

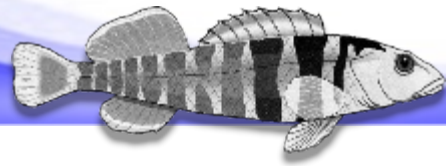


The
DARTER

V45-N12

March/April 2019

B&W Printed \$5 Members / \$7 Non-members



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THE DARTER

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The editor reserves the right to edit any article for length, clarity, or content.. Photos provided are by each Author unless otherwise indicated.

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Annual membership in the Missouri Aquarium Society, Inc. is \$15 and includes an electronic subscription to The Darter. B&W printed Darter's are available at the meetings for Members: \$5; Non-members: \$7. Published six times per year.

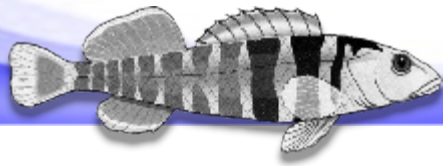
Join or renew membership at any meeting, most club events, by PayPal from the MASI Website's Membership Page or by contacting the membership chair.

EDITOR Chuck Bremer editor@missouriaquariumsociety.com www.missouriaquariumsociety.com



Cover - Crayfish
by Jerry Montgomery





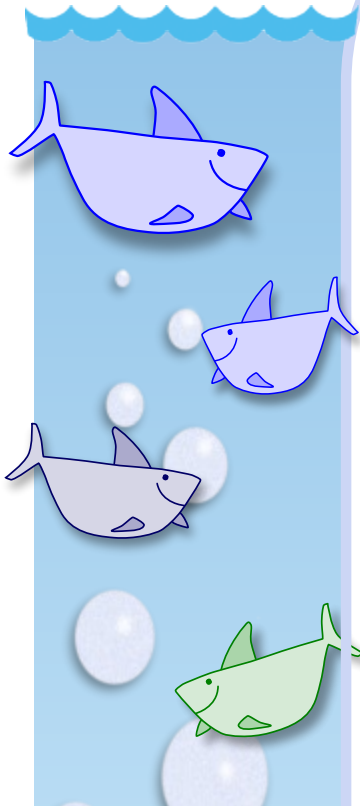
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March:

In
like a



And
out
like a



Article Photos are provided by the Author unless otherwise noted.

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FROM THE PRESIDENT'S TANK

Pat Tosie

talking on Aquascaping and he is sure to show you some great ideals to make your tanks look fantastic!

**FISH BUCKS! FISH BUCKS!
FISH BUCKS! FISH BUCKS!
FISH BUCKS! FISH BUCKS!
FISH BUCKS!**

The time is almost here for you to have the opportunity to SPEND YOUR FISH BUCKS and purchase special items at our spring banquet! This will be a fun time at the annual banquet, and remember, if you don't use your FISH BUCKS, you lose them, so come on out to our banquet and have some fun!

Elections are coming up, so please think about taking a position in the club where you can volunteer and help out or run for a council or officer position and guide the club into the next several years, we always are

looking for fresh new ideas and help. We are a completely volunteer organization and members work and run the organization. All help is needed and appreciated.

It's that time of year when the fish hobby gets very active with shows, swap meets and auctions. I know two of them which I will be attending, the American Livebearer Convention in Louisville, May 23 - 26 and the American Cichlid Association Convention July 18 - 22 in Cromwell Connecticut and I will, as always, be looking for a few new fish!

Question: Who has been to the new Aquarium in Springfield, MO? Let's hear about it!

See you at the meeting!

Keep looking below water....

The 2019 MASI Challenge (George Maier Educational Fund, it is a killifish research program) is up and off to a good, so PLEASE bring some fish, plants and supplies to the monthly meeting and donate to this worthy cause so we can make or even surpass our goal. PLEASE support this worthy cause.

April will be a big and exciting month for us as not only do we have our monthly meeting, we will have an auction, a swap meet and our annual banquet!! Lots of activities for you to have some fun. Our April meeting will feature Balin Shaw as a speaker,

FROM THE EDITOR

Chuck Bremer



It's Fish Season, Enjoy it!

Spring has Sprung! It may not seem like it when you look outside at snow flurries but it's here. The other night a spring peeper/cricket frog followed me in the door just to get out of the rain and there is at least one Aquarium Hobby related meet every weekend.

Get the year started off right and make it a good one. While you're at it write about your Tanked experiences for other Hobbyists to learn from.

Who knows, you might just earn \$100 for the 2019 Writer of the Year!



Content deadline for the May Darter is May 7th.

Send Feedback and Letters to the Editor to: editor@missouriaquariumsociety.com



**MASI Official Site
Announcements &
Posts**



**Fishy Q & A &
Discussions**

**Missouri Aquarium
Soc. Discussions**



**SWAP
Vendors, etc.**

**MASI Annual Swap
Meet**

Forum Afficianados, Did you know that even if you don't have a FaceBook account, these FaceBook pages are available for Public reading? **Each placard is linked to a corresponding PUBLIC FaceBook page, just click it.**





MASI General Meeting: Thurs, March 21st!!

Big Aquascapes in a Small Space



**Balin
Shaw**

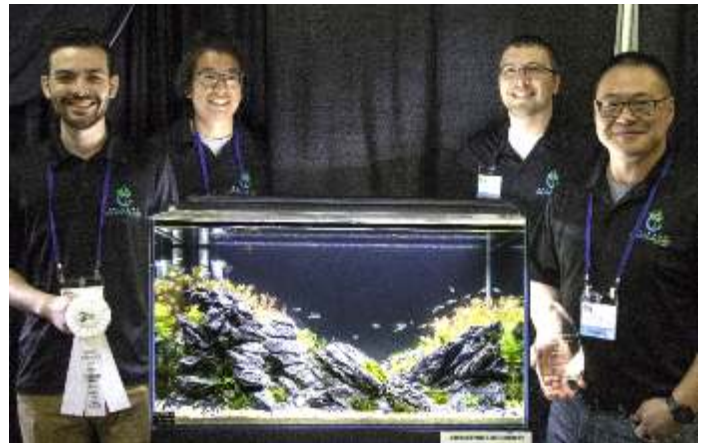
Balin's passion is educating other hobbyists on the benefits and creation of naturally planted aquariums. This talk provides information and tips to set up and maintain nano aquascapes in either low maintenance or high tech tanks.

He has loved fish keeping from his first aquarium at 5, having at least one aquarium running since then. He currently runs 6-8 low maintenance and high-tech planted tanks.



To help teach aquascaping and the aquarium hobby Balin has now either restarted or helped found the Oklahoma City Aquarium Association, the Dallas-Fort Worth Aquatic Plant Club and the New England Aquatic Plant Society. Most recently he has founded the Chicago Aquatic Plant Society, since grown to be one of the largest and strongest planted aquarium clubs in the United States.

Balin serves as the current president of the Chicago club, as an executive board member for the Aquatic Gardeners' Association and as the AGA's chairperson for the annual Aquatic Gardeners Association's International Aquascaping Contest.



Includes Mini-Auction and Door Prize Raffles

Dinner with the Speaker this month is 6:00 PM Mexican at @ Casa Juarez, 12710 Dorsett Rd, Maryland Heights, MO. Please let Gary Lange know if you will be attending!!

Email: gwlange@sbcglobal.net or Text: (314) 412-7636

7:30 PM Dorsett Village Church
2240 Bennington Place, Maryland Heights, MO





MASI General Meeting: Thurs, April 18th!!

Collecting in Captivating Columbia



Jeremy Basch of Columbus, OH started keeping fish over 25 years ago after a visit with his father to a pet shop. At 16, working at one of the local fish stores, he became seriously hooked!

His fishroom, currently on its fourth modification, contains over 120 aquariums from 2 ½ to 150 gallons. Jeremy's primary focus are the cichlids and catfish of South America. He was the first person to have the Jaguar Catfish, *Liosomadoras oncinus*, spawn and result in viable offspring!

A member and former chairman of Columbus, OH CAFE he also belongs to OCA, GCAS, AKA, ACA, the Catfish Study Group and Corydoras World and has written several articles including that first successful breeding, Jeremy can be seen at fish shows and conventions throughout the US.

Join us for a night of discovery and adventure as we go Collecting in Captivating Colombia - the biodiversity hot spot second only to Brazil. Many well-known species in the trade come from Colombia with far more yet to be discovered.

He'll take you on his travels in Colombia and show the various biotopes and fauna of these regions. This talk has something for everyone!

Dinner at 6 pm at Bandana's BBQ - Please text or email Gary Lange so he can reserve enough spaces.



Jeremy Basch



Including Mini-Auction and Door Prize Raffles

7:30 PM Dorsett Village Church

2240 Bennington Place, Maryland Heights, MO



Bios of MASI Future Program Presenters

April - Jeremy Basch

Collecting in Captivating Columbia



Jeremy Basch of Columbus, OH started keeping fish over 25 years ago in a 15 gallon tank after a visit with his father to a pet shop. Through the years, he kept various species in this aquarium including: bleeding heart tetras, black tetras and swordtails. At one point, he even kept a pair of fire mouth cichlids with a pictus catfish! Then, around 16, Jeremy started working at one of the local fish stores where he became seriously hooked and acquired various sized aquariums and fish!

In 2004 he setup his first fishroom and is currently on its fourth modification which now contains over 120 aquariums ranging in size from 2 1/2 to 150 gallons. Jeremy has bred over 40 species including many cichlids, catfish, rainbows, killifish, livebearers and invertebrates. He was also the first person to have the Jaguar Catfish, *Liosomadoras ocninus*, spawn and result in viable offspring!

Jeremy's primary focus is now the cichlids and catfish of South America.

He is a current member and former chairman of the Columbus Area Fish Enthusiasts and currently belongs to the Ohio Cichlid Association, the Greater Cincinnati Aquarium Society, the American Killifish Association, the American Cichlid Association, the Catfish Study Group and Corydoras World.

He has written several articles appearing in the Buntbarsche Bulletin, his hometown club's CAFE Menu and in Amazonas sharing that first successful breeding of the Jaguar Catfish. Jeremy can usually be seen at many fish shows and conventions throughout the Midwest and beyond.

Please join us for a night of discovery and adventure as we go Collecting in Captivating Colombia.

May - Rick Borstein

Sixty Tips in 60 Minutes



May's meeting will feature the legendary, Rick Borstein.

Rick is a renowned aquarist and speaker, who has bred well over 250 species. He is President of the Federation of American Aquarium Societies (FAAS), President of the Chicago Livebearer Society (CLS) and the Webmaster of the Greater Chicago Cichlid Association. Rick has been the Chairman of the successful American Cichlid Association Conventions held in Chicago. Rick has spawned over 225 species of cichlids and is one of few people to hold the title of Master Breeder in the GCCA.

Primarily interested in cichlids and livebearers, Rick's basement fish rooms are full of tanks ranging in size from 5 gallons to hundreds of gallons.

