treasurer has been letting a few things slide regarding members paying for purchases, and this has snowballed to the point where he has become something he's not – a collection agent for the society. Several members have taken advantage of this at various times in various ways. We discussed this at the Council meeting the other night, and decided it was time to put everyone back on the same playing field and eliminate the job of collection agent for our Treasurer, who already has enough other things to do for the society.

With this in mind, we wanted to publish our official payment policy here in our official publication so everyone is aware of it. Basically, if you don't have the money with you or a check, don't bid on the item in the auction. Eventually we hope to be able to take credit cards via PayPal, but this will still require some further investigation and a wireless Internet hookup, which we don't yet have.

Everyone makes mistakes, and one bounced or Not Sufficient Funds (NSF) check won't cause any problems for you as long as it's made up within 7 days. Most members who accidentally write an NSF check already do this and take care of it before we even know about it. We are not talking about these types of honest mistakes. A few society members seem to be in the habit of writing NSF checks knowing that they have no funds to cover them and asking us to "hold the check for a few weeks" or giving us a check and saying not to cash it, that they'll send us a money order to cover it in a few days (or weeks). This repeated behavior can no longer be tolerated. It is not fair to the rest of the society members who follow the rules.

1. All purchases (auction or other) must be paid for in full by cash or check at the time of purchase.
2. All checks will be submitted for payment soon after they are presented to the society, usually the next day. We do not hold checks.
3. There is a \$25 returned check fee to cover the society's cost for collecting on NSF checks.
4. Repeatedly presenting NSF checks can result in suspension of check writing privileges; suspension of bidding AND selling privileges at both monthly meeting auctions and the quarterly club auctions; suspension of your membership privileges; or even permanent expulsion from the society.

## Member Classifieds

Charles Harrison (314) 894-9761, [csharrison@inkmaker.net](mailto:csharrison@inkmaker.net) -

Thiosulfate crystals (Chlorine Remover) .....	\$3.00 a half pound
OTO double strength Chlorine/Chloroamine test kits - 4 ounce -	\$12.50
Flubendazole, 5% powder 10 grams .....	\$5.00, 25 grams - \$20.00
Lavamisole HCl Powder - 5 grams treats 100 gallons .....	\$10.00
Methylene Blue 5% solution (2 ounces) .....	\$12.75
Acriflavine Concentrate (4%) solution, 2 ounces .....	\$12.70

MASI Members can place a classified ad in the Darter for free. Ads may be up to 30 words in length. Send your ads to the editor. The ad will run for one issue unless you specify how long to run in, in which case it will run as requested.

# Reproduction of Aponogeton boivinianus

By Derek Walker

Aponogeton Boivinianus comes from the place were the most impressive Aponogeton plant is found today- Madagascar. The Aponogeton Madagascariensis is the most wanted plant of this species. The A. Boivinianus, in my opinion, is the second most wanted plant of its kind. It is hard to get things from nature and wildlife out of Madagascar. Every chance we get to keep any type of plant or wildlife we need to take advantage of.

A. Boivinianus is known as the Hammer Leaf Aponogeton in the plant hobby. This plant looks much like the Cryptocoryne Bullossa species. Both plants have similar leaf structures. These two plants get mixed up in the hobby all the time. A distinguishing characteristic of the Boivinianus is that it might have a bulb on it while the Bullossa has a root base. The colors of the two are different as well. The Boivinianus is a light to dark green and the Cryptocoryne Bullossa is brown in color. Looking at these characteristics will ensure you are getting the right plant.

Recently Harold gave me some bulbs to try to grow. My goal was to get this plant to produce seeds. There is very little information about this plant and how to cultivate it. Therefore, I went back to my Darters and found the one with Mike's article about the Aponogeton Madagascariensis. I used some information from that article with the Boivinianus.

I hoped that I would be able to get these bulbs to sprout. I had five bulbs to start with; two bulbs seemed to be very soft and the other three were good and hard. I wrapped the bulbs in paper towels and placed them in a Zip-Lock bag with some water. I placed the bag of bulbs on an aquarium light to get them to sprout open. This process took a week. When the bulbs started to open, I placed them in a twenty gallon long tank. Once in the aquarium, the propagation of the Aponogeton Boivinianus from bulb to full size plant was rather quick.

My tank set-up was very simple- just a shop light, sand, and a heater. After the plant had been growing for three months, I started to notice the growth rate slow down. I added Jobe spikes to the sand under the bulb. After a week, I saw the first flower stalk starting on one of the bulbs. I noticed when the plant was beginning to flower it started to slow down growth to give all the growth to the flower. The first flower came out and opened just enough for me to get a photograph. When the flower had been open for two days it died off quickly. Three weeks later I saw a massive flower stalk growing out of the bulb. The growth rate on this was very slow and long. The first stalk grew out of the water and opened up and the second stalk grew up out of the water while staying closed for a week. I never have seen a stalk grow this large.

After a week the inflorescence (flower) opened. I started to do artificial pollinating every day. I repeated this process two to three times a day. As the week went on I noticed that the flowers started to close up. It *appeared* that the artificial pollination was unsuccessful. I left the stalk and the flower in the tank to die. After several weeks, I went to pick up the flower and it was rotten. However, as I picked it up, I noticed all of the tiny flowers that closed up fell off the stalk. I saw that some started to float as others fell to the sand. I took a closer look at the flower. I realized that these were fruit with the seeds inside of them. There were hundreds of seeds all over the tank.

The seedlings started to open in two days and it took about three weeks to get leaves on it. When the leaves started to come out they were the color of the mother plant. The snail and the fish I had in the tank did not eat the seeds.

The demands for the Aponogeton Boivinianus are just like the Aponogeton Madagascariensis. They require a cool tank with fine soil. Water changes are not needed frequently for this plant. When you have a slow down period, give it a boost by placing a Jobe stick under the roots. I found that half a

Jobe stick works well with all the Aponogeton plants. Make sure demonstrate patience with the flower and watch patiently for seeds. Keep in mind that this plant is self-fertile. You don't need two flowers to seed this plant.

This plant is not recommended for small aquariums. A twenty gallon high and above will work best. I used a twenty gallon long so I could work with the plant and it quickly outgrew the tank. This is a good plant for a great center piece in a planted tank.

