



The **DARTER**

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NOVEMBER/DECEMBER 2018

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



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THE DARTER

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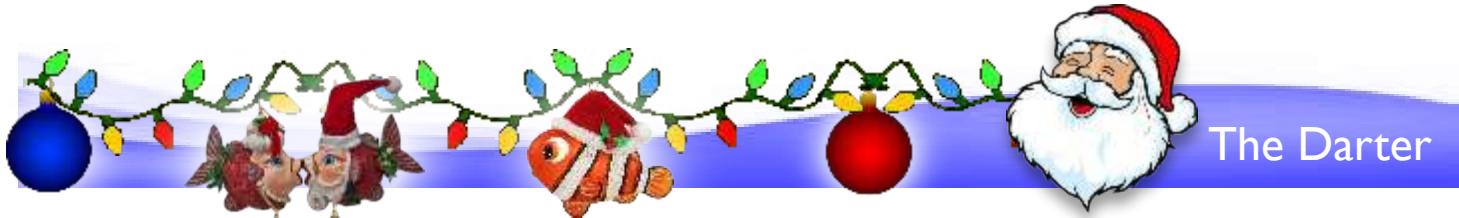
Join or renew membership at any meeting, most club events, by PayPal from the MASI Website's Membership Page or by contacting the membership chair.

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Cover - *Neolamprologus multifaciatus* Shelly;
Tank - Melanie Holmes





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FROM THE PRESIDENT'S TANK

Pat Tosie

Jameson - 3164 Ivanhoe Avenue, St. Louis, MO 63139. Bring the family for a fun night of bowling and visit with other MASi members!!! It is sure to be an event not to be missed.

I'm just returning from the Goodie Workshop in Guadalajara Mexico, see Pic to left, where I went to learn more about this family of endangered fish. I also spent a few days doing a little collecting with Juan Miguel Artigas Azas in hope of bringing some wild fish home that we do not have in area tanks. You guys were here enjoying the beautiful weather of St. Louis in November while I was out slaving away in the hot sun of Mexico. I am happy to suffer through it in the search of new and exciting fish that I can introduce to the St. Louis area.

What a fun couple of months we have had with more things coming up!

The swap meet was a great time and a very successful event for all who participated. SuperBowl was a great success and had some fantastic fish in it. We just had an auction that was fun for all.

DON'T FORGET about our **FREE** Fish Bowling!! On Saturday, December 1st from 6:00 - 9:00 pm we have our MASi Appreciation Bowling party at Epiphany Lanes which is just right off Highway 44 at

The 2018 MASi Challenge, Running River Rainbowfish Recovery Project, will be coming to a close at the end of the year and we will exceed our goal, so PLEASE bring some fish, plants and supplies to the auction and to the meeting and donate to this worthy cause so we can greatly surpass our goal.

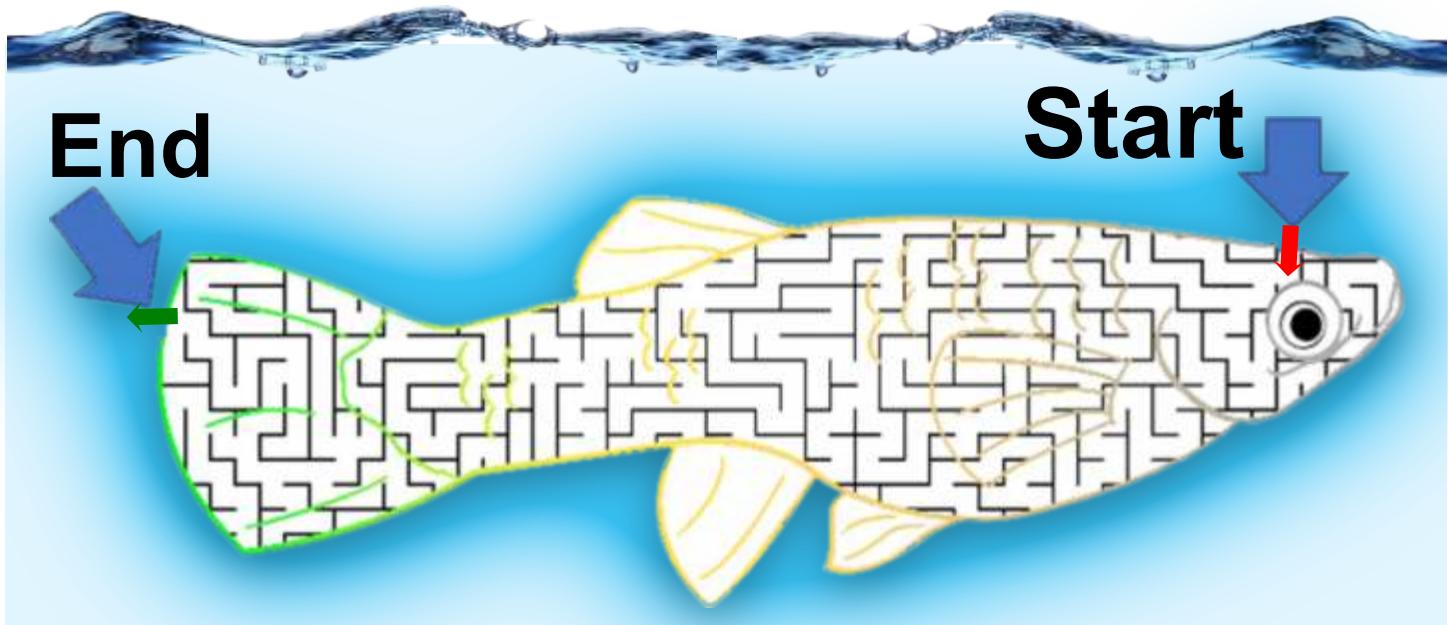
The 2019 MASi Challenge will be George Maier Fund. The purpose of the George Maier Fund is to provide grants for scientific research and associated activities that enhance the knowledge of killifish, especially as applied to their reproduction, life cycle, maintenance, nutritional requirements and food sources, biology, ecology, habitat, conservation, nomenclature and biological relationships. Be sure to support this cause as well.

The time is here to renew your membership and think about where you can volunteer and help out the club. MASi is a completely volunteer organization that members work and run. Take a position in the club by running for a council or officer position in the Spring. We always are looking for fresh new ideas and help. All help is needed and appreciated.

Don't forget FISH BUCKS! The previous issue of The DARTER has all the scoop on how you can earn FISH BUCKS and purchase special items at our spring banquet. You can earn FISH Bucks by attending meetings, entering the bowl show, helping out at any of our activities, writing an article and many more things.

See you at the November 15th meeting!

Keep looking below water....



Chuck Bremer

FROM THE EDITOR



We're rapidly coming to the end of a very good year!

2018 was fantastic! MASi gained over 50 new members this year and has gathered a lot of momentum going into 2019.

We have exceeded our MASi Challenge goal for the 2nd year in a row and have had two successful Swaps and four successful Auctions!

New faces on the Council, our new Fish Bucks rewards program, and a vibrant membership all will help propel us into the future.

Working for a Club like this is very enjoyable. As a result of member participation in BAP, HAP and writing articles the Darter has been fun and relatively easy to write.

We have several new authors again this year and some promise to be a regular occurrence. Although The DARTER is an Aquarium Hobby newsletter, it is not just about specific fish and plant species, it addresses other aspects of the hobby as well. When asked "What should I write about?", my answer is "Write about something of interest to you!" If it is of interest to you it's probably of interest to others. This helps us have a lot of varied content and cover a broad interest group. It works!

This issue contains a special article by Tom Keevin in process for several months and just for Christmas. Read it and it will bring back memories to many. He has promised several more.

This issue also wraps up a series begun way back last spring with a talk by Bob Hrabik, who wrote "The Book on Missouri Fish", about native Missouri fish collecting. That talk was followed by a collecting trip and now an article about it by Bob himself. He is still working to get that book to press. Maybe we'll do it again next year? We could maybe help him discover more new reasons to create a future Edition 2?

Can we exceed our MASi Challenge for the 3rd year in a row? See the new Challenge the Council has chosen in this issue.

Be an Author!

The content deadline for the next DARTER issue is January 8th 2019.

Thanks for a very good 2018, let's keep it going!!

Renew your Missouri Aquarium Society Membership now if you haven't done so already!

See your cover letter with this Darter to know if your membership is up to date or not.

Join or renew membership at any meeting, most club events, by PayPal from the [MASi Website's Membership Page](#) or by contacting Ed Millinger, membership chair, at 573-883-9943.

[Send Feedback and Letters to the Editor to: editor@missouriaquariumsociety.com](mailto:editor@missouriaquariumsociety.com)

Forum Afficianados, Did you know that even if you don't have a FaceBook account, these 4 FaceBook pages are available for Public reading? Each placard is linked to a corresponding PUBLIC FaceBook page, just click it.





MASI General Meeting Thurs, Nov 15th!!

Keeping Aquariums Natural and Simple



Making aquarium keeping simple and saving money for beginners and advanced keepers.

Lucas shares what he has learned from mother nature by managing over 200 planted aquariums all by himself.

Lucas Bretz is the owner/operator of LRB

Aquatics and is known for his natural & unique approach to keeping freshwater aquariums. He hosts

Live Q&A sessions every Friday on his YouTube channel, [L.R.](#)

[Bretz Aquatics](#) and sells a wide variety of home bred fish, shrimp,

and plants on his website [lrbaquatics.com](#). Lucas holds the most

International Shrimp Awards in the US for a variety of

Neocaridina lines. He currently maintains 200 freshwater aquariums out of

his home, including outdoor breeding tubs and ponds that operate year-

round and has designed and installed individual plumbing to each of his

tanks. **Check out his channel to see what he's up to now!**



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

Lucas Bretz has been keeping freshwater fish since he was a kid, inheriting his love for aquariums and nature from both parents. Growing up in Tennessee and rural Indiana, he spent a lot of time outdoors and recreates a piece of nature in each of his aquariums. Once he discovered what adding natural plants can do for a tank's eco-system, he was hooked!

He's always maintained a great line of Cherry Red Neocaridina Shrimp and expanded his aquatic plant collection from all around the world. In 2010 he began breeding Rainbowfish, noting their love for Indiana's hard water.

Lucas worked full time in construction, caring for his fish on the side, and making occasional sales through a variety of aquatic forums but when his son Wesley was born in 2014, he became a full time Dad. Then, with a dozen naturally planted tanks Lucas

started his YouTube Channel, L.R.Bretz's Aquatics.

In 2015, Lucas entered the 1st International Shrimp Contest at the Chicago Aquatic Experience, winning 1st and 2nd place in the categories entered. He still maintains and sells these 1st place winning Fire Red *Neocaridina*. In the 2nd International Shrimp Contest he won two more awards for his *Neocaridina* shrimp, - now the most awarded US shrimp breeder. Lucas competed in October 2018 at the Aquatic Experience in Secaucus NJ- results will be shared at the MASI meeting.