Rick will give us "60 tips in 60 minutes" — in rapid fire fashion—

Tons of tips to make it easier, faster, more fun to manage, maintain and breed your fish - that you can use right-a-way, whether you have one tank or a fishroom full of tanks. This is a picture driven presentation offering tips and do-it-yourself tips on better ways to feed, change water, pack and ship tropical fish and tons more! Bring a notepad because you're going to want to write some of these down. But if you can't write fast enough, best of all, these tips are published in a concise PDF online you can refer to after the talk.

June - Dave Hemmerlein

Collecting Native Killis



BIO- Besides being married to a hot wife and having a dog that is named after a beer, I keep fish. I have been into fish for the past forty years and have been married forty years so I am not sure if the fish came first or the wife but I know which one I love more.....it's you honey.

I maintain some tanks but I can't remember how many tanks I have but most of them are full of fish but I don't have any more room for any more tanks. I maintain many different types of fish and love them all but if I had to my favorite type of fish, then Killies, and I especially like native killies.

In addition to keeping fish, I love to go collecting, and keeping them in my tanks and maintaining and spawning them. I have been collecting in many places in the United States and outside the United States, and thoroughly enjoy it.



FROM THE VICE PRESIDENT

Gary Lange



Ask not what MASI can do for you but what you can do for MASI!

Running for Executive Council 2019/2020

We're now looking for members to run for council for the 2019/2020 session.

The new session starts in July of 2019. The council meets usually once a month and usually the 2nd Saturday evening after the MASI general meeting but DOES change to accommodate our board members.

We take turns having the meetings in our homes so you will be expected to host one of those meetings.

We have four officer positions, President, Vice President, Treasurer and Secretary. We also have 6 council member positions. The officers and the executive council members help guide the club in activities such as monthly speakers, auctions, swap meets, Super Bowl, social events (bowling, club picnic), MASI Challenge and other items concerning our club.

Becoming a member of council is a great way to help our club grow and also for you to get to know some of our members better. It's also a great way to pick up ideas for your own fishroom as many of our executive council members have been keeping fish for a while and have developed fish rooms.

We need an active council, people who are willing to try new ideas and also to volunteer to put those ideas into action. Our council meetings are open to our members so perhaps stop by and see what it's all about. Just let the hosting member know ahead so that there are enough chairs available.

If you would like to sign up to run for council please call or email me as soon as possible. **Elections are at the June meeting** and I would like to have a slate of candidates as soon as possible.

If you have any questions please don't hesitate to get a hold of me.

Daniel Adams	O'Fallon, MO
Tim Eckerley	Kansas City, MO
Kevin Fillies	St Louis, MO
Nicole A Hamilton	Granite City, IL
Michael Keefer	Springfield, IL
Jordan Paul	Evansville, IN
Brad Riley	St Louis, MO
Kevin Rousan	Saint Claire, MO
Matt Sassman	Saint Ann, MO
Eric Schuepfer	St Louis, MO
Jeremy Vanover	???, ??
Brian & Teresa Wolfangle	Wentzville, MO

2019 New Members since the last Darter!

A list of new members is a regular part of the Darter.

30 so far for 2019



The Missouri Aquarium Society is changing rapidly!

Say "Hello" to the new members and make them feel at home. Ask them their experiences and opinions.

Make them feel welcome! New Members bring interesting ideas that

may help improve the club and make it more relevant for all.

Help these Folks get involved and continue to improve the club!



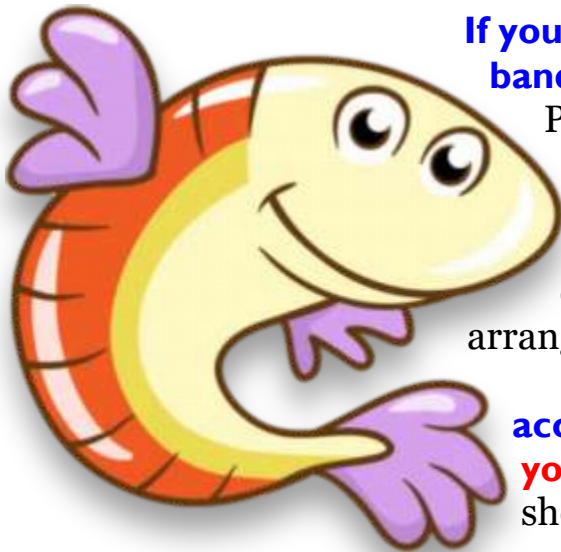


Bowl/Show Chairman - Chris Mohrle

Masi Annual Fish Bucks Auction & Awards Banquet



Come Eat!! This year will have A Mexican themed dinner to change it up a bit!!



If you would like to attend the banquet we are setting up a PayPal tab on the website for the cost of \$35.00 per person or contact me, the Spring Show Chairman, Chris Mohrle, at propagationaquatics@gmail.com or at 314-541-3847 (evenings please) and we can arrange other payment methods.

Come to spend your fish bucks you have accumulated all year!!! Don't have any? Oh I bet you do!! Every MASI event you attend, monthly bowl show

entered or event you have helped with you earned free Fish Buck Rewards to use at our "NEW" once a year Fish Bucks Rewards Auction!!

We will hold this auction directly after the Awards Banquet on April 27th. The banquet begins at 5:00 P.M. and will end roughly around 6:00. We hope to be set up for the Auction by 6:30.

You can attend the auction without coming to the banquet but please give those at the banquet time to enjoy their meal. No unpaid attendees may enter before 6:30.



Fish Bucks (FB\$) Reward Auction



Fish Bucks (FB\$) Rewards

You will be informed of your Fish Buck account total sometime before the Annual Awards Banquet in a personal Email but here's a hypothetical situation that may fit many members.

Attending 6 meetings during 2018, one being the Christmas Party tputs FB\$70 into your account. Three Dinner with the Speaker adds an additional FB\$60. Three bags brought for Challenge adds FB\$30 more.

If you brought a fish for the monthly Bowl Show twice and one placed 1st in it's class that's FB\$60 and those same 2 fish to the October SuperBowl, one placing 2nd in it's class adds an additional FB\$120!

Turning in 2 BAPs and 1 HAP could easily net you another FB\$25 or more.

Just attending the Annual Awards Banquet will add FB\$100 to your Total!!

With this level of activity you already have FB\$465 to spend at the Rewards Banquet Auction.



**How will
you spend
your FB\$?**



FB\$ Rewards Recap - Summary

Fish Bucks are a fun way to reward club members for participation and help them achieve the most from the Missouri Aquarium Society.

Fish Bucks Rewards accumulate for each Missouri Aquarium Society Member's club activity and volunteer participation from January 1 to December 31 and do not persist across years. Fish Bucks accumulated during the previous year will be available to spend as the sole currency at an annual special auction held soon after year's end, ie: Annual Awards Banquet, to purchase donated or other club purchased items from club sponsors. The Council has authorized spending up to \$500 on items for the Fish Buck Auction, plus available Donations.

The more active the club member, especially as volunteer help for club programs, the more Fish Bucks they will have to spend at this event for items of equipment, service or livestock.

This is an extension and enhancement to the current Participation Points system that has been used to select Hobbyist Service of the Year Award annually. **Now everyone will be rewarded!!**

Additional details in the September, 2018 Darter.

PARTICIPATION	Fish Buck Reward
Meeting Attendance*	
Monthly Meeting	10
Special meeting bonus - Christmas party, Summer Picnic, Social event	10
Annual Awards Banquet	100
Giving a General Meeting Program*	50
BAP Submission Completed as per Current Rules	1 - 40
HAP Submission Completed as per Current Rules	5 - 20
Member Donations - Refreshments, Donations, Challenge*	10
Executive Committee, Executive Council Member or Officer*	10 - 30/Mo
Bowl Show Chairman Awards*	
Annual Show Work, as determined by Show Chair	Up to 50
Annual Bowl Show Points (Annual Show, SuperBowl)	
Placing	50 - 150
Non-Placing Entry (Max 10)	20
Monthly Bowl Show	
Placing	30 - 50
Non-Placing Entry (Max 5)	10
Auction Work, as determined by Auction Chair*	Up to 100
Editor Awards for Original article or artwork in the Darter*	10 - 60
Exchange Editor Awards for Mention in another Club's publication*	10 - 30
Program Assistance to the Program Chairman	20 - 100
Attending Dinner with the Speaker	20
Special Services to MASI as determined by Executive Council*	By Exec Council
(Any Reward amount may be adjusted or amended by the Council as needed.)	



* These Awards are modification of the past Point system X10 with some edits.



MA SI Spring Weekend April 27 & 28, 2019

MA SI Event Location!

**Easy Access, Free Parking
Food Concession**

MISSOURI AQUARIUM SOCIETY
SWAP
Awards Banquet
All Day Auction



Holiday Inn

AIRPORT WEST, EARTH CITY
3400 RIDER TRAIL SOUTH
ST. LOUIS, MO 63045
1 314 2916800

MO-141, N of I-70



**Mexican Themed
Awards Banquet on
Saturday, April 27, 2019**

5 PM Seating

MA SI Members \$35/plate

Pre-Register w Chris Mohrle -

propagationaquatics@gmail.com

**50 Table SWAP Meet on
Saturday, April 27, 2019
Noon to 3 PM!**

Buyer Admission at the door: \$3

SWAP Seller Information & Registration:

Tom Corradini tom@farmerenv.com or

Debbie Sultan debsultan@gmail.com

8' Tables \$20 or \$25 with Electricity

**All Day Auction on
Sunday, April 28, 2019
View 10 AM, Auction 11 AM**

Auction Seller Information & Registration:

[On the Website &](#)

Auction@missouriaquariumsociety.com

Buyers get a number at the door.

No admission charge.

Awards to be Presented:

Aquatic Horticultural Awards

Breeder's Award Program

Member of the Year

Hobbyist Society Service Award

Hobbyist Show Champion

Ralph Wilhelm Writer of the Year

**Followed by the Fish
Bucks Rewards
Auction!**



More Info on our website or [Facebook:](#)

www.missouriaquariumsociety.com





TOM

MA SI 2019 Swap Meets

Tom Corradini

Debbie Sultan

Missouri Aquarium Society Swap Team



Thank You for Joining Missouri Aquarium Society at the 2018 SWAPS!

If you were looking for rare fish, plants, quality food, and everything you need to set up the perfect aquarium you should have found it!!

Thank you to our Swap Vendors and the 300 Buyers who took advantage of our biggest Swap yet!

Everyone said: "Thank You MASI!"

Planning now for the first Swap of 2019 on April 27th!





MA SI WEEKEND FOR FISH FREAKS!
SPRING SWAP MEET SATURDAY AND FISH AUCTION SUNDAY!

April 27, 2019 **Swap Meet** - Noon to 3:00 pm
 Adult Admission ONLY \$3.00 - KIDS FREE!!
 Larger this year with **50** tables!!!

April 28, 2019 **Spring Auction** - FREE Admission!
 Viewing 10:00 am - Bidding Starts at 11:00 am

Over **500** items up for auction!!! Auction information at our

SELL YOUR STUFF AT THE MASI SWAP MEET
 Membership not required to sell!
 Sellers 8' Tables \$20.00 SUPER CHEAP!
 With **ELECTRIC** only \$25.00 **CRAZY CHEAP!**
NO EXTRA CHARGE to split a table!