Reference:

Aquarium Plants by Dr. Karel Rataj and Thomas J. Horeman  
Tropica Aquarium Plants by Tropica

# Club Hopping

Steve Edie

April 11-13, 2008 -- Hartford, CT: Northeast Aquarium Council – Annual Convention

April 13 - Chicago: Greater Chicago Cichlid Association – Swap Meet

April 18-20 - St Louis: Missouri Aquarium Society – Annual Show

May 2-4 - : American Livebearer Association – Annual Convention

May 23-25 - Chicago: Greater Chicago Cichlid Association – Cichlid Classic

May 23-25 – NY: American Killifish Association – Annual Convention

Jul 17-20, 2008 – Atlanta, GA: American Cichlid Association – Annual Convention

Aug 31 - Indianapolis: Circle City Aquarium Club – Auction

Sept 19-22 – IA: Midwest Cichlid Association – Annual Convention

Oct 5 - St Louis: Missouri Aquarium Society – Swap Meet

Oct 16-19, 2008 – Laurel, MD: All-Aquarium Catfish Convention – Convention

Nov 13-16 – Atlanta: Aquatic Gardeners Association – Annual Convention

Nov 16 - St Louis: Missouri Aquarium Society – Auction

Nov 21-23 – Cleveland: Ohio Cichlid Association – Cichlid Extravaganza

Jul xx, 2009 – Cincinnati, OH: American Cichlid Association – Annual Convention

# Aquarium Tech Tips

By Andy Walker

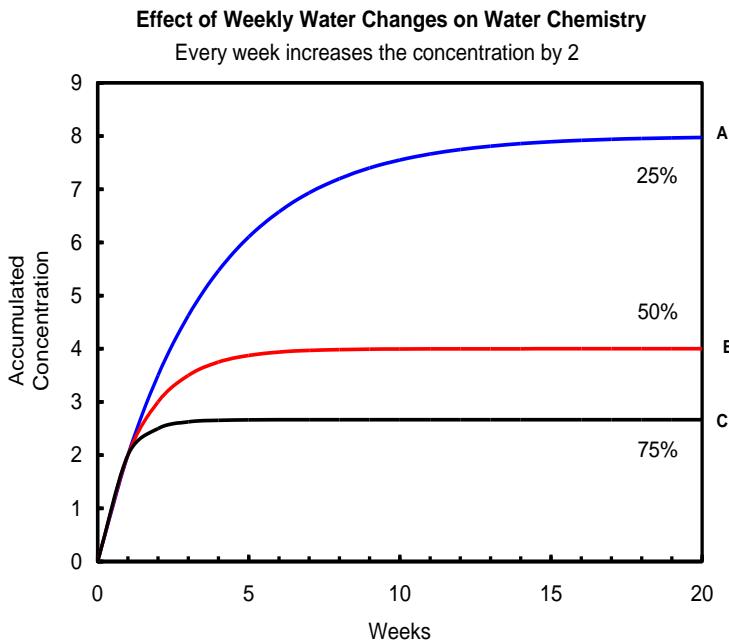
## Using Weekly Water Changes to Control Water Chemistry

Charles Harrison gave a presentation on water chemistry during our July 2007 monthly meeting. In closing he mentioned it was critical to change half of your water weekly to maintain the health of your tank. This is sound advice that may go unheeded by the general aquarium keeper, breeders or those adding plant fertilizer since it is counter to some conventional wisdom you may read in books, find on the web or hear at your local pet shop. I plan to explain why changing at least half of your water every week is necessary.

To show the effect of water changes on water chemistry we need to establish a starting point and some rules. Let's begin when you set-up your new aquarium and it has nothing in it but water. For simplicity, we'll also assume that the concentration of something in the water you're concerned about will increase (or be added) every week. Nothing will remove or consume it other than a water change. Unless you are growing stem plants and your growing conditions are such that you must prune the plants every week, this is a reasonable assumption to frame the discussion. For simplicity let's explore what happens when there is an increase of 2 parts per million (2 mg/L) over a week. Although this concentration was selected arbitrarily (two is a nice round number), deliberate additions of plant fertilizer, waste from fish respiration and feces, uneaten fish food that is rotting or dead plant matter that is decaying can indeed change the chemistry of your aquarium water more or less.

The chart showing the effect that water changes have on the accumulated concentration over time is made by accounting, first, for the increase in concentration every week, and second, for the reduction in concentration due to changing the water. For example, after week one you have a concentration of two ppm in the aquarium. When you change half of the water, the concentration is reduced to one ppm. After two weeks, you now have a concentration of 3 ppm. You change half of the water again and the concentration is reduced to 1.5 ppm. After a third week, you now have a concentration of 3.5 ppm, and so on. If you continue to do the math for 25%, 50% and 75% water changes and plot the results on a chart such as the one in this article, you will see the water changes affect the accumulated concentration with time.

One of the first things you may notice is that any water change can control the maximum accumulation in your tank. Regardless of how much you change, the accumulated concentration eventually levels out over the weeks. The amount that you change has a huge effect on the amount that accumulates and how quickly you reach that limit.



After the first week before any water is changed the concentration in the water is two ppm. If you change only 25% of your water weekly, that concentration will quadruple over the next five months before it stabilizes at eight ppm. By increasing your water change to 50% you will limit the accumulation to half that amount and it will stabilize after two month. For fishkeepers and breeders, this assures that waste bi-products that are harmful to the health of fish are not only limited but controlled. Aquatic gardeners take great advantage of 50% water because it controls the accumulation of fertilizer in the water and they don't have to rely on testing to know how much fertilizer is in the water<sup>(1)</sup>. They know the water will *never* have more than twice the amount of fertilizer they add. All you have to do is change your water regularly.

The chart also shows that larger water changes give you diminishing returns for your effort but they can give you substantial reductions in the maximum concentration that can accumulate. Although the reduction you get for the percent of water that is changed is not linear, it can be calculated easily using the equation below if you know how much the concentration changes between water changes and the water changes you are willing to commit to on a regular basis:

$$\text{Max Accumulation} = 100(\text{Concentration Increase Between Water Changes}) / (\% \text{ Water Change}).$$

Do the calculation for a change of 2 ppm for water changes of 25%, 50% and 75% and you will find the points labeled A, B and C on the chart. For example, the concentration at point A is  $100(2)/25 = 8$ . Try another water change percentage and plot the point on the chart. It's easy.