After this recognition, LRB Aquatics was officially born and has grown rapidly since! His website [www.lrbaquatics.com](#) has expanded to keep up with demand, and he now maintains 200 aquariums in his house. He also operates outdoor breeding ponds and tubs year-round & has created his own signature line of Rainbow Tiger Endler Livebearers.

Lucas admits he is stricken with MTS, Multiple Tank Syndrome! In order to help manage the workload he designed and installed individual plumbing to each of his tanks. A lot of work! -but it keeps him from having cross-contamination issues between tanks.

He is known for being a bit unorthodox in his approach to fishkeeping and considers natural habitats whenever possible. This style has been a big contributor to his successful breeding a variety of aquatic life. He challenges the status quo and enjoys taking you along on his experiments through his YouTube Channel.

Lucas is active in his local fish club, Circle City Aquarium Club, of Indianapolis, IN and also accepts invites to talk at other clubs.



2018/19 New Members!



The Darter

Debra Belton	Chesterfield, MO
Mick Bretz	St Charles, MO
Elizabeth Isgriggs	Imperial, MO
Christina Jones	Wentzville, MO
Robert Klein	Ballwin, MO
Cody Mueller	Desoto, MO
Larry Oliver	St Louis, MO
Bryan Rawlings	Alton, IL
Kerri Tennant	Rolla, MO
Mike & Donna Thibodeau	St Charles, MO

MEMBER

2018/19

New Members
since the last
Darter!

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



The Missouri Aquarium Society is
changing rapidly!

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

Make them feel welcome! Show
them around and help them become
acquainted with others so they can
participate to the fullest in the club.

With this many new members
there are bound to be some interesting
ideas that may help improve the club,

renew it and make it more relevant for
those who have already enjoyed it for a
while.

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

MASI FISH BOWL_{ING}

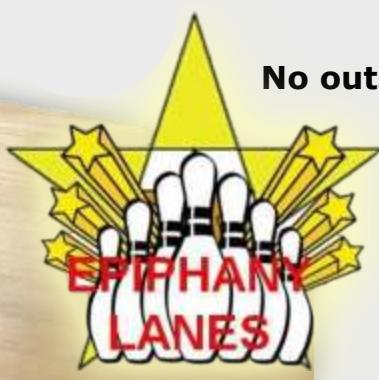
EPIPHANY LANES 6:00 - 9:00 PM

Saturday, December 1st, 2018

In appreciation of its Members, MASI is sponsoring a
Fall Bowling Party - Get together, have some fun and
exchange interests!

Free Bowling and Shoes provided for MASI
Families and Guests

No outside food is allowed but there is plenty
of food and drink offered at the Venue!



3164 Ivanhoe Ave.
St. Louis, MO 63139
314-781-8684

Just off I-44 At Arsenal or Jameson



DON'T FORGET THE NEXT MASI GENERAL MEETING, DECEMBER 20th, IS THE:

Register a dish to pass
with Lora at the
November meeting
to help Party
Planning!



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





MASI 2018 Swap Meets

Tom Corridini

Guy Tinker



Missouri Aquarium Society Fall Swap Meet!

Thanks You for Joining Missouri Aquarium Society September 30.

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!!

It was a FULL SWAP! and we're looking for ways to expand for 2019.

Thanks you to our Fall 2018 MASI Swap Vendors and the 270+ Buyers who took advantage of their wares! It was our biggest Swap yet!

Alan Merkley; Andrew White and and Rob Menzel; Bob and Lora Ann Watson; Brian Monroe; Charles Harrison and Sue Harrison; Chris Mohrle; Derek Walker; Dustin Shearer; Erica Marquez; Gary Lange; Guy Tinker Jr.; Jeremy Goodchild; Jerry Jost; John Corey; Jonathan Larson and Brandon Khammanivong; JoshnDiane Hawkins Voeks; Kris Nelson and Amy Heinen.; Lucas Bretz; Mark Huffman; Mark Simmons; Matthew Grant; Mike Hellweg; Paul & Teresa Ridgeway; Scott Bush and Danielle; Shawn Carroll; Tom Turtle Corradini and Debbie Sultan; Warren Crabtree; And Anyone else we've overlooked!!

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





MASI Challenge

2018 Progress

Running River Rainbowfish Recovery Efforts



Gary says “We’ve just now met our goal! Lets see how much over we can go!!”

SHOP HOPPING - July 2018

Special Events and Deals!

These Local Fish Shops (LFS) help introduce hundreds of people to the Aquatic Hobby every day. They also help the Missouri Aquarium Society reach those hobbyists and keep them engaged by promoting our programs. **Support their programs too!**

Happy Fish Shopping!

The Missouri Aquarium Society

What	Where
New Facebook Posts	Saltwater Paradise
New Facebook Posts	Lualyn Aquatic Gems
Fish in Stock	Midwest Tropical Fish
Current Specials	petco
In Store Specials	PetsWay
Facebook	Pet Connection
Weekly Specials	Sailfin Pet Shop
Facebook/Specials	Aqua World
Monthly Specials	Tropical World Pets
Weekly Specials	Corals & More
Fish List	Malawi Aquatics





A New Challenge for 2019

George Maier Fund



The George Maier Fund

provides grants for scientific research activities enhancing the knowledge of killifish, as applied to their reproduction, life cycle, maintenance, nutritional requirements and food sources, biology, ecology, habitat, conservation, nomenclature and biological relationships.

The Fund was initiated by the American Killifish Association to honor the memory of George Maier, a warm and wonderful man who helped untold numbers of killifish hobbyists and a founding member of both the American Killifish Association and the Chicago Killifish Association, the oldest affiliate club in the U.S.

The Fund provides exclusively for scientific research and associated activities by providing educational grants, scholarships, fellowships, educational loans or other educational grants primarily through established educational entities and helping aspiring students with research costs and information disseminate. These grants increase our knowledge of killifish, support their conservation and that of their habitats.

Past and current grants:

Accomplishments include funding participation in a study on the suitability of habitats for *Nothobranchius*

reproduction- a study that included breakthrough information on the soil characteristics essential to a successful habitat. The Fund also participated in a project that resulted in the naming of new *Rivulus* species from Venezuela; Study of Killifish habitats in southern Africa; The Evolution of Diapause in certain Killifish groups; Species clarifications within *Cyprinodon*; Adaption of *Fundulus* to divergent osmotic environments and affects on competition in the wild; Studies of

the aquarium hobby. Many have also concentrated on various species of Pupfish, *Cyprinodon* sp., in arid areas and have promoted expansion of ranges and habitat improvement. Recent work also includes study of competitive physiology and genetics in wetland populations of hybridizing species in Florida and how these are altered by changes in native vegetation cycles. Sampling and identification of new and differentiation of existing species within the Manaus area of Brazil is being studied.

The George Maier Fund is an important source for the funding of killifish research, and is expected to participate in many future projects that will benefit both science and the hobby. Although most studies are dedicated to Killifish, many also impact knowledge about other small species including the Poeciliidae.

Fund Administration:

The George Maier Fund is a tax exempt public charity, US-IRS Code 501(c)(3), making all donations tax deductible. The A.K.A. provides assistance by actively soliciting and dispersing donations. The tax exempt status makes the Fund eligible for grants and donations from other tax exempt entities, such as MASI.

The George Maier Fund distributes annual grants based on available amounts in the Fund balance and replenishes or grows the spendable amount each year through donations such as ours.

Thanks for your donations and continued support.



gene evolution and characteristics for growth in annual killifish; Survey of resident populations and species in specific US costal habitats; Clarification of home ranges and parasite occurrence for several *Fundulus* species. Conducting DNA studies to establish home ranges for several species in Costa Rica; Determining hybridization between invading and native species and how this affects species boundaries.

Many of these studies have resulted in accessibility of additional species to





MEETING REPORT

MISC Contributors

Meeting Bowl Shows - Chris Mohrle

August

4 Entries

Place	Anabantoids	Keeper
1	Halfmoon Plakat	Dan Rios
2	Pearl Gourami	Melanie Holmes
3	Half Moon Plakat	Dan Rios

Place	Open	Keeper
1	Barbatus Cory	Ed Millinger

September

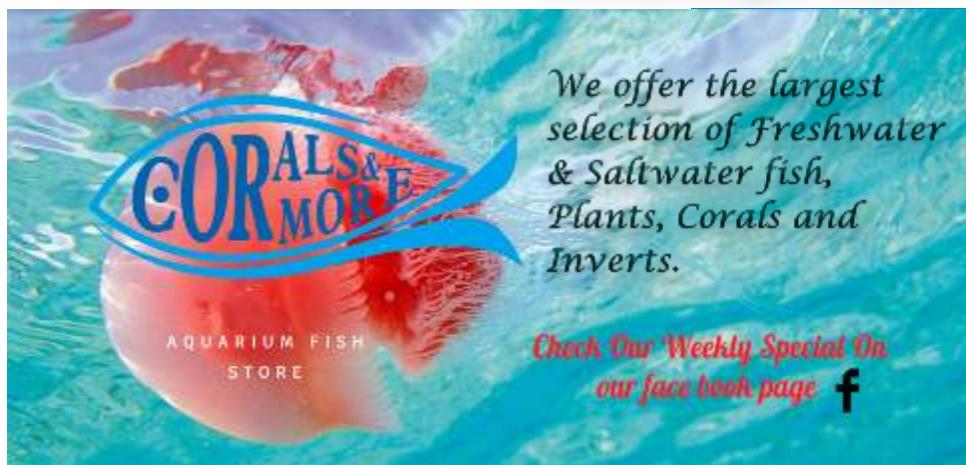
9 Entries

Place	Rainbow Fish	Keeper
1	Boesmani	Pat Tosie
Place	Open	Keeper
1	Rosy Barb	Pat Tosie
2	Barbatus Cory	Ed Millinger
3	Variatus Platy Male	Ed Millinger



\$390 Fish Bucks were rewarded to these bowl show entrants in August and September!

Did you get any?



We offer the largest selection of Freshwater & Saltwater fish, Plants, Corals and Inverts.

Check Our Weekly Special On our face book page 

Store Address:

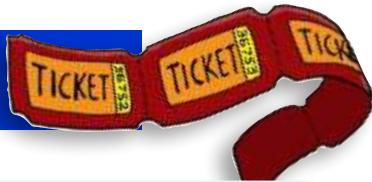
**1972 S Old Highway 94,
Saint Charles, MO 63303**

Hours of operation:

**TUESDAY-FRIDAY 1:00PM-8:00PM
SATURDAY 11:00PM-8:00PM
SUNDAY 11:00PM-6:00PM
CLOSED MONDAY**



Meeting Raffle Winners



SEPTEMBER:



Kevin Wise

Double Winner of Cobalt Spirulina Flakes and a ZooMed 24" AquaSun LED.

Pat Tosie

Winner of a ZooMed Powersweep kit.

OCTOBER:



Larry Albright - Winner of the BIG prize for the October SuperBowl - a Fluval 12 Gal Edge system donated by Midwest Tropical Fish from Jerseyville, IL.