For more information and grab YOUR table contact:
 Tom Corradini - tom@farmerenv.com
 Debbie Sultan - debsultan@gmail.com

SAME GREAT LOCATION!

Holiday Inn
 Airport West, Earth City
 3400 Rider Trail South
 St. Louis, MO 63045
 314-291-6800

Visit our **Facebook** page at **MA SI Annual Swap Meet** and smash **JOIN**

MISSOURI AQUARIUM SOCIETY





MASI AUCTION MESSAGE

Mike Hellweg

Auction Report

above freezing by lunchtime. Hopefully they were right. We made the decision to push back the start of the auction by an hour. They finally opened HWY 70 at about 10:00.

I'm usually the first to get to the auction venue. Not this time. I got there about 10:30. As I walked in the door, I was pleasantly surprised to find almost 60 people already there! Not only were folks going to be there, they had already started setting up and getting things ready without me.

Well done folks!

With the poor outlook at the beginning, we actually wound up having a great auction - in the top 10 ever as far as total income, and TOPS EVER in terms of sales price per item. Even with starting late we were still out by dinnertime! We couldn't ask for anything more.

Thanks to all of you who braved the roads, got things rolling, and stayed all afternoon. It takes a lot of volunteers to run an auction. We couldn't have done it without each and every one of you.

Our next auction is on Sunday, April 28. I hope we see you all there. Even though the Swap is the day before, we've found out that it is generally two different groups of people. So there will be plenty of great stuff to buy at the swap, and at the auction, too.

And for you sellers, there will be plenty of folks looking to buy. Don't forget, members can register a week before the general public, so don't miss out if you want to be a seller. Members can start registering April 7 at midnight, and non-members can start registering April 14 at midnight.

Like many of you, I followed the weather reports on February 9 very closely. When I went to bed, they were saying we would get a bit of snow and the ice would stay out of the area.

When I woke up on the 10th - surprise! It wasn't a bit of snow; it was a sheet of ice! As I stood at the top of the drive way with our dog on her leash, we both started slowly sliding down the driveway without us having had to do anything. This wasn't looking good! As I listened to the weather reports and traffic reports (on a Sunday morning!), I started to worry.

The hotel called me to see if we were going to cancel. Well, I couldn't get to the hotel as the highway was closed, but the weather prognosticators were also saying it was going to go



And for now, 'nuff said



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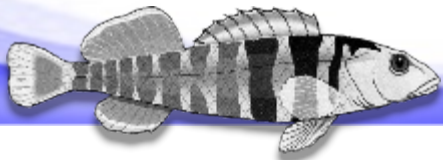


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Nominations for 2018's MASI Member of the Year

Dave Rush

I'm nominating Dave Rush for MASI Member of the Year. The reasons are self evident but will be expounded upon.



Dave has procured for our club a safe and roomy meeting place that couldn't have been more custom ordered if we tried. We enjoy the hospitality of his Church month after month at no cost and little worry. We can't thank him enough for that.

We then arrive at the person of Dave himself. Always first there and last out, Dave sets up our meeting area as well as takes it all down and puts things away. Very little for the club to worry about as Dave does all the work for us.

Have you ever noticed the amount of interaction Dave gives to any and all, and especially new attendees? We couldn't ask for a better welcoming committee/ ambassador than Dave. New arrivals are engaged in conversation and made to feel at ease by Dave. First impressions count heavily. Thank Dave for his efforts.

All the behind the scenes work is accomplished effortlessly. Many members do their fair share in their departments to bring you a monthly meeting. Dave is the foundation we all work from. For these reasons I'd love to see him as Member of the Year.

Nominated by Ralph Hueneburg

Chuck Bremer

I'm nominating Chuck Bremer for member of the year. The reasons for me are simple. We as a club are very fortunate to have not only a very hard working member but also a very caring one also. Chuck is the type of hobbyists that not only shares his knowledge but



will teach it explain it and help you towards the goals you have set out for yourself to achieve. He doesn't ask for anything in return. His work and contributions to the club are known but the work that isn't seen makes what's known so special he works hard to make our club one of the best. Chuck is a great friend to all and for that he is a member of the year candidate to me and all those that have been lucky to have him in our club and our lives. He has helped shape MASI into the club we love.

Nominated by Kevin Wise

Pat Tosie

I'm nominating Pat Tosie for Member of the Year. First let me say I know I am leaving something out of this nomination but it is hard to keep up with all the contributions of our President, Pat Tosie. My favorite definition of a leader is this: A leader knows the way, shows the way and goes the way. Pat certainly qualifies in all three of these areas. Pat has obtained a vast knowledge of our hobby through many years of keeping fish, collecting fish, and attending conventions. He presides over our monthly meetings and the monthly council meetings also. This in itself is a big commitment. But Pat also is the O-FISH-L editor and monthly sends out a blast email with info and contests (guess the fish) before our monthly meetings. His is also the corresponding secretary which contacts folks and companies for donations (our monthly meeting attendance prizes). When he isn't off to Mexico collecting fish he is one of our long time excellent auctioneers.



I did a quick review of our 2018 Darters which last years member of the year Chuck Bremer enjoys putting together for all of our enjoyment. Pat wrote articles, had a cover picture, submitted HAP entries, and- get this-

turned in twenty one BAP submissions of which nine were first time spawns! Very impressive indeed. He entered bowl shows and won best in show at the Super Bowl. For all of these reasons and some I admittedly have probably left out, please join me in voting for Pat Tosie for MASI member of the year.

Nominated by Ed Millinger

Angela Hellweg

I nominated MASI Secretary, Angela Hellweg, so we could recognize all her efforts in helping all of us have a better MASI organization. Angela is always working to make sure every meeting goes off without any problems. She always greets all of us at the front table as we sign up for raffle numbers, and drawings. Angela is very attentive in keeping track of information that enables her husband, Mike to perform his duties and, assisting Pat Tosie with questions during meetings and auctions.



Not many spouses would take the time and effort to help support their mate as Angela does in her support of Mike and his interest in the aquatic fish world. Between all the fish tanks, fish, mailings, household duties and keeping Mike functioning as well as her support of the Missouri Aquarium Society, Inc.- we all owe her a debt of gratitude for all she does so we can enjoy our monthly meetings and fish friend companionships.

Nominated by Brad Riley

VOTE!





MEETING REPORT

MISC Contributors

Meeting Bowl Shows - Chris Mohrle

January

11 Entries

Place	Cyprinids	Keeper
1	Cherry Barb	Pat Tosie
2	Long Finned White Cloud	Chris Mohrle
3	Long Finned White Cloud	Chris Mohrle

Place	Open	Keeper
1	Orange Laser Cory	Chris Mohrle
2	Orange Laser Cory	Chris Mohrle
3	Wild Molly	Pat Tosie



February

1 Entries

Place	Oddballs	Keeper
1	Red Tailed Catfish	Larry Albright

2019 George Maier Educational Fund



2019

The Challenge for Funding of this Educational Fund, nominated by Charles Harrison, began on January 1, 2019 with a \$300 Seed from MASI. Can we Exceed our Goal 3 years in a row?





COUNCIL MINUTES

Executive Council

COUNCIL MEETING

1/17/19

Pat Tosie called the meeting to order at 7:15 at the Dorsett Village Church. Present were Gary Lange, Jack Heller, Angela Hellweg, Tom Corradini, Charles & Sue Harrison, Melanie Holmes, and Chuck Bremer.

ANNOUNCEMENTS

- The next Council meeting is Jan 26 at the home of Jack Heller

REPORTS

- **SECRETARY:** Angela read the Minutes from the Dec meeting. A motion to approve was made by Charles Harrison and was seconded by Gary Lange. The motion passed.
- **TREASURER:** A motion to waive the Treasurer's report was made by Gary Lange and was seconded by Chuck Bremer. The motion passed.

OLD BUSINESS

- The 2018 MASI Challenge has raised \$2130.00 so far for Running River Rainbowfish.
- The new P.O. box has been opened.
- Pat has received some responses from manufacturers for product donations.

NEW BUSINESS

- **None**

A motion to adjourn at 7:24 was made by Charles Harrison and was seconded by Melanie Holmes. The motion passed.



COUNCIL MEETING

1/26/19

Gary Lange called the meeting to order at 7:46m at the home of Jack Heller. Present were Jack Heller, Angela Hellweg, Tom Corradini, Charles & Sue Harrison, Scot Roach, Melanie Holmes, Mike Hellweg, and Pat Tosie. Guests were Mike Huber and Debbie Sultan.

ANNOUNCEMENTS

- The next Council meeting is Feb 23 at the home of Gary Lange.
- The Winter Auction is Feb 10.

REPORTS

- **SECRETARY:** Angela read the Minutes from the Jan 17 meeting. A motion to approve was made by Mike Hellweg and was seconded by Scot Roach. The motion passed.
- **TREASURER:** Jack read the Treasurer's report. A motion to approve was made by Charles Harrison and was seconded by Melanie Holmes. The motion passed.
- **EDITOR:** Darter submissions are due by Mar 12.
- **AUCTION:** Mike said he is limiting seller numbers to one per household for a family membership unless the second member is also an active club member.
- **BAP:** Mike said that he and Steve Edie are working on updating points for some species.
- **BOWL SHOW:** Bowl show categories and schedule is on the MASI website.
- **CORRESPONDING:** Pat said he has received a few donations so far.
- **SOCIAL MEDIA:** Pat encouraged council members to share MASI posts on their Facebook pages.
- **SOCIAL EVENTS:** Possible visits to Sailfin in Champaign and

Columbia Pet in Columbia were discussed.

- **SWAP:** The next Swap meet is Apr 27. There will be a new layout.

OLD BUSINESS

- The 2018 MASI Challenge raised \$2154.00 for Running Rivers. The Council needs to know to who and where to sent the check.
- The 2019 Challenge has raised \$486.00 so far for the George Maier Fund.
- Items need to be procured for the Fish Bucks auction.
- No word on 501(c)3 status due to closing of the post office box and the government shutdown.

NEW BUSINESS

- Rick Renfro and Nathan Carr will co-chair the advertising committee.
- A motion to spend \$50.00 to sponsor a Biotope class at the 2019 ACA convention was made by Mike Hellweg and was seconded by Tom Corradini. The motion passed.
- Gary Lange is looking for candidates to run for MASI Officers and Council.

A motion to adjourn at 9:16 was made by Charles Harrison and was seconded by Tom Corradini. The motion passed.

Council note: Get involved in your club! Especially new members, attend Council meetings to learn what goes on beyond the general meetings, become acquainted with all the club has to offer and contribute new ideas.

Council meetings are usually held on a Saturday evening at a Council member's home and also a good way to see some of the numerous fish rooms within the club. Please let the hosting member know in advance to help planning of refreshments.



Raffle Winnings



JANUARY MEETING:



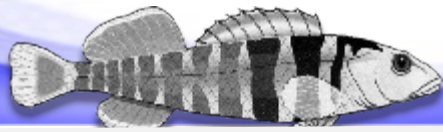
Dwarf Cichlids: Crenicicla, Apistogramma, Guianacara, Amatitlania and a Gift Certificate to Tropical World Pets!!