How often you change the water affects the maximum accumulated by increasing the concentration between water changes. For instance, if you decided to change half of your water every two weeks because you have other things to attend to, that doubles the amount that accumulates between water change to 8 ppm. Worse yet, if you only bother to change 25% of your water every two weeks, the maximum accumulation increases four times to 16 ppm. I believe it is evident why fish die shortly after people lose interest in keeping up with regular tank maintenance.

In nature fish and plants have the benefit of tremendous quantities of rain water that drain and fill rivers, stream, ponds and lakes. By confining them in an aquarium they are deprived of a natural way of replenishing fresh water and a naturally healthy home. Your fish and plants depend on you. Do them a favor as Charles mentioned. Flush the toilet. Change half of your water weekly.

(1) The Aquatic Gardner, Volume 19, Number 3, July-September 2006, pgs 26 – 39, The Estimative Index – What Is It?, Tom Barr



The advertisement features a large question mark above a fish icon. The text "We've got a place for you!" is prominently displayed. Below this, the Missouri Aquarium Society, Inc. logo is shown, featuring a fish icon and the text "Missouri Aquarium Society, Inc.". A call to action encourages joining a meeting or contacting the membership chair, Kathy Deutsch, with the phone number (314) 741-0474 and email fishfan@i1.net. To the right of the text are several small illustrations of various fish species.

# Shimmering Barbs

By Charley Grimes

Reprinted from Oct 2005 Fancy Fins Of the Circle City Aquarium Club

About six months ago, I got about eight of these fish from George Coy, a long time fish friend, while visiting his fishroom in Grand Rapids, Michigan. I think the species is *Barbus fasciatus*.

George had spawned the group in a ten gallon tank, stuffed with yarn mops. Actually, George spawns most of his fish in ten gallon tanks, stuffed with yarn mops. I wouldn't be surprised if George claimed he successfully spawned Humpback Whales in a ten gallon tank, stuffed with yarn mops!!!!

Thus far, I have been unable to duplicate George's constant successes with the yarn mops and ten gallon tanks. I know it works - works well. I guess I need to keep practicing.

Having lots of fish projects in the works, I popped the group of shimmering barbs into a 15 gallon tank that was about half filled with Java Moss. The eight fish sort of disappeared in the Java Moss and I only saw occasional flashes of them when I fed the tank. One day, about four months after I had acquired these fish, I noticed them swimming in the open areas of the tank - well, great!

A couple weeks of enjoying these fish out where I could see them led me to spend more time observing the tank. You can imagine my surprise when I saw fry darting around in the Java Moss at the rear of the tank. WOW!

I broke down the tank and found 27 fry of various sizes, all miniature versions of the adults.

The shimmering barb is, like the common name suggests, a silvery fish with very reflective scales. By my eye, this is a smallish fish, especially for a Barb. I reckon the adults are about an inch and a half in length - slightly bigger than Checker Board Barbs and, roughly, the same shape.

I found them to be a nice fish, not a great fish, easy to feed/maintain, and a willing spawner.

## Editor's Notes

Steve Deutsch

We continue to have a variety of authors writing for the Darter. It's always good to have new voices – or in the case of Rick Smith a returning voice, as he wrote for the Darter before I was in the club, but this is his first recent article. We also have articles from Bart Kraeger (his first), Derek Walker (not sure if it is his first or not), and Andy Walker. Andy is still looking for tech tips from others; contact him if you have an idea to share in the Darter. I'm still looking for articles on all subjects, so please keep them coming. It's also OK for some of our older authors to jump back in the game, in case you were laying out to give the new guys a chance.

I have two exchange articles to round out the issue, one short and one not so much. It is a good collecting article I have inserted a couple of times only to remove because I didn't have enough pages; this time it stays. I also have some new exchange articles I will be adding to the backlog once I get my scanner back in operation.

Deadlines for articles for the remaining issues this year are April 15, June 15, August 15, and October 15.

# BAP Report

Steve Edie

Member	Species	Common	Pts	Total
<b>Jan 2008</b>				
Charles Harrison	<i>Pseudepiplatys annulatus</i> "Guinee CI-00" *	Clown Killie	20	1802
Charles Harrison	<i>Rivulus Hildebrand</i> "Panama 04-02"*		15	1817
Mike Hellweg	<i>Apistogramma steindachneri</i>		15	2883
Jerry Jost	<i>Epiplatys chaperon Schreiber</i> "Ghana" *		15	240
Gary McIlvaine	<i>Poecilia reticulata</i>	½ Black Blue Guppy	1	536
Gary McIlvaine	<i>Poecilia reticulata</i>	Full Black Guppy	1	537
Gary McIlvaine	<i>Poecilia reticulata</i>	Moscow Purple Guppy	1	538
Jim Miller	<i>Aphyocharax anisitsi</i> *	Bloodfin	20	1959
Jim Miller	<i>Haplochromis obliquidens</i> @		20	1979
Jim Miller	<i>Tilapia snyderae</i> @		30	2009
Rick Smith	<i>Aequidens pulcher</i>	Blue Acara	5	45

## Feb 2008

Philip Newell	<i>Xenophallus umbratilis</i>	Golden Teddy	15	67
Philip Newell	<i>Xiphophorus maculatus</i>	Black Wag Platy	1	68
Philip Newell	<i>Xiphophorus maculatus</i>	Hifin Black Wag Platy	1	69

\* = First MASI species spawn (5 point bonus)

\*\* = First MASI species and genus spawn (10 point bonus)

\*\*\* = First MASI species, genus and family spawn (15 point bonus)

@ = C.A.R.E.S Species at Risk (Double base points)

# HAP Report Jan-Feb 2008

Mike Hellweg

Member	Species	Common	Rep	Pts	Total
Jerry Jost	Cabomba caroliniana caroliniana	Fanwort	IB	15	1465
Jerry Jost	Cryptocoryne sp. Red Bloom		V	15	1480
Jerry Jost	Cryptocoryne sp. Red Bloom		IB	20	1500
Jerry Jost	Utricularia vulgaris	Bladderwort	V	5	1505
Andy Walker	Pogostemon yatabeanus		V	15	245
Charles Harrison	Eleocharis vivipara	Hairgrass	V	10	615
Charles Harrison	Nasturtium officinale	Water Mustard	V	10	625
Charles Harrison	Blyxa japonica		V	15	635
Charles Harrison	Sagittaria montevidensis	Giant Southern Arrowhead	V	5	650
Marlon Felman	Salvinia natans	Chain Salvinia	V	5	60

Reproduction Key: V = Vegetative, OB = Outdoor Bloom, IB = Indoor Bloom, S = Seedling

\* = MASI First

## How to Breed the Blue Acara the Hard Way

By Rick Smith

Last spring, 2007, I purchased some juvenile blue acaras, *Aequidens pulcher*, at the MASI auction. I got these fish because I wanted to get more diversity in my tropical fish population, learn a few things, and pick up a few breeders award points along the way. The acara seemed to be a perfect candidate. It is colorful, not too aggressive, and “easy to spawn”.