To hear Larry talk about it he just won the \$1.6 B Mega jackpot!

Ever wonder why some folks seem to win frequently? They buy Raffle tickets! Just like the MegaMillions jackpot, you can't win if you don't play, no matter how big the odds.

MASI uses the proceeds from the monthly raffles to help pay for our use of the meeting location.



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Fri - Sat: 10:00 am - 8:00 pm

Sun: 12:00 pm - 6:00 pm





COUNCIL MINUTES

Executive Council

COUNCIL MEETING 8/18/18

Pat Tosie called the meeting to order at 7:42 at the home of Mike and Angela Hellweg. Present were Gary Lange, Jack Heller, Angela Hellweg, Charles Harrison, Sue Harrison, Melanie Holmes, Scot Roach, Mike Hellweg, Chuck Bremer, and Chris Mohrle.

ANNOUNCEMENTS

The next Council meeting is Sep 22 at the home of Melanie Holmes.

REPORTS

- **SECRETARY:** Angela read the Minutes from the July meeting. A motion to approve was made by Mike Hellweg and was seconded by Chuck Bremer. The motion passed.
- **TREASURER:** Jack Heller read the Treasure's report. A motion to approve was made by Chris Mohrle and was seconded by Charles Harrison. The motion passed.
- **CONVENTION:** Chris is looking into having a tee shirt designed for the 2019 convention.
- **ADVERTISING:** Flyers for the Sep swap are available to be delivered to local pet shops.
- **AUCTION:** Auction rules will be changed starting with the Nov 2018 auctions. The new rules will be in the Darter an online.
- **BOWL SHOW:** Moving Super Bowl to Nov starting in 2019 was discussed.
- **LIBRARIAN:** Melanie suggested having a library display at the General meeting so members are aware of it.
- **SPEAKERS:** Gary is still needing speakers for the General meetings.
- **MEMBERSHIP:** No longer offering half year memberships and no multiyear memberships was discussed.
- **SWAP:** Half of the tables have been sold so far.

OLD BUSINESS

- The MASi challenge has raised \$1650.00 so far.
- The Fish Bucks program was discussed. Rules will be in the Sep/Oct Darter.

NEW BUSINESS

- None

A motion to adjourn at 9:33 was made by Mike Hellweg and was seconded by Chris Mohrle. The motion passed



COUNCIL MEETING

9/22/18

Pat Tosie called the meeting to order at 7:58 at the home Melanie Holmes. Present were Gary Lange, Angela Hellweg, Tom Corradini, Charles & Sue Harrison, Melanie Holmes, Guy Tinker, Mike Hellweg, and Chuck Bremer. Our guest was Debbie Sultan.

ANNOUNCEMENTS

The next Council meeting is Oct 20 at the home of Chuck Bremer. SuperBowl is Oct 18.

REPORTS

- **SECRETARY:** Angela read the Minutes from the Aug meeting. A motion to approve was made by Mike Hellweg and was seconded by Gary Lange. The motion passed
- **TREASURER:** Pat read the Treasurer's report. A motion to approve was made by Guy Tinker and was seconded by Tom Corradini. The motion passed.
- **AUCTION:** Mike reviewed the new auction rules that take effect at the Nov auction.

- **LIBRARIAN:** Melanie would like to make a display for the library at the General meetings.
- **MEMBERSHIP:** Payments for 2019 memberships are now being accepted.
- **POINTS TABULATOR:** Guy is still updating the points program.
- **SWAP:** All tables for the swap meet have been sold.
- **WEBMASTER:** Charles has made the changes to the auction form.

OLD BUSINESS

- 2018 MASi Challenge is up to \$1909.00 (including seed money).
- Job descriptions still need to be updated.
- Sue looked into prices for permanent name tags. It would cost \$10.00 or less, depending upon quantity.

NEW BUSINESS

- It's time to start thinking about the 2019 MASi Challenge.

A motion to adjourn at 9:00 was made by Charles Harrison and was seconded by Mike Hellweg. The motion passed.

Council note: We urge you to get involved in your club. One of the best ways, especially for new members, is to attend any of the Council meetings to learn what goes on beyond the general meetings, become acquainted with all the club has to offer and to contribute your new ideas.

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

GET INVOLVED!



FROM THE PROGRAM CHAIR

Gary Lange



Mini-Talks; Practicing for the Spotlight

Our club is really blessed with several nationally sought after speakers

including Mike Hellweg, Steve Edie, Jack Heller and myself. Recently Chuck Bremer has joined in the fray and given a few talks to area clubs including our own. I for one would like to see that tradition continue.

Sometimes it's easier to start with baby steps. Instead of doing a full blown 45 minute to an hour talk start with something easier like a 10-15 minute talk. This is something that the Seattle club does with their members as they have a lot of experts in many areas of the hobby. I think we do too but people are just kind of shy about showing it. Maybe you have something very interesting to talk about but it's only going to take you a few minutes to do so.

I'm looking for three maybe four speakers who would like to give us a 10-15 minute talk.

This would be a program that we probably do in the early part of the year or late spring. If you have a talk in mind please let me know as soon as possible so we can get it planned. We can talk later about helping you get photos, Powerpoint slides and/or videos set up but first you have to commit.

I'm looking forward to hearing from you.

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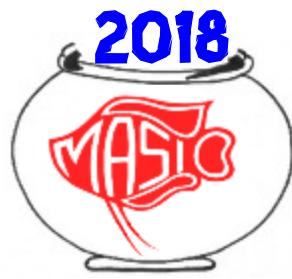


For fish products shop the yellow and blue aisles.



MASI SUPERBOWL

Results!!



Name of Fish	Entrant	Placing	Fish Buck
Swordtail	Pat Tosie	Best in Show	50
Ryunkin Goldfish - <i>Crassius auratus</i>	River Kinder-Russell	Best Junior	50
Green Phantom Pleco	Pat Tosie	Peoples Choice	50

Old World Cichlids

Sc. Hap Ahli	Pat Tosie	1	150
Pelvicachromis humilis Fria	Kevin Wise/Holly Paoni	2	100
Chromidotilapia Guntheri	Pat Tosie	3	50

New World Cichlids

Firemouth	Pat Tosie	1	150
T. Sieboldi	Pat Tosie	2	100
Angelfish	Charlie Hoppe	3	50

Rainbowfish

Turquoise Rainbow	Charlie Hoppe	1	150
Rhadinocentrus ornatus Seary's Creek	Gary Lange	2	100
Melanotaenia boesemani Aytinjo	Gary Lange	3	50

Killifish

Fundulopanchax gardneri Junderi	Charles Harrison	1	150
Pachypanchax malonotus	Charles Harrison	2	100
Fundulopanchax gardneri Nigerianus Nisaji	Kevin Wise/Holly Paoni	3	50



Thanks to the judges!

Brian Woodrick, Mike Huber, and Caleb Pitman



October 2018 SuperBowl Results (cont):

Name of Fish	Entrant	Placing	Fish
Livebearer: Fancy Finnage			
Hifin Red Sword Female	Larry Albright	1	150
Lyretail Gold Dust molly	Pat Tosie	2	100
High Fin Lyretail Sword M	Chuck Bell	3	50
High Fin Lyretail Sword F	Chuck Bell		20
Red Grass Guppy	Kevin Wise/Holly Paoni		20
Japan Blue Double Swordtail	Kevin Wise/Holly Paoni		20
Hi Fin Platy	Pat Tosie		20
Livebearer: Wild Type Finnage			
Swordtail	Pat Tosie	1	150
Marigold variatus Platy	Ed Millinger	2	100
Red Male Sword	Larry Albright	3	50
Ameca splendens	Kevin Wise/Holly Paoni		20
Gold Dust Molly	Pat Tosie		20
Egglayers: Cyprinids & Characins			
Ryunkin Goldfish - <i>Crassius auratus</i>	Daniell Kinder	1	150
Ryunkin Goldfish - <i>Crassius auratus</i>	River Kinder-Russell	2	100
White Cloud mountain minnow	Kevin Wise/Holly Paoni	3	50
Ornate Tetra, <i>Hyphessobrycon bentosi</i>	Charlie Hoppe		20
Rosy Barb	Pat Tosie		20
Egglayers: Any Other Type			
Red Tail Black Shark	Pat Tosie	1	150
Rainbow Shark	Pat Tosie	2	100
F Betta splendens	Kevin Wise/Holly Paoni	3	50
Betta rubra	Gary Lange		20
Catfish: Corydoras & Relatives			
Corydoras Sp	Pat Tosie	1	150
Schleromystax barbatus	Ed Millinger	2	100
Catfish: All Other			
Green Phantom Pleco	Pat Tosie	1	150

A total of \$3220 Fish Bucks along with Real Dollars will be rewarded to participants and judges at the November General Meeting.





MASI AUCTION MESSAGE

Mike Hellweg

Auction Report

expected - there were fewer items, but better quality and/or value ones from the point of view of the buyers - it's much better to buy a group of fish instead of having to chase down several bags of one or two fish scattered throughout the day. It appears that worked to the seller's advantage- they will find they did better overall than in previous auctions, as well.

Not surprisingly, it appears the club made about the same gross profit, as we do at almost every auction, and have done for several decades. There was no frenzy of \$1 and \$2 bids at the end. I know some folks like those, but sellers definitely don't, and the club doesn't really win there either.

The auction ended a little earlier than expected, but that was because a few of the registered sellers didn't show or didn't bring as many items as they thought they would. Everyone was home in time for dinner, and none of our volunteers was ready to collapse at the end.

So for those who didn't make it, I hope you will come to the February 10 auction. One of the best things is that we all had a good time. No one was rushed, and everyone had time to spend visiting with fishy friends.

Isn't that what it is all about?

And for now, 'nuff said



MASI 2019 Auctions

**Winter February 10 : Spring April 28 : Summer
August 4 : Fall November 10**

Members Only Rare Fish Auction June 20

Gen Meeting Mini-Auctions (Donations, Challenge, HAP, BAP, etc.)

Jan 17, Feb 21, Mar 21, Apr 18, May 16, Jun 20, Jul 18, Aug 15, Sep 19, Oct 17 & Nov 12 (No mini-auction in December)



MASI Activities

MASI 2018/19 Calendar

Nov 15	General Meeting	7:30 PM
Dec 8	Council Meeting - Harrison Home	7:30 PM
Dec 20	Christmas Party	7:30 PM
Jan 17	Council Meeting - @ MASI Meeting	7:00 PM
Jan 17	General Meeting	7:30 PM
Jan 26	Council Meeting - Heller Home	7:30 PM
Feb 10	Auction	9:00 AM
Feb 21	General Meeting	7:30 PM
Feb 23	Council Meeting - Lange Home	7:30 PM
Mar 21	General Meeting	7:30 PM

Mar 30	Council Meeting - Corradini Home	7:30 PM
Apr 18	General Meeting	7:30 PM
Apr 27	SWAP & Awards	TBD
Apr 28	Auction	9:00 AM
May 16	General Meeting	7:30 PM
Jun 20	General Meeting	7:30 PM
Jul 18	General Meeting	7:30 PM
Aug 4	Auction	9:00 AM
Aug 15	General Meeting	7:30 PM
Sep 19	General Meeting	7:30 PM
Sep 29	SWAP	TBD
Oct 17	General Meeting	7:30 PM
Nov 10	Auction	9:00 AM
Nov 21	General Meeting	7:30 PM
Dec 19	Christmas Party	7:30 PM



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Santa Claus, Lionel Trains, and Aquarium Fish

By Thomas M. Keevin

As I GET older there are those childhood memories that still bring a smile to my face when I think about them. When I was young, Lionel trains were a part of my childhood and certainly a big part of the family Christmas. The stored train-boxes came out a couple of weeks before Christmas and the tracks were laid with care around our Christmas tree.