WINTER AUCTION:

Fluval FLEX 15 LED, 2 Gift Certificates to Sailfin Pets and a Marineland Emperor 400!





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MASI Activities



Missouri Aquarium Society 2019 Calendar

Mar 21	General Meeting Balin Shaw - Aquascaping	7:30 PM
Mar 30	Council Meeting - Corradini Home	7:30 PM
Apr 18	General Meeting Basch - Columbian Collecting	7:30 PM
Apr 27	 Spring SWAP* & Awards 	Noon & 5 PM
Apr 28	 Spring Auction*	9:00 AM
May 16	General Meeting Borstein - 60 Tips in 60 Min 2019-20 Elections	7:30 PM
Mar 18	Council Meeting - Tosie Office	7:30 PM
Jun 20	General Meeting Hemmerlein - Native Killis	7:30 PM
Jul 18	 Member Rare Fish Auction	7:30 PM
Aug 4	Summer Auction* 	9:00 AM
Aug 15	General Meeting	7:30 PM
Sep 19	General Meeting	7:30 PM
Sep 29	 Fall SWAP*	Noon
Oct 17	SuperBowl Competition 	7:30 PM
Nov 10	 Fall Auction*	9:00 AM
Nov 21	General Meeting	7:30 PM
Dec 19	Christmas Party** 	7:30 PM

2020 Dates

February 9 - Winter Auction

April 25 - Spring Swap & Banquet

April 26 - Spring Auction

August 9 - Summer Auction

September 27 - Fall Swap

November 8 - Fall Auction

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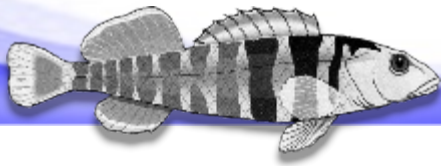
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Back To Basics: The Community Display Tank

Holly Paoni



THIS MAY BE the display tank in a Nursing Home, Community Center, or even one for the busy family with small children that wants one for enjoyment but just don't have much time to care for it.

It is designed for maximum enjoyment and minimal maintenance and may only need to be checked upon once a week by a caretaker. There are multiple stocking options for this type of aquarium depending on individual interests.

To start, get the biggest tank you have room for, and can afford for the space available. Larger

aquariums are much easier to care for long term than smaller aquariums as there is much more water available for dilution if problems arise. This leaves more room for error if the livestock are overfed or life gets to hectic and maintenance or water changes need to be postponed for a few days to a week.

Such a tank should also be under-stocked. A lighter bioload for the bacterial and mechanical filtration also allows more room for error with water quality. The tank still needs routine maintenance- we are just designing it with room for error and maximum stability.

Next, design the hardscape and plants for easy maintenance. Elaborate rockwork, and fast growing plants leads to more maintenance so

those we will stay clear of. A simple easy to clean layout is preferable. A couple holey rocks or a few pieces of driftwood with *Anubias*, *Bolbitis* or java ferns that are slow growing and require minimal care. A slow growing hardy stem plant like *Bacopa monnieri* or an Amazon sword would also need minimal maintenance yet lend interest to the aquascape with just over minimal lighting. The occasional root tab provides adequate fertilization. *Cryptocorynes* are also an easy addition.

Filtration should be appropriate for the size of the tank, and easy to service. Hang on back filtration is my first choice. Its simple to clean, easy to get to, and easy to replace. They are also quiet when running well. Circulation is



Gary Lange's current Display Tank, as seen at a recent MASI Council meeting



also an important factor in this type of easy care aquarium.

With a long tank, like a 20 gallon long or a 55 gallon, I recommend using 2 smaller hang on back filters versus one larger one. This will prevent dead spots within the aquarium as well as give extra area for beneficial bacteria in the filters. When doing tank maintenance just service one filter pad insert at a time and alternate.

Remember when choosing livestock that we are lightly stocking this aquarium for a smaller bioload - for this reason I advise staying away from cichlid species that should be overstocked to lessen aggression. A fish that is territorial can be used if given the room for its needed territory. Example: a Gourami will claim an area around a piece of aquascape at the surface of the aquarium. It will chase others away from this area, but will practically ignore bottom dwellers such as Corydoras catfish and middle dwelling fish such as Harlequin Rasboras so this combination would work together in this type of peaceful community aquarium. Each species inhabits one zone of the aquarium, all areas are filled, but there is minimal to no dispute over territories.

Another thing to think about is heating. If the tank will be in an area accessible to children or others could play with the heater settings or accidentally unplug the heater, think about using subtropical livestock that are perfectly content at typical room temperatures. There are dozens of species that like cooler water. White Cloud Mountain Minnows, Rosy Barbs, *Aeneus* or *Paleatus Corydoras*

cats, Paradise Fish, Common Platy or Platy Variatus, Endlers, Shrimp, Celestial Pearl Danios, Convict Cichlids, and many other fish will do very well at room temperature needing no heater. I've even bred all these and others with an average temperature of only 68-74 degrees.

We will want these fish to be brightly colored if this tank is for very young children at perhaps a Doctors office or for the elderly at a Nursing Home. Reds, yellows, Oranges are easier to see. In these situations I'd recommend staying away from nano fish as they are much smaller and harder to see from a distance. Medium sized fish in such a community aquarium would be the easiest on the eyes and still allow lightly stocking the aquarium.

Another possibility for a visible tank could be the single wet pet. While these fish even individually have a higher bioload than a group of smaller community fish, if the tank is large enough one large fish can also work. A single Goldfish or a single Firemouth Cichlid are also mid-sized possibilities. Spend some time doing your research, on temperature requirements, care involved, and tank cycling for each species being displayed.

There are thousands of species of livestock available, that can work in a variety of situations, and even in a tank that, by design, needs minimal maintenance.



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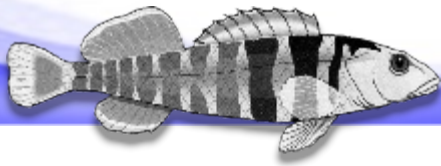
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Mexican Collecting Trip with Juan Miguel Artigas Azas

By Patrick A. Tosie, Sr.

BEAUTIFUL MEXICO!



West of San Luis Potosi

O **N MY WAY!!!!** My flight was scheduled to leave St. Louis at a leisurely time of 8:50 on Monday morning and set to arrive in Guadalajara Mexico at 2:15 pm early the afternoon of the same day with

a stopover in Houston to change planes.

That was the plan, but that is not what happened. The flight leaving St. Louis did not have a pilot so it was delayed, delayed and delayed a little more. A couple hours later I was finally on my way and I was told I

would miss the connecting flight to Guadalajara. The caption did his best for me and all the other travelers with connecting flights. When I got to Houston, the connecting flight had not yet left the gate and was still scheduled to leave on time— but I did not have enough time to go through the boarding process and

make it. Luckily they had another flight to Guadalajara 4 HOURS LATER! Oh well, *no problema!*

I arrived in Guadalajara around 6:30 pm, went through customs (Easy enough because my luggage did not make it on the same flight!) and grabbed an Uber to the Country Plaza Hotel. Sounds like no big deal, but my original plans were to take a bus to San Luis Potosi and meet with Juan Miguel Artigas Azas for a late dinner so we could go collecting the next morning. After I got to the hotel I checked into my room, got directions to the bus station and took an Uber to the bus station. I pictured had Guadalajara as a small town, something you would see in the old western movies but came to find that it is actually the second largest city in Mexico with a population of around seven-million! – there are several bus stations in Guadalajara! The next bus to leave Guadalajara to San Luis Potosi didn't leave until 11:59 pm.

Well, on the Uber ride to the bus station the Uber driver got lost which delayed me even more but I made it with about 10 minutes to spare! With all the delays and not knowing when anything was going to happen, I was getting hungry but didn't have enough time to eat. Luckily, the bus had brown



- 1 Guadalajara
- 2 San Luis Potosi
- 3 Santa Maria Del Rio
- 4 Guachimontones & Teuchitlán



Who is Pat's collecting companion and Guide?



Juan Miguel Artigas Azas

An engineer by training, lives in the center of San Luis Potosí, Mexico.

He is considered a worldwide expert on Central American fishes, among fish of other locations and is creator and 20+ year editor of the Cichlid Room Companion.

Juan Miguel photographs and tries to understand the natural history and relationships to obtain great knowledge on the biology and geographical distribution of the fishes.

Juan Miguel is an author and worldwide expert on Mexican and Central American freshwater fish and was awarded the Guy Jordan Retrospective Award in 2008 by the American Cichlid Association. The maximum honor this association bestows.

bagged sandwiches for us so at least I wouldn't be starving when I got to San Luis Potosi, which would be 4:00 am on Tuesday.

Once at the bus station, I called Juan Miguel and he came right over and picked me up. He lives about 10 minutes from the bus station. We got back to his house, rested up for a few hours, Juan Miguel made breakfast, showed me his fish and then we were off to see a construction site he was managing and headed out to collect some fish.

Mexico is a beautiful place, the rock formations were spectacular and the drive did not seem very long at all as I enjoyed sightseeing. The first place we collected was by a bridge at the highway called Puente Tierra Quemada. We used Juan Miguel's dipnet which is made by a company called Jonahs Aquarium, which worked so well I ordered 2 of them when I got home.

At Puente Tierra Quemada we caught two Goodeid species, *Goodea*



Puente Tierra Quemada

gracilis and *Xenophorus captivus*, after we caught about a dozen of each we packed up and headed to our next location about 30 minutes away at Santa Maria Del Rio. Here we caught a few *Xenotoca variata*, some *Poecilia Mexicana*, *Lepomis macrochirus* and some *Astyanas mexicanus*.

Our last collection spot was at Villa de Reyes where we caught more *Xenotoca variata* and *Astyanas mexicanus*. We were running out of daylight and headed back to Juan Miguel's house with a quick stop for dinner on the way back.

The next day we packed up and headed to Guadalajara Where the



Goodeid Workshop was to start the next day. It was another beautiful



Santa Maria Del Rio



Villa de Reyes San Luis Potosi





Juan taking fish photos at Teuchitlán Springs Pool

drive. My original drive to San Luis Potosi was from midnight to 4:00 am so I did not get to see much, the drive back was during the day and very enjoyable.

The day after the Workshop Juan Miguel and I returned to Teuchitlán Springs so he could take better pictures when there were fewer people.

While he took pictures I

was able to snorkel around more freely without disturbance of other people.

After Juan took his pictures, we headed to the city of Tequila to check out the over 100 Tequila distilleries. The Blue Agave plant is widely grown here and is why there are so many places that make Tequila from it. There was a big party in the town square, along with a parade and a wedding at the church. It was a great time!!

City of Tequila with over 100 Tequila distilleries!!