I started raising the “blues” in a 10 gallon aquarium with guppies for tank mates. The blues acclimated well and grew quickly. Then June first arrived and it was time to move (not just the fish, me too). Moving is a bi-annual event for me. My parents live about three miles from my house on the other side of Forest Park. Every summer they travel up to Stonington, Maine, and I watch their house. It is easier to move all the fish tanks vs. running back and forth between houses because, my folks do not return until late September. I want to give my fish ultimate care and this is not possible unless I can observe them for more than a few minutes a day. On average I move three tens, one 29, a few 2.5s, and a 70 gallon Plexiglas turtle (whom I’ve had since 1973) tank every spring and fall. There is a 70 gallon fish aquarium at my folk’s house. During the winter this aquarium is a barb and giant danio display. I moved the acaras into that 70 and the barbs out into the backyard’s 1000 gallon fountain pool. The acara’s continued to grow. When they were around three inches I noticed that they were pairing off. The next few days past and sure enough one pair had spawned. This pair was dominating the aquarium. I moved the remaining blues outside into the large pool. The eggs hatched in three days and I observed about 100 fry. For about a week the breeding pair continued to behave like typical South American cichlid parents. Then one morning the fry were missing. Something had startled the first time parents.

That day after work I took a closer look and saw three maybe four fry hiding from their cannibalistic parents. I decided to move the adults outside into a 100 gallon Rubbermaid® horse trough that I was using to grow water lettuce and gold barbs. The final count of surviving fry was six. A few weeks later the fry were joined by some juvenile guppies and six cherry barbs.

August arrived and MASi's summer auction was near. It was time to get out the seine net and catch some nice sized adult guppies and giant danios, from the outside pool, for auction. But wait, what is this in the net? There are blue acara juveniles and lots of them! As luck would have it the other pair had successfully spawned and raised their fry. I auctioned about a dozen of these acaras and donated some others to our monthly meeting auction.

The days began to shorten and September crept in. It was time to make the big move back into my winter house. I transferred all of my indoor aquariums to my house. In the basement I had set up a 50 gallon plastic pool for some of the back yard fish. A few weeks later I harvested the fountain pool's contents. I put a lot of my guppies and the acaras into the 50 gallon pool. During this move the successful, male from the large pool, died. I suspect some sort of stress/shock had occurred. It was very disappointing because he was huge and had gorgeous colors. I wanted to put him in the annual show. The other fish did well in the indoor pool. But this was only a temporary home for them because it was crowded and the basement temperature was dropping. I decided to set up a 40 breeder upstairs. I put the indoor acara pair, the juvenile acaras and half of the guppy harvest into the tank (I sold many of the guppies to a local dealer). The widow acara was placed into another community tank. The fall auction was only a few weeks away and I had a great summer harvest to share with my fellow aquarists (So I thought).

Moving fish setting up tanks moving one's self and readjusting a house is quite hectic and sometimes can lead to rookie mistakes and a disaster. That's what I called it at 4am when the gurgling sound of a dry powerhead woke me up. 40 gallons of water had somehow left the breeder tank and gravitated through the hardwood floor and basement ceiling tiles. Half awake I quickly searched for survivors. The "indoor" male acara, and about twenty guppies somehow were still alive in the empty tank's wet gravel. I rescued them but, the majority of the fish were lost. There would be very few fish for me to auction. My rookie mistake was that I had forgotten a check valve on the 40's air pump and it had siphoned the water down to a point where the heater heated the glass in the cool living room resulting in a cracked tank bottom. However, on the bright side; I did discover that I can rescue fish, tear down a tank, bucket the gravel, and be back in bed in about an hour! I got up two hours later (7am) and went to work. It was a long day at work with more fun things to do at home that evening. But that's not how I spawned the Blue acaras.

A few days passed and I decided to give it one more try. I had a widow and a widower. They were introduced to one another in their new 20 gallon high home. The introduction went well and the new couple was doing great. The aquarium has a power filter and sponge filter with an air pump **above** it. The temperature is kept at 75F and the ph is 7.0. All of my fish are fed at least twice daily. The am feeding is dry food: usually flake or pellet. The pm feeding is frozen food; brine shrimp, blood worms, glass worms, daphnia, or a combination of the former. My reconstructed blue acara pair started to clean a flower pot and they were removing the gravel nearby. One week later there were two proud parents and lots of fry. This time I had succeeded. The parents took great care of the fry. I had absolutely no problems for the first month and a half. It was nearly time to bring the fry to the January meeting and finally show my success. Well the male had other plans. One morning I observed him chasing the female and all the fry were hiding wherever they could. He was done with parenting. I moved him to another aquarium. The fry made it to the meeting and rest is history. At MASi's February auction I sold the fry. In the end the blue acara proved to be an easy to spawn fish and I learned a few things too. So what's next? I think I'll try to get some more BAP points. Hmm what shall I try this time? How about something easy?

# Expedition to the Peruvian Amazon Jungle

By Claudia Dickinson

Reprinted from Dec 2005 **Modern Aquarium** Of the Greater City Aquarium Society

I have just returned from the Peruvian Amazon jungle! The jungle and river were fabulous ~ I fell in love with the people, the land, and of course, the fish, and will return soon. There are no words to describe what a time I had...my heart and my spirit have been captured forever.....

It was under the exceptional guidance of Dr. Devon Graham and Margarita Tours, as well as celebrated authority on fish, photography, and wildlife. Dr. David Schleser, that a small group of us traversed the river and explored the jungle, collecting and observing a combined total of over 230 species of fish in their natural habitat. We were into mud 'over our ears' (almost!), seining the river and dip netting the streams and banks. We hiked...and hiked, during the day, and at night, we hiked some more, and took the skiff out to view the wildlife. An added pleasure was to have Marilyn Weitzman and Jaap-Jan de Greef along to share their wealth of knowledge. The camaraderie amongst our group was paragon, as we shared the special warmth of family, and formed everlasting friendships.