There was also the annual trip to downtown St. Louis to check out the train layouts in the Famous-Barr department store windows and to check out the large seasonal Lionel train section in the toy department. Then there was the visit to Santa Claus. Just thinking about this might be bringing back fond memories of your childhood and a smile to your face!

So, you are thinking what does this article have to do with fish? My hobby is fish keeping, not model trains! Well, did you ever think it would be neat to have a train running



around the Christmas tree again for your kids or for the grandkids? I bet most of you fish-heads have a fish ornament or two on your Christmas tree!

So, let's step it up a notch and bring a smile to your kids or grandkids faces twenty years from now. There is an option to put a train under the tree again and to make it part of your hobby - aquarium fish.

Did you know that over the years Lionel has produced a number of aquarium cars and even an illuminated, animated aquarium building? They have also produced railroad cars that you could add to your aquarium-related rolling stock such as tank cars (In the pre-synthetic

salt water days, water was actually transported by rail in tank cars from the ocean to public aquariums like the Shedd Aquarium.), and then there is a submarine car to add a little exotic ichthyological research mystique to your train set.

In 2016, Lionel introduced the Lionelville Aquarium Co. Fish Food Vat Car which ships fish flakes in bulk to aquaria. Hey, aquarium fish have to eat too! If only we could get all of our fish to eat flake food. Cost - \$64.99 from Lionel.

Over the years Lionel has produced more different aquarium cars than you could ever conceivably fit around your Christmas tree.



6-26496 Lionelville Aquarium Co. Fish Food Vat Car





The Operating Traveling Aquarium Car No. 3435.

The first aquarium car was produced in 1959 (The Operating Traveling Aquarium Car No. 3435) and it remains the holy grail for aquarium car collectors. The aquarium car concept is based on a boxcar being converted into a large mobile fish tank. Lionel engineers used existing designs and parts to cheaply create a new product, the aquarium car.

The real-life counterpart of the car does not exist. In reality, it looks nothing like the real historic aquarium cars (state operated hatchery cars) which were modified wooden passenger coaches, fitted with large tanks for hatchlings as well as quarters for the crew, but Lionel's version sure is neat. The car is illuminated and the fish in the aquarium car swim when the car is in motion.

The original car was produced between 1959 and 1962 and is one of the most popular cars ever created by Lionel in the 1950s. The car has been re-issued a number of times. The re-issued version is illuminated and powered by a motor driver belt, and the fish swim regardless of whether the car is moving or standing still as long as there is power to the tracks. This sure would be a nice addition to your aquarium car rolling stock under the tree. Cost - \$75.00 - \$300.00 + Shipping (age and condition dependent). The re-issue of the car can be purchased for 59.99 through Lionel.

Lionel has manufactured aquarium cars for the Tennessee Aquarium (Chatanooga, TN), Shedd Aquarium (Chicago, IL), National Aquarium (Baltimore, Maryland), Reiman Aquarium (Milwaukee, WI),

Georgia Aquarium (Atlanta, GA), Seattle Aquarium (Seattle, WA), and SeaWorld.

with Discovery World, and produced by Lionel, LLC.

The Reiman Aquarium, which I have not visited, is located at Discovery World on Milwaukee's lakefront, and features a wide array of aquatic life from the Great Lakes, North Atlantic, and the warm waters of the Caribbean. The car features 13 species of Caribbean fish, Puffer, French Angelfish, Yellowtail, Hogfish, Porkfish, Blue Runner, and more... Cost - \$75.00 + Shipping (Can be purchased on-line from the Milwaukee-Lionel Railroad Club.)

Lionel has produced a long line of aquarium transport cars for mermaids, sharks, lobsters, octopi, dinosaurs, Nemo and his friends, you name it. There is also a series of aquarium cars produced for railroad



6-52572 Reiman Aquarium Car.

The Reiman Aquarium car is interesting. It was developed by the Milwaukee-Lionel Railroad Club, Inc.,

lines - Union Pacific Aquarium Car, Long Island Aquarium Car, and others. **If you are into Koi, they even manufactured a very colorful Koi**



6-36888 Koi Aquarium Car.



Aquarium Car. Cost - \$74.99 from Lionel.

For the die-hard tropical fish hobbyists, there is Pete's Place Freshwater Fish Farm with moving Angelfish, barbs and tetras. Cost - \$70.00 + Shipping)



6-19965 Pete's Place Fish Farm.

Now that you might be thinking that an aquarium-themed train set might be fun, how about adding some people and a few buildings to go with your layout? A church, a school and an operating AQUARIUM BUILDING would be nice!

Lionel produced "The Lionel City Aquarium" building which is illuminated and has moving fish in the front windows. The building doesn't come cheap. It will set you back the cost of a rare African Cichlid, but it would be well worth the cost. Cost - \$225.00-\$300.00 + Shipping.

If I have peaked your interest and gotten you thinking about an aquarium-themed train set under the Christmas tree, then there is an interesting article written by a train-hobbyist, **Bob Mintz, "Too Many Fish in the Sea: An updated Article on**

Aquarium Cars" that has photos of most (but certainly not all) of the existing aquarium cars.

Alternatively, if you go to eBay or Google you can type in Lionel aquarium cars and see what is available and the cost. While you are googling,

an aquarium car, Quint's Traveling Aquarium, with fish floating in real water that slosh around as the car moves.

<http://tcaetrain.org/2d-articles/collecting/Aquarium/index.shtml>

If you are interested in seeing an aquarium car in motion, you can find videos on u-tube.

<https://www.youtube.com/watch?v=z2MgA8wmd-o>

<https://www.youtube.com/watch?v=ART2adpoEc8>

<https://www.youtube.com/watch?v=A6dvaZ4FpXM>

I would like to thank Michael Kirchgessner, Director of Licensing for Lionel, LLC, for securing permissions to use copyrighted Lionel photos and to David Rohr, President of the Milwaukee-Lionel Railroad Club, Inc., for permission to use the club's photo of the Reiman Aquarium Car.

MERRY CHRISTMAS! Tom



6-14105 Operating Illuminated City Aquarium Building.

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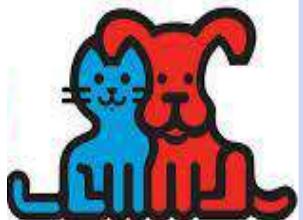
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Preparing and Bagging Fish for an Auction

A CHECKLIST

By Holly Paoni

BASED ON A Discussion at the October 2018 Missouri Aquarium Society general meeting.

A few weeks in advance of the expected sale:

1. Decide what is being bagged.
2. Order appropriate size & thickness bags.
3. In an appropriately sized bag, fish should be completely submerged in the bag with $\frac{1}{3}$ water to $\frac{2}{3}$ air ratio, no matter how the bag is positioned. The fish should also be able to turn around easily regardless of bag position.
4. Increase frequency of feedings and percentages of water changes. This gets the fish ready for the upcoming hard fast and large water changes.
5. Practice bagging using proper air to water ratio with snug, non deflating bags.

The Week prior to the auction

Begin the fasting process

1. Remove fish from all potential food sources. Moving to a totally bare fasting tank or



bucket works perfectly with 100% fresh dechlorinated water. Established tanks have algae, infusoria, and numerous natural food sources .

2. 50-95% daily to twice daily water changes to keep water



Size the Bag to the Fish

quality up to par dependent upon fish size and water amount used.

3. Cool fish down gradually ahead of the auction. The average

tank is about 80 or so, yet the auction room is often about 68.

Fasting time varies by Fish species and size:

- Small fish - thin bodied 3" and under, 2 full days works well.
- Medium fish, 3- 6 inches will need 3-5 full days. Thicker bodied fish need more time than thinner bodied
- Larger fish, 7" or more 5-7 days. An extra day wont hurt them but waste and ammonia will.

Get as much done as early as possible

Fish don't always cooperate so give yourself extra time.

- Labels and forms can be completed as soon as you begin fasting.
- Printing of photos & making extra labels giving additional info for uncommon species takes time but additional information brings more buyer interest.
- Dry goods, live foods, and plants can be bagged and labeled long before the fish.
- Keep all supplies together so you're not looking for that lost net auction morning!

The night prior or the morning of the auction

- Net fish from the fasting container into catch containers containing





Choose the Proper Bag

100% fresh dechlorinated water similar in temperature to your fish.

- Keep bags properly inflated by catching air before securely closing.
- Bundle smaller quantities into one item. Don't bag what you wouldn't buy- no one wants one tablespoon of moss or just one neon tetra.
- Don't put livestock together in the same bag that will not get along in such a small area. This includes territorial cichlids, crayfish, or males that constantly want to breed with a female. Bags don't give the weaker or smaller fish a place to hide. Separate bags taped together work best to help separate these fish.

In an appropriately sized bag, fish should be completely submerged in the bag with a $1\frac{1}{3}$ water to $2\frac{1}{3}$ air ratio, no matter how the bag is positioned .

Arrive EARLY for check in.

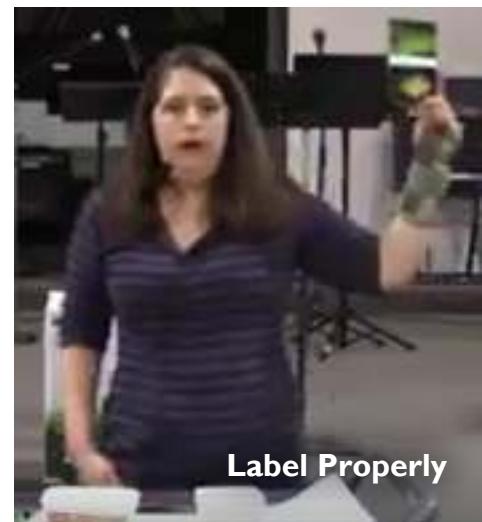
If rules require you to be checked in before 10:45 AM, don't assume the line will be shorter at that time- everyone else may also be making that assumption.

Additional things to consider...

- Remember, you are not bagging for your buddy who lives 30 min away. These fish could remain bagged for 24 hrs or even longer! We have buyers and sellers driving in at times from 8+ hrs away. I live an hour away but often just finished preparing new fish as late midnight. Prep and bag to last at least 24 hours.