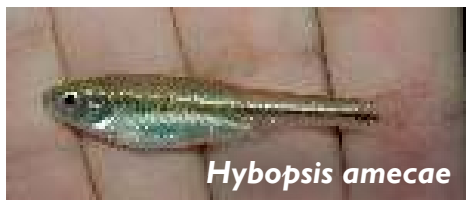
Xenoophorus captivus



Goodea gracilis ©GWG



Coptodon rendalli



Hybopsis amecae



Lepomis macrochirus

Fish Pat caught:

Characidae

Astyanas mexicanus

Cichlidae

Coptodon rendalli

Oreochromis mossambicus

Cyprinidae

Hybopsis amecae

Centrarchidae

Lepomis macrochirus

Goodeidae

Allotoca maculata

Ameca splendens

Goodea atripinnis

Goodea gracilis

Xenoophorus captivus

Xenotoca variata

Xenotoca melanosoma

Xenotoca doadrioi

Zoogoneticus purhepechus

Zoogoneticus tequila

Poeciliidae

Poecila mexicana

Pseudoxiphophorus bimaculatus

Xiphophorus helleri

Xiphophorus maculatus

Fish returned to US:

Goodeidae:

Allotoca maculata - Palo Verde, Carretara El Refugio, San Marcos, Etzatlan

Ameca splendens - Teuchitlan Spring

Goodea gracilis - Tierra Quemada

Xenoophorus captivus - Tierra Quemada

Xenotoca doadrioi - San Sebastián

Xenotoca variata - Santa Maria Del Rio

Poeciliidae:

Poecilia mexicana - cave molly - Tapijulapa

Xiphophorus continens - El Quince

Xiphophorus helleri - Teuchitlan Spring

Xiphophorus maculatus - San Sebastián

Xiphophorus multilineatus - Tambaque

Xiphophorus pygmaeus - Huichihuayan

Cichlidae:

Vieja breidohri - Rio Salado



The final day was short as my plane was scheduled to leave at 1:15 and I would be back in St. Louis by



Astyanas mexicanus

4:00. While I waited, it appeared nice of the local people to have a going away parade for me. The parade lasted over an hour and was right in front of the hotel! After the parade, I called an Uber to take me to the airport, and that was a fun ride- *these guys sure know how to drive!*

I thought I might be back in St Louis in time for the end of the MASI Fall auction, but it had already finished. All in all it was a fantastic trip, lots of super people, lots of time

collecting and a bunch of fish to bring home. I caught over 20 species of fish!

I brought back 18 bags of fish and only one bag of fish did not survive.

If you get a chance to collect in such a beautiful country, I highly recommend it.



Oreochromis mossambicus



Pseudoxiphophorus bimaculatus



Poecilia mexicana

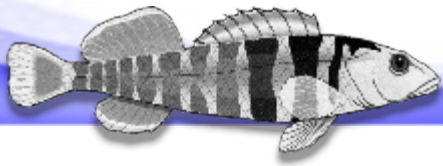


While waiting to leave Mexico, it appeared nice of the local people to have a going away parade for me lasting over an hour right in front of my hotel!



Author on the Left





The Perfect Dipnet!

<http://jonahsaquarium.com/>

This Dipnet is protected inside the aluminum rim so that it never comes in contact with rocks or other debris which would damage it.

The net has a 46" Double Walled Aluminum Handle that can be removed and collapses into two pieces 25" long for packing. The net head is 20" long minus the handle- assembled it is 63". Additional handle segments can be ordered in 21" lengths. Connecting yoke accepts 1-1/8" diameter round handle. Outside diameter of the handle is 1-1/4".

All handles have full double walled construction for strength and durability. Net and handle locks together using stainless steel push buttons.

The net worked perfectly and I ordered 2 of them when I got home and received them a couple weeks later. I can't wait to try them out.

Pat Tosie



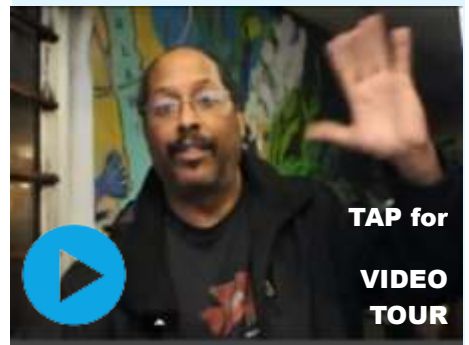
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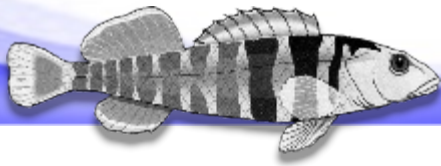
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Low Tech Plant Basics: Anubias, Java and Bolbitis Fern Care

By Holly Paoni

I AM GROUPING THESE three plants and their variations into one article as these are some of the hardiest and least demanding aquatic plants in the hobby.

These almost anyone can grow, and treat them the same way. Extremely low light to high light, fertilizing or not, they will grow. Most herbivorous fish won't eat them as they are tough. Digging cichlids can't uproot them. These all grow on rhizomes, a thick green horizontal stem, which the others stems and leaves, and roots come off on. the trick to growing these plants is not burying the rhizome. All three of these will root into driftwood, rocks and attach to various decor over time. All are also considered slow growing, which means very minimal maintenance.

Anubias vary from the tiny leaved *A. nana*- Micro, to the huge leaved *A. Gigantea*. Some grow more horizontally, some grow more vertically. There is an *Anubias* variety for every tank, from the 2 gallon picto tanks, to that 500 gallon monster tank. They can even be grown emersed, in a humid terrarium. I've never noticed any real growth rate difference, when tied down to various objects. Resin decor growth seems very similar to



Windelov

Java Fern

Anubias

driftwood and rock growth. Most have wider leaves, some heart shaped. Veining varies per variety and species. I've grown them in shady tanks with just incandescent room lighting feet away. I've forgot about pieces of a few, and brought them back from only a rhizome. When attached correctly, these are as easy as it gets, just as easy as artificial, and feed off of what's in the water.

Java ferns can be as delicate as the Narrow Leaf and Windelov (Lace) varieties, or as sturdy and the normal and Trident varieties. In my experience Java Ferns do best in hard alkaline water attached to driftwood. In softer water or tied to rocks it doesn't

grow and spread as well. You can still grow them that way, but it may just be slower unless an occasional fertilizer is added.

These will throw baby plants off their mature leaves. At first, it looks like random black dots all over the underside of the leaf. Then you will notice small plantlets and roots forming. I let these grow until there is 4-6 leaves about 3-4 inches long with some good roots before removing and attaching elsewhere. They are easily handled at that size. Occasionally fish will knock smaller ones off and these can be tucked among the leaves of the mother plant, tied down, or pushed into a nook somewhere until they're easier to handle. I've tried a few times to grow these emersed like *Bolbitis*, and *Anubias*, but my luck was short lived with emersed grown plants. I'm sure it is doable, it just needs specific conditions that I was unable to easily replicate.

There are a few varieties \ species of Bolbitis in the hobby. *Bolbitis Asaiatica* sort of resembles regular Java fern. *Bolbitis Heudelotti* is the most commonly seen, it and *Bolbitis heteroclita* both closely resemble common houseplant ferns in their leaf structures.



Anubias
nana
"Petite"



All of these grow best just like **Anubias**, tied or attached to driftwood, rocks or decor. A major difference is that *Bolbitis* loves current. Place it near an outflow, or sponge filter and it will be happy and do well. The dwarf variations are great background plants in 10-15 or 20 gallon long tanks. The regular varieties work well in the background of 29-75 gallon tanks. These also can work very well in humid emersed conditions.



Bolbitis Fern

To attach these plants to decor, driftwood, or rockwork, everyone has their preferred method. I'll try to go over some of those, with pros and cons of each method.

The easiest, would be simply tucking or wedging the roots into a nook or cranny. While easy, these plants can easily come un-tucked during water changes, or fish knocking them loose. You also don't always have a nook to tuck them into, or the placement isn't the most visually appealing. It does occasionally work out, but take care to not break or bury the rhizome. It needs light and water circulation. Many folks fail with these plants when the rhizome gets buried and plant dies off.

Another quick method is to use **Super glue gel**, or an aquatic plant gel to attach plants where you want them. Care must be taken with method, as you do not want to drown the roots or rhizome with this glue. Too much prevents the plant from being able to absorb needed nutrients, or kills the

rhizome. The trick is to use very very little and spot it out sparsely over the area where you want to attach the plant.



Emersed Bolbitis

My preferred method is to tie them down using cotton thread. With this method there is no worry about too much glue or burying the rhizome but it can be more time consuming wrapping thread throughout the length of the plant without tearing off leaves and stems. I feel the time is worth it as it's now as stable as I want it, won't be knocked loose, and I won't drown the plant in glue. You want the thread snug, but not super tight or cutting into the rhizome. Cotton will dissolve on its own and simply break apart. Some use quilting thread, which will need cutting off later and others prefer fishing line because it's clear. One

drawback to fishing line is that once cut, it remains sharp and fish can scrape themselves on that cut point. If using fishing line, take care to hide your knots and cut edges and place them where fish can't scrape against those accidentally.

You can also bury the roots in the substrate as long as the rhizome stays above the substrate. To do this you need some fairly long roots on the plant. *Anubias* are usually the easiest to do this with as the others typically have only very fine short hair like brown roots. *Anubias* roots can be much longer, are



Super Glue Gel

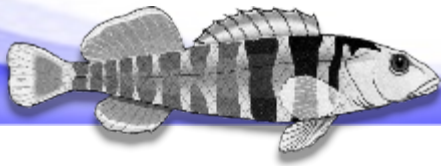
thicker, and typically white to green, making them much easier to plant. The others occasionally are doable but not normally.

If you want to try Live plants, I highly recommend starting with these three types. The only thing you really need to know is how to attach these properly to items in your tank, after that they really are some of the hardiest live plants available.



Cotton Thread used to tie to Decor





Paratilapia "Fianarantsoa green"

By Mike Huber

WHEN I BOUGHT the fish they were sold as *Paratilapia Polleni* sp. I bought 6 of them took them home and raised them. They were good size and they started to beat each other up and killed all but one male and one female.

The first time they spawned all the eggs got fuzzy and white in a day. A few weeks later they spawned again and I was not expecting anything but in a few days the eggs were still viable. The strange thing I noticed with the eggs was that they were not attached to anything and the parents would push



them from nest sight to nest sight. I thought that was strange so I looked them up on line.

When I saw the images, the fish I had did not look like the ones on the Internet. The *polleni* is black with white spots. The fish I had are greenish black with blue, green, and white spots. The article said it is commonly sold as a *polleni*. The article also said the *bleekeri* is also sold as *polleni* so you have to know the color and spot

formation on these fish to know the difference.

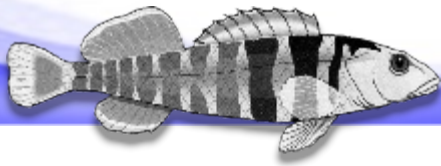
The article also stated that the *bleekeri* are extremely rare in the hobby and if you get these consider yourself lucky. Then as I read down the page it stated that this group of fish does not adhere its eggs to anything but they cling to each other and the parents move them often.