Having dreamed of a visit to the Amazon for years, I had always thought that my first visit would be to the dense inland regions of Brazil. I first learned of this expedition to Peru through Luis Morales, proprietor of Watersedge Travel <http://watersedge-travel.com/>. With his meticulous attention to detail, the last year had found Luis diligently organizing group plans for the adventure. I was intrigued, but a look at the calendar made it clear that the date was only weeks following the annual American Cichlid Association convention in Texas, and surely out of the question...maybe.....

Texas was Grande ~ and what did I do? I spoke with everyone who has traveled, about where to go, how to prepare, and what to expect. The best and most heeded thoughts came from Ron Coleman, who echoed one of my own longtime philosophies of life, "Go with no expectations, and you will receive no disappointments." I have discovered this outlook to be the perfect ingredient for the richest of experiences, and the Peruvian Amazon jungle expedition was surely no exception, as each moment was brimming with memories that I shall treasure forever. Barely in the door from Texas, I took one look at my bags that were still packed, and dashed off an e-mail to Luis, and another to Devon and Margarita Tours, with hopes that they might still squeeze me in. As Devon was out on the Amazon River for the next week, there was no time to spare in waiting for an answer, so I proceeded on, full speed ahead, with obtaining my passport, inoculations, and a whirlwind of collecting the necessary gear. The good news did arrive from Devon at the end of the week, in a characteristically welcoming e-mail, and I was on my way!

The decision to make the majority of the flight to the final destination of Iquitos during the night on Friday made perfect sense, as that is when one normally sleeps. And how fortunate for me, as Luis had booked the exact same flights! This brought a shared excitement, as well as time for me to receive valuable camera tutoring from Luis.

Most of our group met in Lima early on Saturday morning, and after what we were soon to discover were normal delays, we were on our final flight to Iquitos. Devon was at the airport to greet us and he, along with a staff member, made certain that all of our luggage was accounted for. We were then whisked off for the beginning of our extraordinary adventures! The first night we had lovely and gracious accommodations at the Dorado Plaza Hotel on the Plaza de Annas in Iquitos, with a delicious dinner at a local restaurant amongst the new and existing friendships of our group. It was my first taste of what was to come of the exquisite foods of South America. Every meal was accompanied by a sumptuous juice of papaya, mango or some other exotica ~ nothing as I had ever experienced before, each rich and luscious in its own distinctive character.

Sunday morning we were packed and headed out by 8 am to the waiting minivan that took us through the streets of Iquitos, amidst the many open-air 2 passenger taxis that filled the streets. Arriving at the port facilities, we hiked down the sandy beach and made our first climb aboard what was to become our frequently used, and beloved little skiff. The expectancy enveloped us as we sped off to our awaiting pamacari riverboat, the Tucunare. Over the next week an intimate affection and respect would foster for this beautiful riverboat, and I shall always recall my first vision of it, as it rested peacefully, moored alongside the banks of the Amazon River.

As the Tucunare departed downriver with its new charges, we were given an orientation of the boat and procedures, after which we chose our bunks, and quickly unpacked and arranged our equipment. It was not long and word was sent that our first collecting site was approaching. We rapidly donned our fishing gear, which came to mean any item of clothing, under and outer garments, that we knew would soon be soaked with river water, caked with mud, baked by the sun, possibly spattered (sometimes drenched) with rain, and the resting place for an insect or two. It became clear that the same clothing was best worn for all collecting, with a quick dry over the railings of the Tucunare in between sites. The soon-to-be familiar mental checklist ticked off: brimmed hat, (sun) glasses, insect repellent, sunscreen, followed by what would be: wet socks, squishy wet sneakers, collecting net, bucket, camera, and plastic 'Zip Loc' bags for bringing wildlife specimens back for photographing.

We hopped into the waiting skiff and sped up the Rio Nanay to the junction of the Rio Momon. As it was the dry season in Peru, the waters were exceedingly low. Jumping out of the skiff brought us our first encounter with the deep mud that engulfed us (literally!) over the course of our journey. During our travels, the question became not 'if it was muddy, but just how deep the mud was in a particular spot. After several trials, I learned that I could manage to pull my legs out if it was just above my calves. When I observed the men go in over their thighs, I came to realize that I had to skirt that particular area in order to reserve my strength, as pulling ones body through the thick mud was intensely energy-depleting.

My first time out, my first collecting site ~ okay, I had a few things to learn. With all of Nature's uncertainties, one thing about the Amazon River and jungle is for certain, what you do need to learn, you learn fast ~ and you do not forget! The crew was already on the other side of the river, casting the seine net in a wide arc as some of the others in our group swam over to begin working the parameters. Not to lose a moment of new experiences, collecting net in one hand and bucket in the other, I began wading through the mud, and then into the water. The bottom dropped away from under my feet, and it was time to swim. So now I am going to concede and tell you what I quickly learned!

Although I practically grew up underwater, as my father is a noted SCUBA diver, swimming across a tributary of the Amazon, fully clothed, with drawstring pants that fill with water, net in one hand and bucket in the other, is a situation abounding with lessons to be learned! Naturally, my bucket immediately fills with water, and as hard as I try to hang onto it ~ please remember, my other hand is holding a 12" x 12" net with a four foot handle ~ I soon have no choice but to let go of the water-laden bucket. How mortifying! How was I going to admit this one ~ here I am, out in the middle of the river, with no bucket to put my fish into! Now my pants are laden with water, I am trying to hold this momentarily seemingly, larger-than-life net over the water, and still searching behind me in hopes that the dam bucket is going to magically reappear so that I do not have to admit to my folly. Somehow, I made it across to the seine ~ laughing, of course! Then the fun really did begin! By the way, after undoing the pant drawstrings from around my ankles, and releasing half of the Amazon back to continue on its downstream journey, I now remember to leave the drawstrings open before taking the plunge! I did learn my lessons through experience, as I was determined, ready to enjoy and appreciate to the fullest, and not about to let one moment of this wondrous adventure pass me by!