Double Bag



Label Properly

to sell bundling also reduces your costs.

The new MASI rules are designed to improve the auction experience for everyone. Buyers, sellers, volunteers, members and guests. All change takes time to get used to - be patient and give these a chance. **Some auctions are big enough changes are needed to better support Buyers, Sellers and Volunteer help.**



Have Fun at the Auction!



Spawning
Cover
Protection
Mops

"The one with the Leaf"

Kathy Deutsch
kathy@skden.com





Fish of interest from our St. Francis River collecting expedition

By Robert A. Hrabik

Ichthyologist
(Retired)

Missouri Department
of Conservation



HI ALL, WHAT A great day we had! For those of you who didn't make it, it was grand.

Attached are my notes from our Field Trip.

We captured 32 species from the St. Francis River below Silver Mines and about 10 species from Marble Creek. At Marble Creek, we did document the continued existence of Ozark Shiner, *Notropis ozarkensis* (see image, attached). The odd darter captured at both Silver Mines and at Marble Creek turned out to be yet another variant of Rainbow Darter, *Etheostoma caeruleum*; let's call it the St. Francis River form.

The Ozark Shiner, the darters, and the madtoms were left overnight in my "photo cooler," the one with the black interior and clear top to allow ambient light to penetrate into the water column to pull out "true color" of the fish.



I was pretty surprised when I pulled out the darters and they looked a lot like Rainbow Darters—in the field they sure looked different—and to me, given all the Rainbow Darters I have seen, they certainly looked different, but they are what they are.

Speaking of which, see the other slide showing one of the three madtoms we caught. In the field these madtoms were heavily mottled and the median fins had a lot of yellow, which made me think that we found a new population of Mountain Madtom, *Noturus eleutherus*. But, after a night in the cooler and closer examination, no, these are Black River Madtom, *Noturus maydeni*.

If you examine the madtom slide, I show a Mountain Madtom (top), a Black River Madtom (bottom), and one of the madtoms we caught.

I have indicated on the slide three characters that jumped out at me after a night in the cooler:

- 1) the head is very small compared to total body length,
- 2) note the black blotch at the anterior end of the dorsal fin, and
- 3) note the white patch at the top of the caudal fin.

The white patch occurs in some populations (most, actually) of the Ozark Madtom (*Noturus albater*) group, which includes the Black River Madtom.

I hope we get to do something like this again, maybe next spring when the fish are all colored up for spawning.

Enjoy your winter!

Bob

Editor's note: The text and images in the following report are © and should not be used without permission of the author, Robert A. Hrabik.



COLLECTIONS OF ROBERT A. HRABIK

GENERAL STREAM SURVEY REPORTS

Date: 23 June 2018

Number: 18-01

Stream Name: St. Francis River below Silver Mines Recreation Area

County/State: Madison County: MISSOURI

Location: UTM: Z15S, 726550E, 4159263N; Lat/Long: N37.55255°/ W -90.43535° (upper end of collection site); derived using Google Earth, imagery date November 2013; Legal Description: NA

Water Physical Measurements: None taken

Gear Used: 20-ft, 3/16-inch mesh seine; 15-ft, 3/16-inch mesh seine, small kick seine, and dip nets.

Effort/Length of Stream Sampled: Sampled this site for 2+ hours. Began sample at Highway D bridge downstream for approximately 200 meters.

Collector(s): RAH and ~15 members of the Missouri Aquarium Society of St. Louis.

FISH SAMPLED: where A=abundant, C=common, and U=uncommon (followed by number sampled). Abundant=species is captured in nearly every unit of effort and is numerically dominate where expected. Common=species is captured in nearly every unit of effort and in preferred habitat is represented by high numbers, but may not dominate any sample. Uncommon=species may rarely be captured and only in a specific habitat; usually represented by less than 10 individuals depending on effort expended at the site.

<i>Dorosoma cepedianum</i> (U-1)	<i>Campostoma anomalum</i> (U-?)
<i>Campostoma oligolepis</i> (C)	<i>Cyprinella whipplei</i> (C)
<i>Hybopsis amblops</i> (U-3)	<i>Luxilus chryscephalus</i> (C)
<i>Luxilus zonatus</i> (A)	<i>Notropis boops</i> (A)
<i>Notropis greenei</i> (U-2)	<i>Notropis nubilus</i> (U-3)
<i>Notropis percobromus</i> (C)	<i>Pimephales notatus</i> (C)
<i>Erimyzon clavigiformis</i> (U-1)	<i>Hypentelium nigricans</i> (C)
<i>Moxostoma erythrurum</i> (C)	<i>Ameirurus natalis</i> (U-1)
<i>Noturus maydeni</i> (U-3)*	<i>Labidesthes sicculus</i> (C)
<i>Fundulus catenatus</i> (U-1)	<i>Fundulus notatus</i> (U-4)
<i>Fundulus olivaceus</i> (U-8)	<i>Gambusia affinis</i> (U-1)
<i>Ambloplites ariommus</i> (C)	<i>Lepomis cyanellus</i> (C)
<i>Lepomis gulosus</i> (U-1)	<i>Lepomis macrochirus</i> (C)
<i>Lepomis megalotis</i> (A)	<i>Lepomis microlophus</i> (U-3)
<i>Micropterus dolomieu</i> (C)	<i>Micropterus salmoides</i> (U-6)
<i>Etheostoma blennoides</i> (C)	<i>Etheostoma caeruleum</i> (A)**
<i>Etheostoma flabellare</i> (C)	<i>Etheostoma spectabile</i> (U-2)
<i>Etheostoma stigmaeum</i> (U-6)	<i>Percina caprodes</i> (C)***
<i>Percina evides</i> (C)	

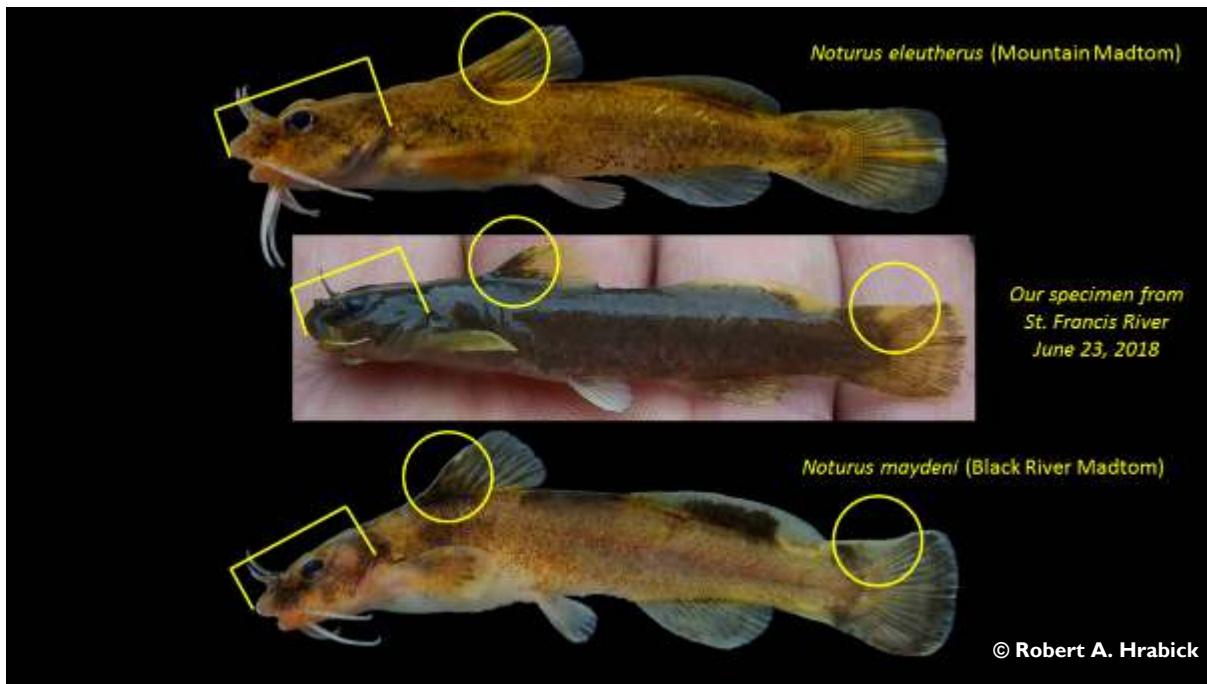
37 species. (?) = Unsure number of possible *Campostoma* spp. other than *oligolepis* we may have encountered. (*) = three specimens of *N. maydeni* retained for verification. (**) = two specimens of *E. caeruleum* retained for verification. (***) = no distinction made between *P. caprodes* and *P. fulvitaenia*.



OTHER COLLECTIONS: Mussels, crayfishes, and various aquatic insects were captured and broadly classified for MASI participants.

STREAM CONDITIONS: River stage and discharge was below normal for this time of the year based on the Patterson, MO gage. Water clarity was not measured but could be characterized as “clear” for this river system in Madison County. There was a deep pool underneath the Highway D bridge (depth unknown but more than 6 feet), where the river made a nearly 90-degree bend to the right descending bank then into 35-foot (apx.) swift riffle, substrate very coarse and embedded. Below that substrate was gravel and sand where water velocity dropped to very slight. To the left descending bank was a large backwater, shallow, warmer than flowing portions of the river. At distal end of backwater was a high bank, substrate of detritus, small branches, soft. Water dark colored and an ammonia smell when disturbed. Downstream of backwater each bank was moderately to deeply undercut. Water never more than chest deep at any point. Eventually the channel widened, became shallower and terminated into a cobble and gravel riffle, not as embedded as the upstream riffle. Sample site ended here.

OTHER ECOLOGICAL/BIOLOGICAL NOTES: No listed fish species encountered at this site. I was expecting to capture ~40 species and if we stayed a little longer and kept working the varied habitats we probably would have attained that number. The backwater proved to be interesting as it was the only habitat to yield *Fundulus notatus*, *Etheostoma stigmaeum*, and *Ameiurus natalis*. *Noturus maydeni* was unusually olivaceous, heavily mottled (or speckled) and bases of median fins nearly yellow. The yellow color reminiscent of *Noturus eleutherus* (Mountain Madtom) of which I thought they might have been when first encountered in the kick nets (lower riffle).



COLLECTIONS OF ROBERT A. HRABIK

GENERAL STREAM SURVEY REPORTS

Date: 23 June 2018

Number: 18-02

Stream Name: Marble Creek above dam in Marble Creek Recreation Area

County/State: Madison County: MISSOURI

Location: UTM: Z15S, 717676E, 4147963N; Lat/Long: N37.452929°/ W -90.539063° (upper end of collection site); derived using DeLorme Topo USA V7.0; Legal Description: NA

Water Physical Measurements: None taken

Gear Used: 15-ft, 3/16-inch mesh seine, small kick seine, and dip nets.

Effort/Length of Stream Sampled: Sampled this site for 1+ hours, From above the impounded water upstream for approximately 120 meters.