This group of fish are from Madagascar or West Africa. The water temp in the tank is 78F and the pH usually varied from 7.0 to 8.0 and the hardness is straight from tap.

Most of the time the female hid in a cave where the male could not get in. Sometimes the pair would swim around the tank together and would eat together. But when he would get aggressive she shoots into the cave. Some people said that the male is so aggressive that they used a milk crate to put the female in and had them spawn through the crate. I guess I got lucky the female had a hiding place to hide in he could not get to.

Reference: [Practical Fishkeeping, How to keep Paratilapia, June 13, 2016](#)





Minifins

-

Apistogramma nijsseni

Nijssen's Panda Apisto

-

By Mike Hellweg, CFN
(Certifiable Fish Nut)

APISTOGRAMMAS (OR APISTOS as they are often called) are fantastic dwarf Cichlids that found all over South America except in the high mountains and in the extreme south of the continent.

While specialists seek them out, I'm really surprised that beyond a handful of species they are relatively rare in the hobby. They are attractive and show all of the amazing behaviors



of a full sized Cichlid while reaching just two to three inches. Their breeding territories are relatively small for a Cichlid, and a pair or trio can be kept and bred in a planted 10 to 15 gallon tank.

Apistogramma nijsseni is easily one of the most colorful of all the known Apistos. I use the word "known" as there are still dozens more species out there to be found. It seems there is a new species or variety introduced to the trade every couple of months, with no end in sight. There is an "A - number" list, like we have a C - number list for Corys and an L - number list for plecos, but most American hobbyists are unaware of it and rarely use it. More popular and well used is a system assigning nicknames based on location or characteristics like "Rot Punt" (red point) until they get a scientific name. Rot Punt, for example, has been described as *Apistogramma alacrina*. Most of the nicknames are in German

as the Germans are doing most of the collecting and most of the naming. Luckily our subject this time has been described and has a common name, though folks may have trouble with the pronunciation until they hear it. I have really heard it butchered a few times! In 1979 *Apistogramma nijsseni* was named in honor of the Dutch ichthyologist Dr. Hans Nijssen. It is pronounced "Nigh - sen - eye" with a long "I". The J is silent.

They make great aquarium residents, and a 10 gallon tank is a perfect home for a pair. I use sand or fine gravel as a substrate - just a half inch or so is fine. Aquascape it with several plants like Anubias and Java fern attached to pieces of driftwood, several caves, and a handful of soaked oak leaves. I add a few broken pieces of clay pots or coconut shells to the bottom, too. These provide extra hiding places for the fry as they grow. In addition, I add a handful of Java moss to the tank as this will provide



a home for all kinds of microscopic life which their hoped-for fry will eat.

Apistos generally like softer, more acidic water, and Nijssen's Panda Apisto is no exception. Most of us in the St. Louis area are lucky- our water is nearly perfect for them without really having to do anything to it. In some outlying areas the water is like liquid rock and may need a bit of modification. Adding peat to a box filter in the tank will help by adding tannins to the water while at the same time, softening it. Change this out about every week to ten days and within a few weeks your water should be just about perfect.

While Nijssen's Panda Apistos have a reputation as being delicate, in my experience nothing is further from the truth. I've found them to be hardy and adaptable. In fact, even when I had a tap water problem and lost several fish in their tank (Coral Pencilfish, Morse Code Tetras and Otos), they not only survived, they spawned!

Here is a good place to mention that fish like pencilfish, small livebearers like guppies or Endler's livebearer, small Rasboras or tetras, and small plecos like Otos all make great tankmates. In fact, these other fish also serve as dithers, helping to strengthen the pair bond and solidify parental care. I would avoid larger plecos like *Ancistrus* as they may decide that a female Apisto's chosen cave is a perfect place and chase her out, or stress her to the point that she won't spawn. Small shrimp are excellent scavengers and excellent tank mates, but it is important to note that the Apistos will consider their young as food, not companions, so don't expect the shrimp to increase in number.

Heat is important, but again, no need to go crazy. A temperature in the upper 70s to low 80s is fine. My pair spawns regularly at 78 degrees Fahrenheit. Clean water from regular water changes will also help to keep them happy. I mostly use Mattenfilters and sponge filters, but they don't seem to mind current so a waterfall type filter should also be fine.

Feeding is pretty straightforward. They will eat flakes,



pellets, frozen foods and an assortment of live foods. I've found that like most dwarf Cichlids they absolutely LOVE blackworms and young cherry shrimp. Frozen foods like bloodworms, brine shrimp, mysis shrimp and daphnia can make up the majority of their diet in breeding season. Not only will these meaty foods condition the adults, but they will also provide some beneficial scraps for the fry. I also feed the fry a mixture of microworms and newly hatched brine shrimp so there is plenty of food for them. As I mentioned above, the Java moss in the tank is also a great place for the fry to find between meal snacks of all kinds of microscopic critters, and Mom will guide them to the Java moss as soon as they are free swimming.

I always add a couple of different caves to the tank, even if there is only one female so she has a choice of potential spawning spots. If all goes well, the adults will spawn fairly regularly. The male's colors brighten up a bit, but the female undergoes an amazing transformation. From the non-descript plain gray brown fish that is sometimes hard to see she becomes this amazing glowing lemon yellow stunner. Black patterns appear on the female as well, unique to each species of Apisto. The black patterns on the female Nijssen's Panda Apisto are the source of their common name, reminding one of the pattern on a Panda bear.

The pair will court, doing an interactive "dance" and displaying their fullest and brightest colors. If both parents are ready, they move off to the cave the female has previously chosen. She lays up to 80 orange-red eggs on the ceiling of the cave. If the male can fit in, he enters and releases his milt. If not, he releases the milt just in the entrance of the cave, moving back and forth to propel the milt into the cave. Once the eggs are fertilized, the female guards them night and day.

To aid the female's work, I leave a small light on near the tank 24 hours a day so she can see any real or perceived threats at night. It may sound silly, but I've found that this technique works well and that Cichlid mothers with a nightlight seem to be more successful than those without.

Once the eggs hatch and the fry are free swimming, Mom will carefully guide the fry around the tank in a search for food. She signals them with twitches of her body, movements of her fins, and changes in color. The fry can disappear in a second if Mom says danger is present, and reappear almost as quickly. Dad usually patrols the territory and has little to do with the actual raising of the fry. In fact, in larger tanks he may take a second or even a third mate and spend time moving between his various families in a sort of harem-like arrangement.

They are usually great parents, but it may take a couple tries for them to



get it right, so don't be discouraged if the first spawn or two disappears overnight. As mentioned earlier, I feed the fry a mix of microworms and newly hatched brine shrimp which I gently squirt right into the midst of the group of fry. It is really cool to watch the fry gobble down the brine shrimp and watch their bellies swell and turn orange with their meal.

After a few weeks you can start adding finely ground flake food soaked in water to the food mix. Depending on the parents, they may raise the fry for a month or more. I usually try to gently siphon out half or more of the fry with a gravel vac when they are about two weeks old. The fry grow

quickly and can start to crowd the parent's tank if you don't move them at about this time.

To avoid a potential conflict among the parents if all of the fry suddenly disappear, I always leave at least a few fry with the parents, realizing these will likely disappear when the parents spawn again. Sometimes I'm surprised and a couple months later I'll find a couple of three-quarter inch juveniles hiding among the plants.

Bright colors, fascinating behavior, and a chance of watching Cichlid family life in a

small tank. What more could you want?

Additional Apistogramma Info:

General: <http://apisto.sites.no/>

Distribution List:

<http://apisto.sites.no/page.aspx?PageID=119>

Group ID:

<http://apisto.sites.no/page.aspx?PageID=116>

The "A" List:

<http://apisto.sites.no/slekt.aspx?gruppelD=1>

Species List by Groups:

<http://apisto.sites.no/page.aspx?PageID=127>



Apistogramma Gallery
Assorted Domestic & Wild Types





"Tiny Bubbles..."

Gas Bubble Disease - a hazard of winter water changes

By Gary Lange

with but the tiny bubbles we can add to our fish tanks in the winter can be deadly.

A recent discussion on the MASI Facebook discussions page was about some of the problems an aquarist can have when the weather gets cold and our water supply gets down right chilly. You see, cold water can hold more gas than warm water and when the cold water in your pipes hits the warm house is going to lose some of those gases. The water when heated up in your hot water tank will release that gas even quicker and is then going to be under a bit of pressure.

Turn on your hot water, let it get good and hot and then fill a tall clear glass. You'll notice that the

water is almost grey from all of the cloudy tiny micro bubbles that are bursting out of the water. If you let this set for a few more minutes you'll see bigger bubbles all over the sides of the glass. It is a problem if you pour that water directly into your warm tank and the dissolved gas does not come out of solution until AFTER it passes through the gills of your fish and into their bloodstream. Yes it's a bit like like the divers bends so it can be, I would imagine, very painful for the fish and the gas once inside the fish can show up between the fin rays, in the eyes or elsewhere.

For years I really didn't worry about "Gas Bubble Disease (GBD)" as I would age my water in barrels usually for several hours with a hang on back

WHO CAN FORGET the song from immortal Don Ho?

Original by Don Ho:

<https://www.youtube.com/watch?v=t45DKmtzTHo>

- Tiny bubbles, in the wine,
- Make me happy, make me feel fine.
- Tiny bubbles, make me warm all over.
- With the feeling that I'm gonna
- Love you till the end of time.

And, in the fish tank as Paraphrased by Gary Lange:

- Tiny bubbles, makes me ill,
- Total destruction, in my gills,
- Tiny bubbles, makes me sick all over,
- With a feeling that I'm leaving
- Your little chilly fish tank behind.

Ok, yeah Don's probably turning over in his grave with my lyrics. It was a popular song to begin



type filter churning and splashing the water into the barrel. This turns out to be a great way, to remove that excess gas and I really didn't give it any thought. But several years ago when I was in Detroit giving a talk in the winter time I was reminded by the Great Jim Langhammer* that you do have to be careful, that "gas bubble disease", or whatever you want to call it, is real. Jim would routinely age his water for a day before using it-remember in Michigan the water comes out of the cold tap almost in icicle form in wintertime.

A recent check of our local cold water supply yielded a temperature of 46 degrees F (8C) and way colder than the average 80 degree aquarium. I switched to using a vigorous pond pump to circulate the water in my barrels and it now takes an hour or two to help remove those bubbles.

If you put water into your aquarium and still see a lot of bubbles forming on the glass you should probably wait a while longer to ensure that it degasses further. An airstone can be added to the barrel to help turn over the water and allow the excess gasses to escape.

The photo shows a good example of this where one container has hot water that was degassed with an airstone for 10 minutes and the other fresh out of the tap. The hot water out of the tap produced lots of bubbles on

the sides of the container where there were almost none on the aerated, bubbled hot water.

You really can't solve this problem by just using cold water and pouring that into your aquarium. That cold water has just as much air in it as the hot water but its not visible because the out-gassing bubbles haven't yet formed and coalesced. Hot water can't hold on to it once it's not under pressure and the gas bubbles form more readily. Adding really cold water to your tropical fish tank isn't the smartest thing to do anyway. If you mix in hot water with your cold tap water both sources of water will be spitting out their gasses quite quickly.