As the net was worked into the shoreline, the glistening bodies of fish (the Cichlids first, being the smartest, of course!), realizing their capture, could be seen leaping high in the air, some of them over the net, and back into the safety of the waters on the outer side. What an unequivocal thrill came over

me as we gathered the net up to the bank. The powerful crew members, Segundo, Cesar and Eugenio, pulled the ends, while the rest of us worked the center by holding the corks on the top of the seine up above the water, and moving the bottom edge through the mud, keeping it tucked under to prevent any escapees. A mass of fish of all species, sizes, and shapes, flipped and leaped, their scales brilliantly dazzling in the bright sunlight, shimmering across the entire length of the net. It was a breathtaking sight! Everyone excitedly began picking through the catch, calling out the names of species discovered amongst the bounty, placing those in our buckets that would return to the boat with us for identification, photographing, or to take back to the US, and returning the others back to the river. Among our finds there was a lovely mix of cichlids which included *Mesonauta insignis* (Peruvian Festivum), *Acaronia nassa*, *Biotodoma cupido*, *Cichla monoculus*, *Hypselecara temporalis* (Chocolate Cichlid), *Pterophyllum scalare*, (Angelfish) and *Satanoperca jurupari*, as well as *Acestrorhynchus falcatus* (Freshwater Barracuda), *Hemigrammus pulcher*, *Parauchenipterus galeatus* (Woodcat), and *Boulengerella maculata*, along with a vast array of other species. There was tremendous elation for all, with something to suit everyone, and the Cichlid enthusiasts among us, Scott Jacobson, John Luckshire, Luis Morales, Ed Young and myself, were certainly ecstatic!

Returning to the skiff, our group was ready to move onto the next location, filled with the enthusiasm of our good fortune. We were short one member and looked across the ridge to see Jaap-Jan coming out of the jungle where he had walked up a small stream to collect, as was customary for him to go off and explore for prime spots, always returning with something new and different. This time his bag held such prizes as *Aistogramma bitaeniata*, as well as *Pyrrhulina* sp. 'Nanay.'

Moving further up the Rio Nanay, we stopped at several more sites, one being a 'brush trap' of dense branches that had been set out to attract fish. This was a great success in harboring *Pterophyllum scalare*, to the immense delight of Luis and some of our other Angelfish enthusiasts. It was now time to make our way back to the Tucunare, where a delicious lunch would be waiting.

Segundo, Cesar, and Eugenio accompanied us on all of our collecting excursions. Segundo was amazing in his notorious prowess at catching with his bare hands any form of wildlife, be it fish, snake, bird, frog or insect. Cesar excelled at searching out and discovering the best fishing locations and the rarest fish. If you had a dream fish, Cesar wanted to know about it, and he would find it. Eugenio was a master at going off into the jungle and locating new collecting sites, bountiful with rare finds, as well as steering our skiff with an innate skill, through the low waters, around fallen trees, and over the many traps laid along the way by the river people. All three men were forever ready if one needed a helpful hand, and as on several occasions we traversed fairly rough terrain, they were oft times my heros. Always in the best of spirits, their contagious laughter resounded across the Amazon River and quickly drew us all to join in with good cheer.

Emerson and Raul remained to watch over the Tucunare, handling the many items that needed tending to there. Raul was our chef, preparing the most delicious meals that one could imagine, each more exquisite than the next. The platters were piled high with steaming hot seafood, chicken, 'local meats' (please use your imagination!), rices, potatoes, yucca, sauteed bananas, and breads, as well as delightful chilled dishes of fresh slivered hearts of palm, avocado, broccoli, cauliflower, beets, peas, carrots and always a huge assortment of fresh local fruits and juices that rival any that you have ever tasted! Raul's beautiful presentations were unsurpassed, as his creativity went far beyond the sumptuous cuisine, with every dish carved and decorated to perfection. Emerson was magical! His quiet care for every minute detail of our needs went without compare. I never ceased to be surprised, and touched, by the thoughtfulness and concern that Emerson put into making sure that our stay was a pleasant and enjoyable experience. That was the way of all of our time spent with Margarita Tours. I shall always treasure the friendships, memories, care and kindness provided by the entire crew of the Tucunare.

As the skiff pulled up alongside of the Tucunare, we hoisted our buckets and nets on board, and climbed up on the bow where the crew helped to hose down the mud from our pants, shoes and legs. Our

shoes and socks came off on the deck, where they would be hosed further and piled in the sun before our next collection site. Once up on the top deck, we carefully sorted through our fish, recorded pH, hardness and temperature readings of the water of origin in the collecting buckets, and placed the fish, along with fresh river water, in tubs and coolers. Those of us who had brought portable battery-operated air pumps hooked those up, which proved to be a great help to the welfare of the fish for the duration of their stay in these temporary quarters. Scott had brought a used sponge filter as well, which is a wonderful idea that I shall be adding to my list for the next trip.

Extra fish went into a holding tank for identification and observation. Later we would spend time going through these, selecting individuals for photographing, and placing them in the photo tank.

David immediately pulled out his notebook after each collecting event and meticulously catalogued our catch. I shall always fondly recall David, totally immersed in his subject, turning it upside down, pulling out fins, counting rays and scales, and noticing finite details that surely would pass by the less experienced eye. One hand grasped the fish, as the other flipped the pages of any of a number of books from the Tucunare library. An exclamation of glee as the proper identity of one of the more mystifying specimens was located. David's keen eye and vast knowledge of the taxonomy of our fishes is immeasurable.

Once our charges were set after the morning's excursion, any water changes that needed to be done were taken care of before we went down to our bunks and donned a dry set of clothing for lunch. Our wet garments were hung up on the top deck to dry as much as they might before the next outing. Suddenly aware of our hunger, we gathered over Raul's luscious lunch, which was devoured with gusto as we exuberantly relived our adventures. Lunch was always followed by a welcome siesta, as a peacefulness settled over the boat, spawned by the fresh air and strenuous physical activity.

Two o'clock ~ "collecting site approaching!" We jumped into our clothing that was a bit drier after hanging out under the afternoon sun, grabbed our equipment, and were off. This excursion found us hiking a jungle trail to Momon Cito, a small stream off of the lower Rio Momon that was almost dry from the lack of rainfall. The thickets and overhang were dense as we reached a log bridge that had been built by the river people. Once crossed, we winded and slid our way down the banks of a steep and jagged ravine to spread out in the waters of the gently trickling stream. Dipnets went to work in the center of the stream, and then right up into the edges of the banks, full of promise with a thick accumulation of leaf litter, amidst tree roots that intertwined and wound their way down into the water. This location brought *Characidium* sp., *Nannobrycon eques* (Pencilfish), *Pyrrhulina* sp. 'Momon Cito,' *Brachyhypopomus* sp., more *Hemigrammus pulcher*, *Hoplias malabaricus* (Wolf Fish), which we were to find in all sizes throughout the trip, *Hypoptopoma* sp., *Farlowella amazona*, *Rivulus rubrolineatus*, *Crenicichla proteus*, *Aequidens diadema*, *Laetacara thayeri*, more *Aristogramma bitaeniata* and *Crenicara punctulata*.