Collector(s): RAH and 5 members of the Missouri Aquarium Society of St. Louis.

FISH SAMPLED: where A=abundant, C=common, and U=uncommon (followed by number sampled). Abundant=species is captured in nearly every unit of effort and is numerically dominate where expected. Common=species is captured in nearly every unit of effort and in preferred habitat is represented by high numbers, but may not dominate any sample. Uncommon=species may rarely be captured and only in a specific habitat; usually represented by less than 10 individuals depending on effort expended at the site.

<i>Campostoma anomalum</i> (U-4)	<i>Campostoma oligolepis</i> (U-2)
<i>Luxilus zonatus</i> (C)	<i>Notropis boops</i> (A)
<i>Notropis ozarkanu</i> s (U-1)*	<i>Notropis percobromus</i> (U-3)
<i>Notropis telescopus</i> (C)	<i>Pimephales notatus</i> (U-2)
<i>Erimyzon claviger</i> (U-1)	<i>Fundulus olivaceus</i> (U-8)
<i>Lepomis cyanellus</i> (U-3)	<i>Lepomis macrochirus</i> (U-2)
<i>Lepomis megalotis</i> (C)	<i>Etheostoma blennoides</i> (U-2)
<i>Etheostoma caeruleum</i> (U-4)**	<i>Etheostoma flabellare</i> (U-2)

16 species. (*) = specimen was photographed for documentation but unfortunately died; specimen in collections at Bollinger County Museum of Natural History—not accessioned. (**) = two specimens of *E. caeruleum* retained for verification and photographed (several more were observed but not captured).

OTHER COLLECTIONS: None of note

STREAM CONDITIONS: Water was gin clear. We entered the stream off the northern most access parking area (which leads to the dam), by following a path to Marble Creek. This was more-or-less the center of our collection site. We worked upstream and downstream, sampling riffles, small pools. Maximum depth: ~2 feet. Riffles of cobble. Runs of gravel, cobble, embedded stone, bedrock. Pools of bedrock, scattered large rocks. Undisturbed riparian corridors. Beautiful stream and area.



OTHER ECOLOGICAL/BIOLOGICAL NOTES: The last time *Notropis ozarcanus* was collected from Marble Creek was in 2002. The species has never been caught in high numbers here (3, maximum). At this time, I do not know if other collections came from above or below the dam. As I drove back to Fredericktown, I noticed several streams that appeared from Highway E to be good quality streams. I do not know if anyone has attempted to sample the many small streams tributary to the St. Francis River in this area to detect new, extant population of *N. Ozarcanus*.



HERE ARE IDs of the following page with comments:

1. **Smallmouth Bass**, *Micropterus dolomieu*
2. **Longear Sunfish**, *Lepomis megalotis*
3. **Striped Shiner**, *Luxilus chryscephalus*
4. **Bigeye Shiner**, *Notropis boops*
5. **Whitetail Shiner**, *Cyprinella galactura*? This image sure looks like a Whitetail Shiner even though I do not list it on my report. It is possible that no one showed it to me or I simply forgot about it. Examine the caudal peduncle region where the caudal fin inserts into the peduncle. It sure looks like a white patch to me. Also, the body reminds me of a Whitetail Shiner. Contrast this image with #13--see the difference?
6. **Northern Hogsucker**, *Hypentelium nigricans*
7. **Blackstripe Topminnow**, *Fundulus notatus*

8. **Logperch**, *Percina caprodes*. Note that in the St. Francis River, the Ozark Logperch intergrades with the Northern Logperch, *Percina caprodes*. Whether or not the logperches we caught are Ozark or intergrades is unknown, so I am calling all of them *Percina caprodes*, Logperch.
9. **Banded Darter**, *Etheostoma zonale*
10. **Black River Madtom**, *Noturus maydeni*
11. **Gilt Darter**, *Percina evides*
12. **Longear Sunfish**, *Lepomis megalotis*
13. **Steelcolor Shiner**, *Cyprinella whipplei*. The image is pretty blurry so it is difficult to be 100% sure if the specimen was a Steelcolor or Spotfin Shiner. Based on examining the melanophores on the dorsal fin, I am calling this a Steelcolor Shiner. The body also reminds me of a Steelcolor Shiner. Also, as with the Whitetail Shiner above, I do not recall seeing a Spotfin Shiner on that day thus the
14. **Brook Silverside**, *Labidesthes sicculus*
15. **Banded Darter**, *Etheostoma zonale*
16. **Logperch**, *Percina caprodes* (see comments for #8).
17. **Striped Shiner**, *Luxilus chryscephalus*
18. **Logperch**, *Percina caprodes* (see comments for #8)
19. **Bleeding Shiner**, *Luxilus zonatus*
20. **Probably Rainbow Darter**, *Etheostoma caeruleum* (difficult to determine from this photo). I did identify a couple of Orangethroat Darters on our trip, but this image doesn't quite look like a "good" OTD.
21. **Warmouth**, *Lepomis gulosus*
22. **Rainbow Darter**, *Etheostoma caeruleum*

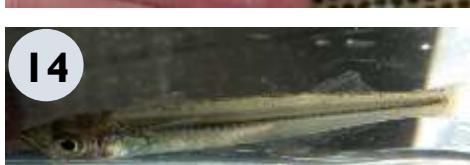
Robert Hrabick





The Darter

MASI Collecting Trip Fish ID's



**Identity of
some of the
fish caught.**

**Thanks to Bob Hrabik for
identification and Gary
Lange, Amy Bennett and
others for the photos.**





Minifins

Corydoras pygmaeus

The Pygmy Cory

By Mike Hellweg, CFN
(Certifiable Fish Nut)

FOR MOST OF the time that I've been keeping tropical fish, one of my favorites has been the Pygmy Cory - *Corydoras pygmaeus*.

They are small, outgoing, and schooling, spending much of their day chasing each other while looking for food. Interestingly, unlike most Corys, the Pygmy Cory spends much of its time in midwater, exploring the leaves of plants, aquarium décor, and just



seeming to have fun. Yes, I know I'm anthropomorphizing, but it is hard not to with these 'cute' little fish. They are one of the smallest known species of *Corydoras*, with males maxing out at just under an inch, and females just topping an inch.

They were first described in 1966, but they were in the trade for many decades before that, usually labeled as *Corydoras hastatus*, as that was the only tiny *Corydoras* species known to science at the time. If you look at some older magazines and books, there are pictures of *Corydoras pygmaeus* labeled as *C. hastatus*. This caused a lot of confusion up into and through the 1990s, and some folks even confuse the two species to this day.

In the wild they are found in tributaries of the Rio Madiera in south western Brazil, near Bolivia. The habitat is made up of clear, tannin-stained water flowing over a sand bottom and the water is full of plant debris from the jungle overhead - branches, roots, and fallen seed pods and leaves. This habitat is generally devoid of true aquatic plants, though in our aquaria Pygmy Corys do very well in planted tanks.

Most of the fish in the trade are raised on farms, but it isn't hard to find wild caught juveniles if you are willing to ask around a bit. Many aquarists breed them, so you can also find tank raised specimens at local aquarium club auctions. Usually you will find specimens that are less than 4 months old and about a half inch or so in size. Like most freshwater fish, Pygmy Corys are very adaptable and



Rio Madiera main channel near Porto Velho



undemanding when it comes to water parameters. They do like water movement, so a good, well maintained filter is called for.

Personally, I prefer sponge or Mattenfilters and they seem to work just fine, especially if you want to get the pygmies to spawn for you. In fact, if you use a sponge or Mattenfilter, it is likely that not only will the pygmies spawn for you regularly, but the fry will find enough micro food for the first few days of life and you will almost always have at least a few young fish in the tank once the adults reach sexual maturity.

Pygmy Corys like to move, so even though they are often called nano fish and are recommended for nano tanks, they actually would do better in a long, low tank like a 20 long or 33 extra long where they can chase each other and swim about in the current all day long. One of the coolest tanks of pygmies that I have seen was Jerry Jost's Pygmy Cory tank with about 200 Pygmy Corys, a big piece of driftwood in the center, and a pile of Java moss. Those guys were constantly on the move, and the tank seemed to be alive.

I mentioned earlier that a school of Pygmy Corys looks great in a planted tank, but if you want to make something a bit more natural looking, set up the tank with tangles of driftwood or spider wood, a big pile of hardwood leaves, and some seed pods and/or coconut shells. Tap water is fine if you're not trying to breed them, but if you want them to spawn for you, it is a good idea to add some soft, acidic water to the tank. It is not necessary to hit certain parameters, but just to be below a pH of 7.0 and with low carbonate hardness.

Pygmy Corys will eat anything small that fits in their tiny mouth. As a staple, I use finely ground pellets, finely ground flakes, live or frozen baby brine shrimp, and a twice weekly feeding of Grindal worms. When I want to get them to spawn, I feed Grindal worms every day.

You'll know your females are ready to spawn when they sit on the bottom and seem like they are too rounded for both pectoral fins to touch the bottom at the same time. After a

week of feeding Grindal worms every day, I will do a large (70 percent) water change in the evening when a storm front is going to go through. Many sources say the water should be 5 or 10 degrees cooler than normal, but I have found that if you maintain them at 75 F or so all the time, they don't need the shot of cooler water, just fresh water. After the water change, I clean the filter and add a couple of extra airstones to the tank. Usually the spawning chase will begin as soon as the water change is done, and they will start laying eggs as the barometric pressure drops and the storm front moves through.



Pygmy Corys like to move, so even though they are often called nano fish and are recommended for nano tanks, they actually would do better in a long, low tank

It seems to be chaos but the chase is actually pretty well organized. The males spend most of their time pushing and shoving each other as they chase the female around the tank, but if you look closely it is usually just one male and one female that do all of the spawning in any particular spawning event. More males than females is always a good idea as most of the males will be distracted by other males instead of harassing the females. It seems that the spawning chase and jostling with other males gets their hormones flowing.

Spawning can be a bit rough on the female, and when they form the famous "T" position with the male becoming the top of the tee and the female the base, the male is actually squeezing the female's mouth fairly tightly with his clamped pectoral fin, and holding it close to his urogenital opening.

It is believed that the clamping of her mouth keeps her from breathing for a short time, and as he releases her she take in a deep breath and takes in milt through her mouth. She then pumps it out through her gills towards



the eggs that she clasps in a pocket made by her pelvic fins. She will then swim off and attach the eggs to some surface in the tank. After that, she will rejoin the chase and repeat the process over again. I have seen some females that have a bloody mouth after spawning, I assume from the male's clamped pectoral fins. This usually heals quickly and should not be cause for concern.

Most of the eggs will be laid on the glass, but you can also find them on plants, driftwood, filters and even



heaters. At this point it is a good idea to remove the adults as they are not above eating at least some of the eggs. The eggs will hatch in 3 to 5 days, depending on temperature. The youngsters will be ready to start eating in another few days and in a mature aquarium with a mature Mattenfilter, they will find plenty to eat without any additional food.