There are more than a few people that will claim that they've done this for years when the water was really cold and nothing happened to their fish. Sometimes it's not so extreme to cause immediate deaths but it may still cause a lot of stress in the fish. Several of the linked articles below point out that fish often come down with other diseases because of this stress. Bottom line, in cold weather, put it in a container, aerate it and degas before using. **Do this and you can keep your fish from singing my version of the "tiny bubble song"!**

Additional reading:

- Identification and diagnosis from the Toledo Zoo:
<https://www.advancedaquarist.com/2014/8/fish>
- GBD discussion with illustrations:
https://www.adfg.alaska.gov/static/species/disease/pdfs/fishdiseases/gas_bubble_disease.pdf
- Causes of gas saturation, etc.:
http://www.aun.edu/developmentvet/fish%20diseases/7_1.htm

***Jim Langhammer is well known** throughout the Aquarium Hobby and respected for his activities with the American Livebearer Association (ALA) and efforts to save and educate about many of the Mexican endangered Goodeid species. The ALA maintains the [James K. Langhammer Fund for Conservation](#) in his honor. [Join the ALA for the ALA Convention, May 24-26th in Louisville, KY.](#)

**** All blue underlined passages are Hot Linked to their topics!**



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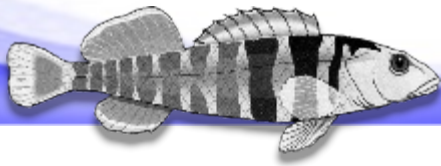
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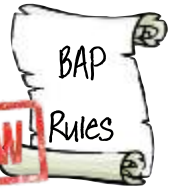
September 13-15, 2019

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2019 BREEDER'S AWARD PROGRAM - Steve Edie



BAP Program Update

THERE HAVE BEEN a few tweaks to the BAP program.

While at the Catfish Convention this fall, I had occasion to consult with some experts in the field to evaluate the point values for our catfish species. The consensus was that some species were undervalued and some were overvalued, based on their relative difficulty of spawning. An objective look at other species has also been conducted, particularly regarding the Goodeid group. As livebearers, several of these were overvalued.

As a result, **adjustments to several species point values have been made.** For any point values that increased, the higher point value will be retroactively applied to all spawns previously submitted. For any point values that decreased, they will only affect spawns submitted after the first of this year. Prior spawns will maintain the point values in effect when they were turned in.

As background, when our BAP program was established back in the seventies, our version was modeled after the FAAS (Federation of American Aquarium Societies) breeder program and their point values. Fifteen or so years ago, FAAS dissolved, although it has been

reconstituted recently but no longer has a breeding component. So our BAP program has proceed to evolve on its own, although we regularly compare notes with other club's programs.

One thing that seems to occur is that **when a new species is spawned for the first time in the club it is assumed to be difficult to spawn,** and a higher point value assigned. In many cases, the species may not really be more difficult to spawn, just more difficult to acquire.

Those that go to conventions, travel to out of town shops, have connections to other breeders, buy online, or have more financial resources have an advantage over other members in getting new species first. At the time we added the first spawn bonus points to the system, we didn't really go back and adjust some of the species that already had a first spawn bias in the original point value. Although there are some exceptions, it's generally true that captive bred fish are relatively easier to spawn than their wild counterparts. So the first spawn bonus is appropriate in many cases.

Another area where point values were likely overvalued is **in cases where the species is endangered or threatened in the wild.** With the

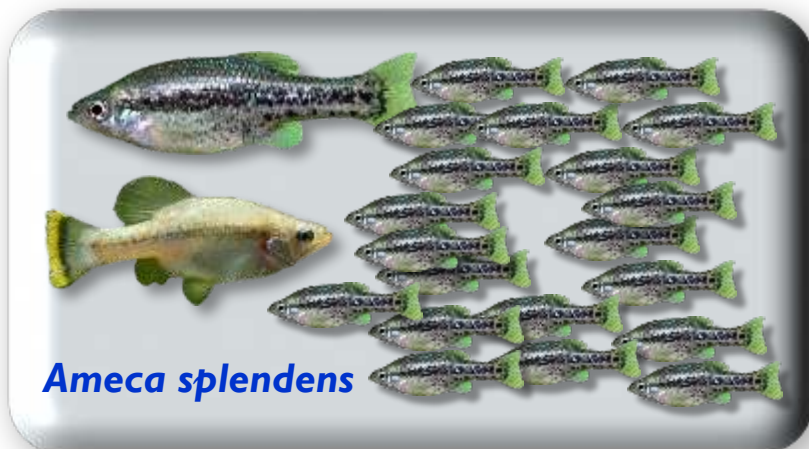
CARES bonus in place to account for this, some of these base point values have been decreased. As an example, I can clearly state that *Ameca splendens* are easier to breed than roaches. Their point value has been reduced from 15 to 10, although 5 was seriously considered.

The BAP rules have been revised to indicate how point changes will be applied to prior and future spawns. A clarification in the CARES species indicates that if a new species is added to the CARES database, the **CARES bonus will be applied retroactively for five years to previously submitted spawns.** The species likely was in decline prior to receiving CARES status.

A clarification was also made to the option of donating a pair in lieu of fry. A pair may still be donated but fry must be shown to demonstrate that the spawn occurred.

Please know that these changes aren't meant to penalize or upset anyone, just to make the program more equitable for the very diverse species that our members keep.

By the time this Darter comes out, the master member point totals, the revised species point values, and rules updates should be up on the MASI webpage.



Ameca splendens

VS



Roaches



2019 BREEDER'S AWARD PROGRAM - Steve Edie

January 2019



Member	Genus	Species	Common Name	PTs	Bonus	CARES	Total
David Bell	<i>Chapalichthys</i>	<i>encaustus</i> @	Barred Goodeid	10		10	20
	<i>Tramitichromis</i>	<i>intermedius</i>		15			35
Chuck Bremer	<i>Ameca</i>	<i>splendens</i> #@		0		10	1277
	<i>Skiffia</i>	<i>multipunctata</i> "Lago de Comecuaró" #@	Spotted Skiffia	0		15	1292
Mike Hellweg	<i>Apistogramma</i>	<i>norberti</i> *	Norbert's Apisto	15	5		7145
Mike Huber	<i>Ameca</i>	<i>splendens</i> #@		0		10	2403
	<i>Dermogenys</i>	<i>pusilla</i>	Wrestling Halfbeak	10			2413
	<i>Pethia</i>	<i>padamya</i>	Odessa Barb	10			2423
	"Xystichromis"	"Kyoga Flameback" #@		0		10	2433
Jerry Jost	<i>Corydoras</i>	<i>araguaiaensis</i> *		10	5		3032
	<i>Corydoras</i>	<i>elegans</i>		10			3042
	<i>Corydoras</i>	<i>sp. "C121"</i> *		10	5		3057
Chris Mohrle	<i>Neolamprologus</i>	<i>caudopunctatus</i>		10			386
Holly Paoni & Kevin Wise	<i>Ameca</i>	<i>splendens</i> #@		0		10	922
	<i>Gambusia</i>	<i>affinis</i>		5			927
	<i>Goodea</i>	<i>gracilis</i>		10			937
	<i>Pethia</i>	<i>conchonus</i> ^	Longfin Neon Rosy Barb	0	2		939
	<i>Poecilia</i>	<i>reticulata</i> ^	Blue Delta Guppy	0	1		940
	<i>Poecilia</i>	<i>reticulata</i> ^	Japan Blue Double Swordtail Guppy	0	1		941
	<i>Poecilia</i>	<i>reticulata</i> ^	Pingu Guppy	0	1		942
	<i>Poecilia</i>	<i>wingei</i> ^	Tiger Endlers	0	1		943
	<i>Xiphophorus</i>	<i>sp. "Domestic Platy"</i> ^	Gold Wag Platy	0	1		944
PJ Stull	<i>Poecilia</i>	<i>reticulata</i>	Blonde Tuxedo Guppy	5			5
Debbie Sultan &	<i>Danakilia</i>	<i>sp. "Shukoray"</i> ** @		10	10	10	1330
Tom Corradini	<i>Nimbochromis</i>	<i>linni</i> *		15	5		1350
Guy Tinker	<i>Amphilophus</i>	<i>hogoboomorum</i> *		15	5		177
Pat Tosie	<i>Amphilophus</i>	<i>amarillo</i>		15			5937
	<i>Brevibora</i>	<i>dorsiocellata</i>	Emerald Eye Rasbora	20			5957
	<i>Limia</i>	<i>sp. "Tiger Lake Miragoane"</i>	Tiger Limia	5			5962
	<i>Skiffia</i>	<i>francesae</i> #@		0		15	5977



2018 BREEDER'S AWARD PROGRAM - continued

February 2019

Member	Genus	Species	Common Name	Points	Bonus	CARES	Total
Jerry Jost	Corydoras	<i>loxozonus</i> *		15	5		3077
Holly Paoni &	Corydoras	sp. "Black" *		10	5		959
Kevin Wise	Corydoras	sp. "CW010"	Orange Laser Cory	10			969
	Poecilia	reticulata ^	Rainbow Mosaic Guppy	0	1		970
Caleb Pitman	Ameca	splendens @	Butterfly Splitfin	10		10	172
	Limia	melanogaster	Black Bellied Livebearer	5			177
	Phallichthys	quadripunctatus #@	Four Spot Merry Widow	0		5	182
	Xenotoca	eiseni @	Redtail Splitfin	10		10	202
Pat Tosie	Crenicichla	proteus *		15	5		5997
	Crenicichla	saxatilis *		15	5		6017
	Tilapia	sparrmanii "Lake Mweru" *		10	10		6037
	Xenophorus	captivus "Tierra Ouemada" * @		10	5	10	6062

BAP Key:

- * = 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)
- # = Species previously submitted = 0 points, except for

C.A.R.E.S. = base point bonus <http://caresforfish.org/>

^ = Species previously submitted, limited points for additional color varieties

Sources:

<http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>







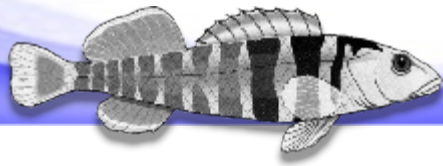







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HORTICULTURE AWARD PROGRAM - Mike Hellweg

2018 Final Report

56 Submissions from 11 entrants represent 49 different species from 27 different families, 16 of which were Ariods, for several years now our most popular plant family.

9 Outdoor Blooms, 5 Indoor Blooms, NO Seed Reproductions and 42 Vegetative Reproductions.

The most widely propagated species in 2018 was once again *Anubias barteri* - with 5 submissions from 3 different variants making the most frequently submitted genus in 2018 also *Anubias*!