The afternoon flew by, and as the sun began to make its way over the western horizon, we reluctantly pulled ourselves away and headed back to the Tucunare, mindful of the need for fresh water and care for the fish in our buckets. The sunsets of the Amazon are breathtakingly beautiful events, spanning an hour or more of an ever-changing kaleidoscope of opulent colors. Once on the boat we took time to pause and reflect on the loveliness before us, bringing our cameras out for multiple shots of the constantly shifting skies.

After tending to the fish, our hearty appetites were delightfully appeased by another delectable meal as we compared notes over dinner and Devon announced plans for an evening excursion, or the next day's journey further up the Amazon. One of our evenings was a wonderful dream, as those of us who felt so inspired took the skiff out on the Amazon River to view the night wildlife. We wore our headlamps and held flashlights, which reflected the eyes of creatures along the river's edge, in the water, and up in the trees. Devon expertly guided us, and the crew was in top form as the boat was adeptly steered into the shoreline, our lights holding a targeted animal spellbound. Ready for action, with the rest of us cheering him on, Segundo deftly maneuvered himself, whether it be reaching out, darting after,

or leaping for, the unknowing creature, to bring it back to the skiff for observation and photographing. Devon, with his extensive wisdom and lifetime of experience and jungle lore, narrated the animal's identification and habits, while answering our many questions, patiently being certain that all were given an opportunity for photographs.

Another evening was spent on a most eventful night-hike through the jungle. With the jungle-savvy crew in the lead, and Devon on the outskirts and ever-mindful of those towards the end, our way was lit by only the lights in our hands and the moon overhead. We shared a memorable and beautiful adventure, filled with wildlife and exquisite photo opportunities. An ardent and inimitable instructor, David took time to pass along his extensive photographic knowledge as he pointed out the best angles, use of flash, and camera settings.

The generator of the Tucunare was turned on three times a day, and shut off at 9:00 pm, or shortly thereafter. It seemed as if my head barely hit the pillow and sleep came over me, filled with dreams of the Amazon, its wondrous creatures, and the special people who live there. My little clock would strike 5:50 am before I knew it, and another magical day would begin.

The people of the Amazon River bring a warmth to your heart as they are so kind, and forever filled with cheerfulness and laughter. They have so little, and are wanting of even less. Happiness is food for their families, clothing on their backs, a roof of banana leaves over their heads, and the love of family and friends around them. As our boat wound its way up the river, they came running out to greet us, always with a big wave and a smile. Devon and David were celebrated, and it was evident that they bring great joy and are cared for deeply by the people of the jungle. When we hiked through their lands, they welcomed us, and as Devon spoke with them in their native tongue, they pointed the way, or led us to the best collecting sites. The people of the Amazon River are truly beautiful.

Aside from fishing, we went on several excursions amongst the small villages. On one of these we visited the Yanamono ('black monkey') distillery, where we watched the ancient art of sugar cane going from the raw state of growing out in the field, to the final product of sugar cane rum, or Agua diente. The canes were crushed by a horse-driven churn, and then boiled in a huge caldron, where the juice was fermented to perfection, and in high demand as the popular local rum. As the guests of the gracious proprietors, we sat down to a taste, along with cheeses and crackers, and were given the opportunity to purchase any of four flavors: ginger, molasses, 7 roots, or straight Agua diente. I chose several bottles of 100% molasses, which is delicious! Now that the weather is turning a bit chilly here in the US, I am wishing my choice had been more diverse!

We collected in a beautiful lake, Atun Cocha, where dragonflies flitted along the water's surface, and the waterlilies gracefully shaded the shallow edge. This was well worth the thick muddy footing, as it yielded a wonderful catch of *Pygocentrus nattereri*, *Hyphessobrycon bentosi* (Rosy Tetra), *Hyphessobrycon newboldi*, *Hyphessobrycon copelandi*, *Hemigrammus unilineatus* (Featherfin), *Carnegiella marthae* (Black-winged Hatchetfish), *Erythrinus erythrinus* (Red Wolf), *Copeina guttata*, *Leporinus friderici*, *Aramites hypselonotus* (Marbled Headstander), *Centromochlus heckelii*, *Auchenipterus* sp., *Pimelodus pictus*, *Hoplosternum thoracatum*, *Corydoras elegans*, *Ancistrus* sp., *Aequidens tetramerus*, *Aristogramma cacatuoides* and *Heros appendiculatus* (Green Severum).

Crossing the Amazon River to the Rio Apayacu, we fished in the Apayacu Creek near the village of Apayacu, and then onto the Yanayacu Creek. With the low waters, it became apparent that some of our original destinations needed to be altered, but our alternative locations proved to be equally prodigious. Each and every location brought its own stories, memories, and rich rewards, such as the massive Electric Eel, with its graceful body and striking orange throat, that was caught in a small stream where we were wading, and the immense Iguana, spotted watching over us from high above in the top of a towering tree.

Pevas bestowed exceptional collecting along the shores of the lower Rio Ampiyacu, and a hike to a clearwater creek behind Pevas was breathtaking as well as prolific. Here our endeavors turned up *Astyanax bimaculatus*, *Boehlkeia* sp., *Copella nigrofasciatus*, *Pyrrhulina semifasciata*, *Trichomycterid*

sp. (non-parasitic), *Ancistrus* sp. 'olive,' *Hypostomus* sp., *Synbranchus* sp., *Crenicichla proteus*, and the stunning *Apistogramma* 'Pegas.' Warren Van Varick captured the Trichomycterid sp. (catfish, non-parasitic), and was so kind as to give this beautiful specimen to me as a gift to bring back to the US to add to my collection.