In a spawning tank, or if you have a large spawn, you will need to add additional food for a few days. I've found Sera Micron to be an excellent first food. Others like Golden Pearls, or some of the commercial liquid fry diets for egglayers. After a few days the fry will be big enough to start taking newly hatched brine shrimp and microworms. From that point on, rearing them is easy and the toughest part will be keeping up with water changes. You will be well on your way to having your own large school of Pygmy Corys.

One of the most productive groups of Pygmy Corys that I ever had

was a group of 2 females and 5 males that lived in a 5-1/2 gallon tank. It had a pea gravel substrate about 3/4 inches thick, and a Tetra Brilliant sponge filter, the old, two sponge filter that had suction cups that held it on the glass up off the bottom. The tank had a large clump of Java fern attached to a piece of driftwood in the middle. I fed the tank Hikari Micro Pellets and live baby brine shrimp every day. There were always young fish in the tank and I was able to remove a dozen or so small fish every few weeks for a couple of years. So even though they like to have room to swim and chase, this is by no means an absolute requirement and they do quite well in smaller tanks.

With the ever growing popularity of both nano fish and nano tanks, the popularity of the Pygmy Cory will no doubt continue to grow. They are long lived, peaceful and make fantastic aquarium residents.

Pygmy Corys are well worth seeking out.



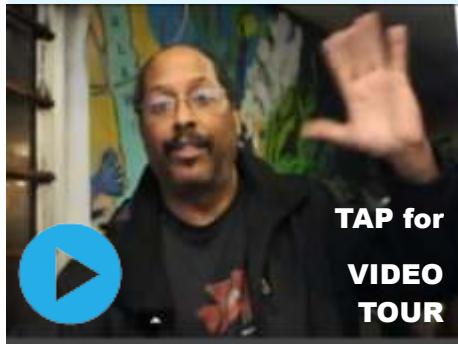
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Back to Basics :

Quarantine and Fish First-Aid Kits

By Holly Paoni

EVERYONE HAS HEARD about quarantine or "QT", but may not really understand what it's about and why it's important.

QT is a very important part of fish keeping because anytime a fish is transferred from one home to another there is an increased risk of illness, even to extremely healthy livestock.

This happens because each tank, or system of tanks, is its own micro-ecosystem. The water chemistry, parameters, temperature and micro organisms will never be identical. Immunities built in one eco-system may be useless in another. Moving a fish causes some stress, which can weaken its natural immunity as well. By isolating new fish to their own quarantine tank for a period of time we are able to better observe and treat them as needed without affecting our other fish.

A quarantine tank can be any tank or container that holds water and has basic fish keeping essentials.

It is important that it isolates a new group of fish from all other fish, is easy to observe, easy to treat, and easy to tear down and deep clean if needed. A bare or sparsely decorated tank works great for this. I keep several tanks set up in this manner for the dual



purpose of fasting before bagging and for quarantine. Smaller tanks than you would normally use is fine. I prefer 2.5 to 20 gals because I keep mainly smaller fish. Medication directions often give doses needed per ten gallons, so you may want to use tanks in sizes of multiples of ten to keep things simple.

Illnesses vary greatly in incubation time or the time before showing up as a symptom in the fish.

Ich can show up almost overnight, Fish TB and *Camallanus* worms can take weeks to months to show symptoms. So how long should you isolate new fish? "It depends." If I receive a breeding group of fish that will stay together, but are the only inhabitants of a tank I may acclimate them straight to their breeding tank then isolate that tank for 2 months. If it's a new source, or the fish are



stressed or rough at arrival, I put them into an isolation tank for 2-3 weeks. Then, if they show no illness, I transfer to the breeding tank and isolate for another 6 weeks.

But, if a group of fish will be added to a show tank with established fish, I'd recommend straight to a quarantine tank for 6 weeks. I wouldn't want to risk my possibly expensive fish in the established. A longer isolation period protects your other livestock.

For quarantine many things need to be kept separate. Nets, Gravel vacuums, and anything that touches the QT tank should only touch and be used on THAT specific tank and group of fish until QT is over. Care for QT tanks LAST and wash hands well between QT tanks. All it takes to spread some illnesses is a micro-drop of water.

There are several ways and a few useful products on the market to clean equipment after QT is over. I use either diluted bleach or Net Soak depending on the application.



10 Gal Tanks work well



First Aid Kit

Its helpful to have a few medications on hand incase of an outbreak. This can be a short simple list or a long extensive one. I prefer a short simple inventory, as the chances of me needing to open and use the med on the shelf before it expires is pretty small.

If its hard to get to the store and you are iffy about purchasing online it doesn't hurt to keep an anti-fungal, a broad spectrum antibiotic and something for parasites on hand. It never hurts to be prepared. Do a bit of research on fish illnesses before your next purchase. Learn what to look for, how to identify, and treat them. It is part of being prepared.

Stock what YOU are comfortable with. My fish first aid kit includes, aquarium salt, a heater, extra dechlorinater makes a nice back up as well, Melafix, an extra air pump, line and airstone, and I always have fresh garlic around. My list may appear odd, but its worked for me for a long time.

I have a heater available too as I heat the room, but not most of my tanks individually, so if I need to increase temperature it'll take an extra heater. Salt, heat, increased air and water changes works for my rare Ick outbreak. Melafix - some swear by it, others say its useless. I look at it as a "neosporin" for mild fish scrapes to keep them from becoming infected. The fresh garlic, minced with a bit of oil and mixed with food will treat an internal parasite or infection, until I can get the proper medication.

In my experience, Good nutrition, Good Quarantine procedures, and Great water quality

are the first lines of defense in preventing illness and keeping fish immunities high. I change a lot of water frequently on established tanks. I change even more water, even more often on QT tanks because I feel it makes a huge difference.

First Aid Kit

1. **Aquarium Salt**
2. **Heater**
3. **Extra Dechlorinator**
4. **Melafix**
5. **Air Pump w airline & airstone**
6. **Fresh garlic**

Optional Meds:

- **Antifungal**
- **Broad spectrum antibiotic**
- **Anti Parasite med**

Happy Holidays, Back To Basics will pick up in the New Year with Repairing Leaking tanks... I've got a couple to be resealed this winter, so there will be photos of the process.



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Black Prince Goodeid *Characodon Audax*

By Chase Klinesteker

Reprinted from "SWAM",
November 2018

A publication of the
Southwestern Michigan
Aquarium Society
Kalamazoo, MI



C RITICALLY ENDANGERED

The Black Prince Goodeid is a critically endangered live-bearing fish from the mountainous area of Durango, Mexico. *Characodon audax* encompasses several populations having attractive colors including black, red, and yellow. The "El Toboso" location is one of the most striking, with jet black fins and silvery reflective scales.

I obtained my current stock of "El Toboso" from Jim Langhammer in 2013. Its current conservation status is critically endangered, declining, and on the verge of going extinct. I encourage hobbyists that are interested to look into the C.A.R.E.S. program and the Goodeid Working Group to save many of these rare fishes.

A DIFFICULT FISH TO KEEP

The word "audax" means bold or daring. Males can be downright nasty to each other with the females not much better. Starting with fish of approximately the same size helps, and avoid shipping pairs together in the same bag.

They are easy to catch in a net, as they rarely spook. They do not tolerate many other species or crowding well. A

Male *Characodon audax*, "El Toboso" location



larger species tank with many plants and hiding places is recommended. Do not mix fish from different populations in order to keep the wild strains pure.

With good filtration and regular water changes, they should do well. Cooler temperatures are needed, and I found that 72 to 74 worked best for optimal growth and reproduction. Higher temperatures are not to their liking, and when I kept them at 65 degrees, growth was very slow and they seemed susceptible to air bladder problems. Some would float up to the surface and constantly struggle to swim down. This sometimes can be corrected by placing the fish in a very shallow container with some soft plants for a few days so they don't have to struggle.

Feeding the Black Prince Goodeid can be a challenge also. They are constantly picking and searching for food, and seem to prefer more frequent feedings.

Their favorite foods are frozen brine shrimp and daphnia, and I include spirulina flake for vegetable matter. They can be glutinous, so be careful to not overfeed. Plecos are good tankmates and will help clean up excess food.

BREEDING

Goodeids require a separate fertilization for every batch of fry. Sexing is simple, as males have black fins and females' fins are clear. Gestation is around 60 days. Adults can reach 2 inches in length and live 5-7 years, but a females' first brood may be only 2 or 3 large fry when she is less than an inch long. As she gets older, the number of fry increases but they may be slightly smaller.

I prefer to isolate the females for delivering the fry, as there likely is some predation. A small tank with filtration and many plants will suffice for the delivery. A fully pregnant female is quite large and could be damaged if picked up in a net, so I catch her and then use a small cup to pick her out of the net in water for transfer.

The fry will eat fine dry food and baby brine shrimp right away but grow fairly slowly, having their first brood in 4 or 5 months.

Female "El Toboso"





Growing and Propagating (Firebird, Apple-Brownie, and Silver Powder) Bucephalandra

—
By Holly Paoni

BUCEPHALANDRAS ARE IN the Aroid group of plants and found in the humid rainforests of Borneo.

They are found growing in streams and river banks on the rocks and driftwood. In the dry season they are emersed, growing out of the water. In the wet season they are submerged under the water, and can be in the current. Their growth habit, and conditions are very similar to Anubias. I set up the various Buces a bit differently to see which method works best in my very low -tech fishroom. All tanks had medium lighting, no added fertilizers nor CO2 was used.

Apple -Brownie was planted in a terra cotta pot. The substrate used was a mix of topsoil, sand, pea gravel, and river rock. This was put in a 20 gallon long with a HOB filter. The potted plant was placed under the outflow with just a couple of inches of water above the plant. This gave it more light and plenty of current. This one had the fastest growth rate, about twice as fast as the others.

Firebird was put on a piece of poret foam which was attached to a ceramic tile. This was then propped up on top of a large sponge filter in a 20 gallon high. This tank has a lot of other plants,



Silver Powder

including floating but the flow from the filter kept it from being in the shade. This also was the deepest tank used. Light diffuses the deeper the water is. So this plant got less light than the others even unshaded. This tank also had the second highest rate of water flow, of the various tanks used. The majority of my tanks have a slow flow rate. This one I increased it some. What is interesting is that this Buce had the second fastest growth rate.

Silver Powder was placed on poret and a ceramic tile as well, again propped up on the top of a sponge filter in a 10 gallon tank. Flow was left alone, so it was my typical low flow tank. Tank was also well planted and had floating plants.

This one also did well, but didn't grow as fast as the other two.

After trying several ways of planting and growing Buces in a low tech environment, I highly recommend planting them in a current.

The growth rate difference between being grown in a current and away from it is very comparable to the difference in Stem plants grown with CO2 and without.

I have a couple more aroid plants growing in the fishroom, some set up as above but had set backs due to algae or were just planted in the substrate. These have had a much slower growth rate and will be described in a future HAP article.