Participant	Level	2018 Pts	2018 Subs	Total Points	Total Subs	IB	OB
Brian Woodrick	General	30	3	55	5		
Bruce Mayhew	Senior	10	1	275	31		
Charles Harrison	Grand Master	40	2	800	71	2	
Chris Mohrle	Master	55	4	515	42		
Chuck Bremer	Grand Master*	115	9	1015	99	2	7
Ed Millinger	Senior	5	1	355	45		
Gary Lange	Grand Master	30	4	1850	163		1
Holly Paoni & Kevin Wise	Master	230	20	1575	133		
Mike Hellweg	Illustrious Grand Master	50	5	3750	318		
Pat Tosie	Advanced	45	4	445	49		1
Scott Roach		10	2	10	2		

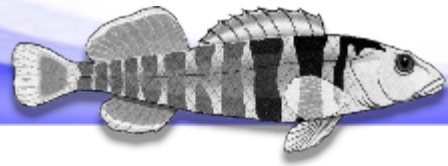
* To be presented

Editor's note: many of the levels are awaiting articles to advance.

Logos included in the collage:

- L.R. Bretz Aquatics
- LUALYN AQUATIC GEMS
- Tetra
- Original Plecostomus Plus! GREENPLECO
- EXOTIC AQUATICS www.minifins.com
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- AMAZONAS The world's leading freshwater aquarium magazine!





The DARTER

HORTICULTURE AWARD PROGRAM - Mike Hellweg January & February 2019



Member	Genus & Species	Common Name	Type	Points
Holly Paoni & Kevin Wise	1620 Points			
	<i>Bucephalandra</i> sp.	Brownie Ghost	V	20
	<i>Pogostemon quadrifolius</i>	Octopus	V	15
Chuck Bremer	1060 points			
	<i>Vallisneria americana gigantea</i>	Giant Val	V	5
	<i>Zephyranthes candida</i>	Dwarf Onion Plant	V	20
	<i>Zephyranthes grandiflora</i>	Pink Rain	V	20
Laura Morrison	20 points			
	<i>Anubias barteri</i>		IB	20
Melanie Holmes	10 points			
	<i>Pistia stratiotes</i>	Water Lettuce	IB	10
PJ Stull	5 points			
	<i>Lemna minima</i>	Least Duckweed	V	5

HAP Key: Reproduction Key: V = Vegetative, OB = Outdoor Bloom, IB = Indoor Bloom, S = Seedling; * **MASI First!**

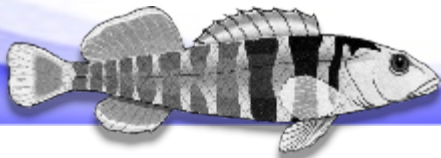


Pistia stratiotes >>



Anubias barteri





2019 CLUB HOPPING - Steve Edie

- Mar 23 - TCTFS Auction, Bartonville, IL
- Mar 31 - CCAC Spring Auction, Indianapolis, IN
- Apr 12-14 - NEC Convention, Cromwell, CT
- Apr 14 - QC Fish Swap, Davenport, IA
- Apr 27 - MASI Spring Swap and Awards**
- Apr 28 - MASI Spring Auction, St Louis, MO**
- Apr 28 - GCCA Swap, Hoffman Estates, IL
- May 3-5 - AGA Convention, Seattle, WA
- May 11-12 - IBC Betta Show, Hoffman Estates, IL
- May 23-26 - ALA Convention, Louisville, KY
- May 24-26 - AKA Convention, Columbus, OH
- May 30-Jun 2 - NANFA, Jackson, MS
- July 13 - CAFÉ Auction, Urbana, IL
- July 14 - Little Egypt AC Swap, Belleville, IL
- July 18-22 - ACA Convention, Cromwell, CT
- Aug 4 - MASI Summer Auction, St Louis, MO**
- Aug 10 - HAAS Swap, Kansas City, MO
- Aug 23-25 - FOTAS Conv, Baton Rouge, LA
- Sep 13-15 - St Louis Koi Show, St Louis, MO
- Sep 13-15 - Catfish Cataclysm, Madison, WI
- Sep 15 - Rockford Swap, Rockford, IL
- Sep 29 - CCAC Fall Auction, Indianapolis, IN
- Sep 29 - MASI Fall Swap, St Louis, MO**
- Oct 5 - EIAA Fall Auction - Cedar Rapids, IA
- Oct 6 - GCCA Swap, Hoffman Estates, IL
- Oct 12 - HAAS Fall Auction, Kansas City, MO
- Oct 20 - Greenwater Auction, Joliet, IL
- Nov 10 - MASI Fall Auction, St Louis, MO**
- Nov 17 - Greenwater Swap, Joliet, IL
- Nov 22-24 - OCA Extravaganza, Strongsville, OH
- Dec 1 - GCCA Swap, Hoffman Estates, IL



Nearby Clubs linked to their logo

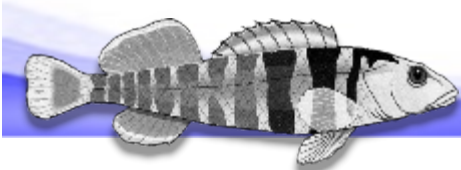


Other links are on the MASI

[Linkpage.](#)

Convention LogosHotlinked!





FISHES AS DISHES

PATRICK A. TOSIE, SR.

We all love our fish! This column is dedicated to using fish for something tasty to enjoy. Try it, you may like it. If you have leftovers, bring them to a monthly meeting for others to enjoy!

Cilantro-Lime Shrimp Tacos

Ingredients:

FOR THE TACOS

- Juice of 3 limes
- 2 tbsp. freshly chopped cilantro, plus more for garnish
- 2 garlic cloves, minced
- 1/2 tsp. cumin
- 1 tbsp. olive oil
- Zest of 1 lime
- Kosher salt
- 1 lb. shrimp, peeled and deveined
- 8 Tortillas, warmed, for serving

FOR THE CABBAGE SLAW

- 1 c. shredded green cabbage
- 1/4 c. cilantro
- 1/4 red onion, thinly sliced
- 1/2 avocado, thinly sliced
- Juice of 1 lime
- 1 tbsp. olive oil
- Kosher salt

FOR THE GARLIC-LIME MAYO

- 1/3 c. Duke's Mayonnaise
- 2 tbsp. hot sauce
- Zest of 1 lime
- 1/2 tsp. garlic powder
- Kosher salt

Directions:

1. In a large bowl, whisk together lime juice, cilantro, garlic, cumin, olive oil, lime zest and season with salt. Add shrimp and cover with plastic wrap. Let marinate 20 minutes in refrigerator.
2. Make slaw: in a large bowl combine all slaw ingredients. Toss gently to combine and season with salt.
3. Make garlic-lime mayo: in a medium bowl, combine all ingredients. Whisk and season with salt.
4. Preheat grill or grill pan to medium heat. Grill shrimp until pink and opaque, about 3 minutes per side.
5. Build tacos: add a scoop of slaw, a few shrimp, and a drizzle of the garlic-lime mayo to each taco. Garnish with cilantro and serve.



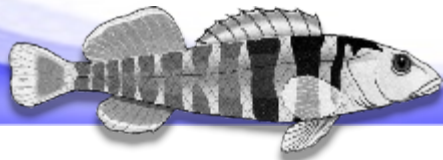
EAT MORE



FISH

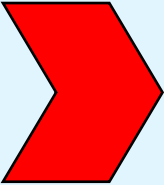
Total Time: 35 minutes Yields 4 servings





MEMBER CLASSIFIEDS

Member	For Sale	Bid/Asked	Contact
Charles Harrison	Thiosulfate crystals (Chlorine Remover) - pound	\$4.00	(314) 849-9761
	OTO double strength Chlorine/Chloramine test kits - 4 ounce	\$12.50	charles@inkmkr.com
	Flubendazole, 10% powder 25 grams	\$20.00	
	Lavamisole HCl Powder - 5 grams treats 100 gallons	\$10.00	
	Methylene Blue 5% solution (4 ounces)	\$12.75	
	Acriflavine Concentrate (4%) solution, 2 ounces	\$12.70	
	Bromthymol Blue pH test solution, 4 ounces	\$7.00	
Charles Hoppe	Several 10 and 15 gallon tanks, including wooden rack. The stand is steel and it holds 12 ten gallon tanks. It has fluorescent lights and air valves for the 12 tanks. Makes a nice small fishroom. Extras, contact me if interested.		(314) 846-4648 charliehoppe@me.com
Karl Keller	I have 50 – 10 gallon pre-drilled tanks for sale at \$10 each. The hole is approximately 1-7/16". Interested parties can email Karl at kkeller@petsway.com . I can deliver the tanks to either of our St Peters or Affton stores.		

	Bob Buckles Fish Room For Sale! Tanks: 75 gal; 5x 55 gal; 1x 50 long; 2x 33 gal; 8x 20 long; 3x 20 tall; 1x 27 long; 7x 10 gal; 3x 29 tall; 1x 38 tall; 2x to tall - all with glass tops; Multi-tank wood stands available Water Equipment: 25 ft python; 2x maxi-jet 400 pumps; 1x maxi jet 900 pump; Air Equipment: 30x 4x4 sponge filters 1x #2 Hydro sponge; 4x #3 Hydro sponge; Heaters: Assorted submersible heaters	(314) 853-5348 Robert_Buckles@hotmail.com	Hot Find! Call or Email to discuss pricing
------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------	------------------------------------------------------

Editor's Note: MASI members! **If you are considering creating or expanding a Fishroom** I recommend you contact Bob Buckles. I have seen what he has to offer and the story is untold in the ad above. He has over 100 linear feet of aquariums, many matched, with ready made and easily moved 2 and 3 shelf stands. Most have glass tops and lighting available. You will be hard pressed to find such a readily usable group of tanks and essential equipment in one place.

You owe it to yourself to check this out!!

Got \$\$\$\$ swimming in those Tanks?

MASI Members of good standing can place a fish related classified ad in the Darter for free. Free ads may be up to 30 words in length. Send your ads to the editor. The 30 word ad can run each issue unless specified how long to run, in which case it will run as requested. Deadline is 10 days prior to the January, March, May, July, September or November MASI Meeting. The Darter is Emailed about 3 days prior to each of these meetings.

WANT ADS

Member	Looking For:	Bid/Asked	Contact
Want Mike Huber	<i>Alfaro cultratus, Neotoca bilineata</i>		314-737-6759
Want Jim Wetzel	<i>Neolamprologus brichardi/pulcher, Neolamprologus multifacisatus</i> or other Shell Dwellers, <i>Julidochromis marleri</i> adult female, <i>Tropheus duboisi</i> male		pirateperch@rockemail.com
Want Chuck Bremer	<i>Nymphaea micrantha,</i>		BremerCD01@gmail.com



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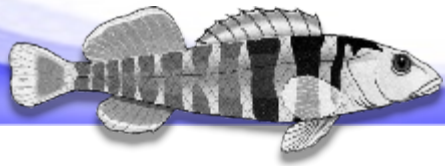


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Entrant Name _____

Month/Year _____ Monthly Class _____

_____ Fold here and place in front of bowl(s) with Entrant name hidden _____

Line	Species: Latin or Common Name	SEX	Monthly	Open
1		M F		
2		M F		
3		M F		
4		M F		
5		M F		
6		M F		
7		M F		
8		M F		
9		M F		
10		M F		

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April
Killies

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