Returning downstream, the Tucunare steamed along at a good clip. A reed bed near the mouth of the Rio Apayacu proved to be sensational, as we had what would be our last and one of our most exciting seines. The net was cast in a huge arc around the mass of tall grasses, and as it was worked into shore, the reeds were unearthed from the river bottom and pulled aside. As the area began to clear of the obstacles, the seine was expertly guided to surround the location and then into the shoreline. I still smile as I recall, as if I was still there, our profound glee and exultation when we pulled the net up to discover a huge Redtail Catfish as I never thought I would see in its natural habitat! We also found *Roeboides* sp., *Serrasalmus rhombeus* (Black Piranha), *Pygocentrus nattereri* (Red-bellied Piranha), *Cynopotamus* sp. (River Dog), *Leporinus* sp. af. *fasciatus*, another *Leporinus* sp., more *Abramites hypselonotus* (Headstander), *Apteronotus* sp. (similar to a Black Ghost without the white markings), *Steatogenys* sp. aff. *elegans*, *Steatopygus* sp. (a long graceful knife fish with a thin light line mid-body), *Hassar* sp. af. *notospilus* (Mouse Catfish), *Pterodoras granulosus*, more *Farlowella nattereri*, and another *Farlowella* sp., *Leiarius marmoratus*, *Pterygoplichthys pardalis*, and I was so happy for Warren, for his dream fish, *Zungaro zungaro* (formerly in genus *Paulicea*) (commonly referred to as the Giant Jello Catfish, or Giant Jelly Catfish), had been located!

Our final day aboard the Tucunare had arrived and I was overwhelmed by emotions of great joy and fulfillment, mixed with a touch of melancholy, for it was all too soon to be departing this beautiful land and its people, as well as the friendships that I had made along the way. That last day bustled with sorting, labeling and packing our fish, taking them to the exporter, visiting Panduros, another huge import/export company, where we purchased more fish, and finally settling into our hotel. Devon and Margarita Tours treated us to a wonderful farewell dinner amongst dear friends, filled with the delicious indigenous fare of the country and river, and abundant with the recounting of our recent adventures.

Now that I have returned, I am looking at my fish from a different perspective, learning Spanish, eating rice, yucca, bananas and papaya, feeling the spray of the river over my face as the skiff speeds through the water, murmuring 'trampa' in my sleep, smiling back at the wonderful and genuine people who live along the river.....and dreaming of the day that I return!

If you have a dream ~ follow it. Margarita Tours, Devon Graham, David Schleser, the remarkable and kind crew of the Tucunare, Segundo, Cesar, Eugenio, Emerson and Raul, the extraordinary people who I had the good fortune of traveling with, Luis Morales, Marilyn Weitzman, Jaap-Jan de Greef, Willem de Greef, Scott Jacobson, John Luckshire, Warren Van Varick, Ed Young, Friday eve spent with George Richter, and forever my inspiration, my dear SUBSEE, and as always, my dear Dash, made my dream a reality, and I shall be back for more!

With special thanks to Dr. David Schleser for his kindness and generosity in contributing his invaluable expertise to fish, wildlife and collection locale identities, as well as other factual information regarding local Amazonian lore.

Editor's note: this article is scheduled to appear in an upcoming issue of **Tropical Fish Hobbyist** magazine.

Project Amazonas, Inc. is a non-profit organization, dedicated to the protection of the Peruvian rainforest and its people. Margarita Tours works hand-in-hand with, and is a strong supporter of, Project Amazonas, both working towards advanced efforts of conservation, research, medical assistance and sustainable development in the Amazon. Operating three biological field stations and conservation reserves, Project Amazonas has made impressive strides towards conserving natural resources, improving health care, providing emergency medical treatment, and ensuring that students and schools

have the necessary supplies. Funds are reinvested in the local communities, and the employees of Project Amazonas are the people who call the Peruvian Amazon jungle their home.

We can play an important role in the continuing success of one of the many programs embraced by Project Amazonas, such as Emergency Nutrition, Sustainable Development, Education, or Conservation, by logging onto [www.projectamazonas.com](http://www.projectamazonas.com). Please click on 'Emergency Nutrition' to begin your journey on this website. Once you read these pages, you will have a true understanding of the needs of the region, the reality of the despair, the hopes for the future, and what we can do to make a difference!

#### Contact Information:

To become a part of Project Amazonas:

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## Membership Corner

by Kathy Deutsch

MASI member Dwayne Peters reports that he has two batches of fry that are turning into something special. The culmination of a year's work, these fry are beginning to grow out into high fin plumbetail Mickey Mouse platies.

Dwayne bred a high fin tangerine male with a female plumbetail Mickey Mouse platy. She had a nice drop of fry in late January 2008. They are about 1 inch now and some are coloring into a nice tangerine with sharply defined Mickey Mouse markings. The high fin is just sprouting, but these fish will no doubt be standouts in no time.

A second batch dropped the second week of February-it will be interesting to see how they shape up. Dwayne says he is working to develop red velvet sailfin plumbetail platies.

MASI members, do you have something to brag about? Each issue of "The Darter" will feature a "Member's Corner". In it, we will have member interviews, information about other things MASI members are doing (this is a good place to tell us about upcoming school plays the kids are in, job promotions, A+ report cards, wedding anniversaries, and the like). We also want to hear what your fish are doing!

You do NOT need to write it. Just email ([kathy@skdeu.com](mailto:kathy@skdeu.com)) or call Kathy Deutsch (314-741-0474) with the info and she will write it up and pass it to the Editor.

Nothing is too trivial. If you are proud of it and want MASI to know about it, let Kathy know.

# The Computer Page

Steve Deutsch

MASI's official web page: [www.missouriaquariumsociety.org](http://www.missouriaquariumsociety.org)

MASI's email group: MASIFishHeads Yahoo Group - see web site for joining instructions

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## MASI MEMBERS E-Mail Addresses:

Jim & Sue Amsden	<a href="mailto:suzjimmie@aol.com">suzjimmie@aol.com</a>
Al Andersen	<a href="mailto:alander602@hotmail.com">alander602@hotmail.com</a>
Michele Berhorst	<a href="mailto:mmbberhorst@aol.com">mmbberhorst@aol.com</a>
Klaus Bertich	<a href="mailto:kbertich@sbcglobal.net">kbertich@sbcglobal.net</a>
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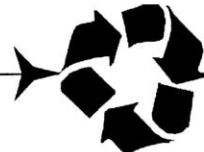
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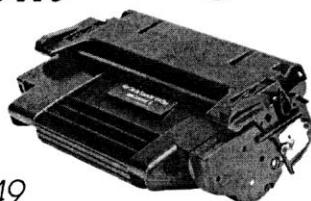
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