Firebird





September 2018



Member	Genus	Species	Common Name	PTs	Bonus	CARES	Total
Mike Huber	Paratilapia *	sp. "Fianarantsoa Green" *		15	10		2283
Jerry Jost	Corydoras	oiapoquensis	Flag Tail Panda Cory	10			2927
	Corydoras	sp. "CW068" *		10	5		2942
Holly Paoni & Kevin Wise	Poecilia	wingei ^	Scarlet Endler LB	0	1		892
	Xenophallus	umbratilis "Arenal Volcano"	Golden Teddy	15			907
Caleb Pitman	Ancistrus	sp. "Bristlenose"	Albino Bristlenose	10			10
	Corydoras	aeneus		10			20
	Danio	rerio		5			25
	Hypancistrus	sp. "L340" *		20	5		50
	Melanotaenia	praecox		10			60
	Paralabidochromis	sp. "Rock Kribensis"		10			70
	Poecilia	wingei	Scarlet Endler LB	5			75
Dan Rios	Cynotilapia	sp. "Hara" *	White Top Hara	10	5		270
	Labeotropheus	fulleborni		10			280
	Phallichthys	quadripunctatus @	4 Spot Merry Widow	5	5		290
	Xenophallus	umbratilis	Golden Teddy	15			305
Debbie Sulton & Tom Corradini	Cyathopharynx	furcifer "Kigoma"		15			1235
	Pelvicachromis	silviae "Ughelli" @		15	15		1265
Pat Tosie	Parachromis	motaguensis "Rio Blanco, Honduras" *		10	5		5682
	Wallaceochromis	humila "Friya"		15			5697

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

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

Sources: Cal Academy - <http://research.calacademy.org>

CARES - <http://www.carespreservation.com>

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October 2018

Member	Genus	Species	Common Name	Points	Bonus	CARES	Total
Mike Hellweg	<i>Carlhubbsia</i>	<i>kidderi</i> *		10	5		7065
Mike Huber	<i>Chapalichthys</i>	<i>percaticus</i> #@	Leopard Goodeid	0		15	2298
	<i>Sciaenochromis</i>	<i>fryeri</i>			10		2308
Holly Paoni & Kevin Wise	<i>Gambusia</i>	<i>holbrooki</i>	Melanistic	5			912
Caleb Pitman	<i>Ancistrus</i>	<i>sp. "Bristlenose"</i> ^	Chocolate Longfin BN	0	2		77
	<i>Xenophallus</i>	<i>umbratilis</i>	Golden Teddy	15			92

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)

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Sources: Cal Academy - <http://research.calacademy.org>

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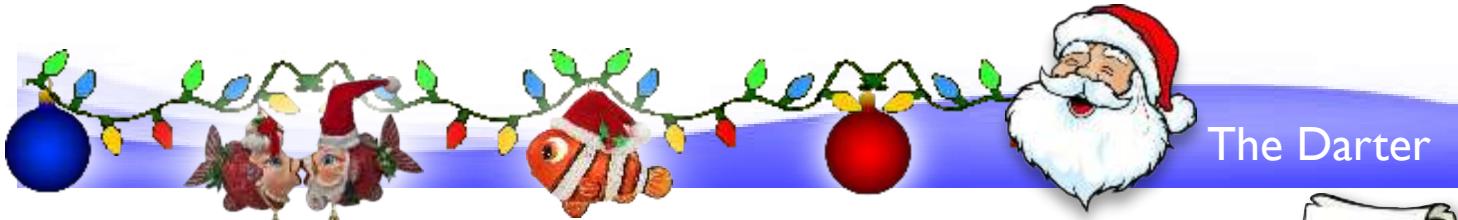
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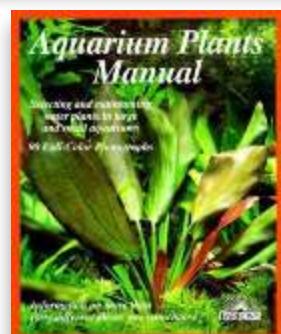
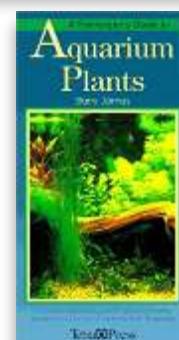
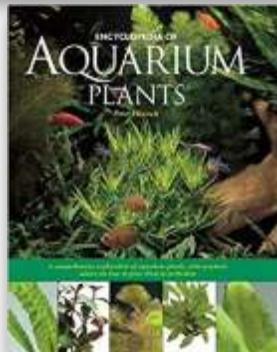
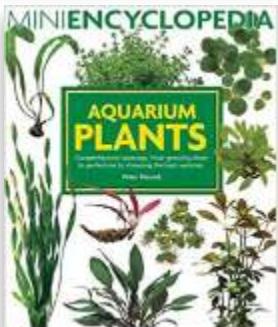
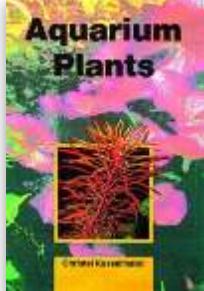


HORTICULTURE AWARD PROGRAM - Mike Hellweg May & June 2018



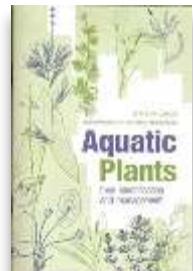
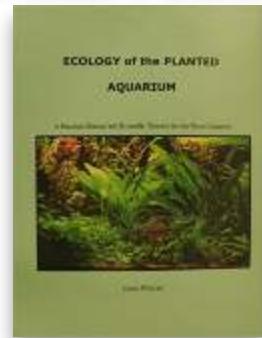
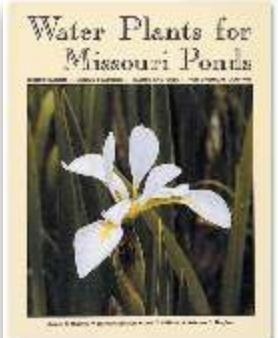
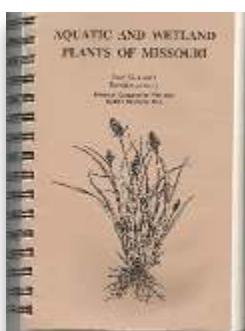
Member	Genus & Species	Common Name	Type	Points
Holly Paoni & Kevin Wise	1565 Points			
	<i>Bucephalandra sp</i> Silver Powder		V	20
	<i>Bucephalandra sp.</i> Firebird		V	20
	<i>Cryptocoryne hudoroi</i>		V	15
	<i>Eichhornia crassipes</i>	Water Hyacinth	V	5
	<i>Ludwigia repens</i>	Red Ludwigia	V	10
	<i>Pogostemon stellatus</i>	Water Star	V	15
Pat Tosie	445 points			
	<i>Ceratopteris silaquosa</i>	Indian Water Fern	V	5

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



What's in YOUR Library?

Check out MASI's Library for some Winter Reading!





The Darter

CLUB HOPPING - Steve Edie

2018

Nov 16-18 - Strongsville, OH - OCA Extravaganza



Nov 18 - Joliet, IL - Greenwater Swap

Dec 2 - Hoffman Estates, IL - GCCA Swap



2019

Jan 20 - Greenwater Auction, Joliet, IL

Jan 20 - GCCA Swap, Hoffman Estates, IL

Jan 26 - CAFÉ Auction, Urbana, IL

Feb 10 - MASI Winter Auction, St Louis, MO

Feb 17 - QC Fish Swap, Davenport, IA

Mar 10 - GCCA Swap, Hoffman Estates, IL

Mar 16 - EIAA Auction, Cedar Rapids, IA

Mar 17 - Greenwater Swap, Joliet, IL

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 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 18-22 - ACA Convention, Cromwell, CT

Aug 4 - MASI Summer Auction, St Louis, MO

Aug 23-25 - FOTAS Conv, Baton Rouge, LA

Sep 13-15 - Catfish Cataclysm, Madison, WI

Sep 29 - MASI Fall Swap, St Louis, MO

Oct 6 - GCCA Swap, Hoffman Estates, IL

Oct 20 - Greenwater Swap, 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 Logos Hotlinked!





FISHES AS DISHES

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!

PATRICK

Smoked Fish Dip

Ingredients:

- 1/4 cup softened cream cheese
- 2 tablespoons finely chopped jalapeno pepper
- 1 tablespoon finely chopped celery
- 1 tablespoon finely chopped onion
- 4 shakes Worcestershire sauce
- 3 shakes hot sauce, such as Tabasco
- 4 ounces smoked fish
- About 3 tablespoons sour cream
- Crackers or raw vegetables, for serving

Directions:

Combine the cream cheese, jalapeno, celery, onion, Worcestershire and hot sauce in a food processor and mix until smooth. Break up the fish into the processor and process again until just mixed but not mushy. Thin the mixture with sour cream to a spreading consistency.



EAT MORE

Chill for 1 hour before serving. Serve with crackers or fresh raw vegetables.

Total Time: 1 hours and 10 minutes
(Preparation: 10 minutes, Inactive 1 hour)

Yields 12 servings



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MEMBER CLASSIFIEDS

Member	For Sale	Bid/Asked	Contact
Charles Harrison	Thiosulfate crystals (Chlorine Remover) - pound OTO double strength Chlorine/Chloramine test kits - 4 ounce Flubendazole, 10% powder 25 grams Lavamisole HCl Powder - 5 grams treats 100 gallons Methylene Blue 5% solution (4 ounces) Acriflavine Concentrate (4%) solution, 2 ounces Bromthymol Blue pH test solution, 4 ounces	\$4.00 \$12.50 \$20.00 \$10.00 \$12.75 \$12.70 \$7.00	(314) 849-9761 charles@inkmkr.com
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: 2x 75 gal; 5x 55 gal; 1x 50 long; 2x 33 gal; 9x 20 long; 3x 20 tall; 1x 27 long; 9x 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: Medo LPH80 Linear Piston pump; 30x 4x4 sponge filters 11x #2 Hydro sponge; 4x #3 Hydro sponge; Heaters: 2x 50 W; 19x 100 W; 3x 150W; 1x 200W; 5x 250W; 2x 300W; 19 Misc heaters	(314) 853-5348 Robert_Buckles@hotmail.com	Call or Email to discuss pricing



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</i> , <i>Neotoca bilineata</i>		314-737-6759
Want Jim Wetzel	<i>Neolamprologus brichardi/pulcher</i> , <i>Neolamprologus multifasciatus</i> or other Shell Dwellers, <i>Julidochromis marlieri</i> adult female, <i>Tropheus duboisi</i> male		pirateperch@rocketmail.com
Want Chuck Bremer	<i>Nymphaea micrantha</i> ,		BremerCD01@gmail.com



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Monthly Bowl Show Entry Form

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		

November

Aquatic Critters:
Aquatic Invertebrates,
totally aquatic amphibians
(Pipid frogs/toads,
Caecilians)

December has no Bowl Show

