

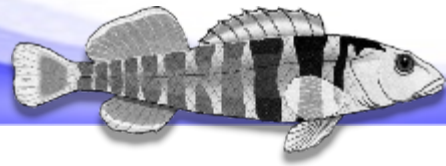
The cover of 'The DARTER' magazine features a close-up photograph of several light purple flowers with darker purple veining on their petals. The flowers are set against a dense background of large, rounded, vibrant green leaves. The overall composition is bright and naturalistic.

The
DARTER

V45-N5

September/October 2019

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



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THE DARTER

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Opinions expressed by the contributors are their own and do not necessarily reflect the opinions of the Missouri Aquarium Society.

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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.

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



Cover -Water Hyacinth -
Eichhornia crassipes - HAP Bloom
by Holly Paoni



INSIDE THIS ISSUE

It's a New School Year!



<u>From the President's Tank</u>	Pat Tosie	<u>4</u>
<u>From the Editor</u>	Chuck Bremer	<u>4</u>
<u>September Speaker</u>	Donald C Taphorn	<u>5</u>
<u>Program Lineup for 2019-2020</u>	Gary Lange	<u>7</u>
<u>New Members</u>	Ed Millinger	<u>8</u>
<u>MASI Fishy Bowling</u>	John Van Asch	<u>8</u>
<u>Fall Swap Meet</u>	Holly Paoni	<u>9</u>
<u>Fall Swap Vendors</u>	Holly Paoni	<u>10</u>
<u>Social Media Happenings</u>	Holly Paoni	<u>11</u>
<u>Monthly Bowl Show Results</u>	Chris Mohrle	<u>12</u>
<u>Fall Auction Report</u>	Mike Hellweg	<u>13</u>
<u>George Maier Fund Challenge</u>	Charles Harrison	<u>14</u>
<u>Council Meetings & Minutes</u>	Executive Council	<u>15</u>
<u>October Super Bowl Information</u>	Chris Mohrle	<u>17</u>
<u>Meeting Raffle Winners</u>	Pat Tosie	<u>18</u>
<u>Shop Hopping</u>		<u>19</u>
<u>MASI Activities 2019-20</u>		<u>20</u>
<u>Meet MASI Fishy Folk</u>	Mike Slater	<u>21</u>
<u>Fish Pond Rescue</u>	Mike Huber	<u>23</u>
<u>Issues with Sodium Thiosulfate</u>	Gary Lange	<u>24</u>
<u>Minifins: The Horseface Loach</u>	Mike Hellweg	<u>25</u>
<u>Emerald Eye Rasbora</u>	Mike Huber	<u>28</u>
<u>Keeping the Pirate Perch</u>	Jim Wetzal	<u>30</u>
<u>Breeders Award Program</u>	Steve Edie	<u>33</u>
<u>Horticultue Award Program</u>	Mike Hellweg	<u>36</u>
<u>Club Hopping</u>	Steve Edie	<u>37</u>
<u>Member Classifieds & Wants</u>		<u>40</u>
<u>Supporters and Friends</u>		<u>41</u>
<u>Advertisers & Sponsors</u>		<u>42</u>
<u>Superbowl Entry Form</u>	Chris Mohrle	<u>43</u>
<u>Monthly Bowl Show Entry Form</u>	Chris Mohrle	<u>44</u>

Article Photos are provided by the Author unless otherwise noted.

Click/Tap this to bounce back here. Then tap/click the article you want to read next!





FROM THE PRESIDENT'S TANK

Pat Tosie

MASI's Fishy Bowling will be here before you know it on October 26.

There are lots of things happening you can participate in.

Don't forget, we are still raising money for the MASI Challenge, The George Maier Fund. PLEASE bring donations to the meeting for us to sell and continue raising money for this worthy cause. Lets make this year one of our best!

Changes are good, some changes take a little getting used to but overall they are meant to improve things.

The recent auction changes have been a little stressful at the start but they have made the day of the auction easier for the members who work and we are still making the same amount of money! **Good job Mike!! I repeat, Good job Mike!!!**

We have talked about hosting a convention here and to do that we need more active members to help work out all the details and work the convention. **What kind of convention would you like to see? Aquascaping? Livebearers? Catfish? Cichlids? Killifish? Let the Council know what you think.**

The St. Louis Aquarium Aquarium is supposed to be opening later this year, what would you think about a tour??

Keep looking below water....

Things are happening!

The Swap meet is fast approaching on September 29, **MASI's SUPER BOWL** will be coming soon so get your fish ready and earn some Fishy Bucks!, we have the **Fall Auction** coming up on November 10 and

Chuck Bremer

FROM THE EDITOR

Reading this Darter may take more than one sitting. The text is just the tip of the iceberg. Click on any blue underlined texts in article or advertisement footnotes and even ads or photos themselves. A member told me: "The Darter looks like a quick read but if you follow all the links to outside material, included technical papers, videos and advertiser special offerings it can take a long time." The beauty of an electronic publication- nearly anything is just one link away!

Get yourself ready for our Speaker this Thursday. We are very fortunate to have a local speaker with such credentials and background who few know because he has spent the past 30 years living near the Amazon. Check out his publications in the bibliography on page 6!! Come to the meeting enthused and looking for more.

The MASI Fall Swap is on September 29th and you should be able to find nearly anything to support your Hobby. Find the vendors on page 10. Don't forget the 20 gallon aquarium given to a Lucky Raffle Winner. You don't even have to be present to win...but you do have to buy a ticket. Buying more than one ticket improves your odds!

Check out Super Bowl information, page 17 and print the Entry Blank, page 43.

Social Media has changed our hobby and MASI needs your help. Check out the changes MASI is exploring on page 11. Explore MASI on the Web, FaceBook and the new App, BAND, from written links, QR code or just with a click of your mouse. Let us know what you think and what needs to be considered for the future.



I've found that about half of MASI members are reading the Darter on their Smart Phones.

That is a Challenge!! I have made changes to ads, added links, and other modifications that may help readability. **Give your feedback what works and what doesn't.**

Content deadline for the Nov Darter is Nov 12th.

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





MASI General Meeting: Thurs, September 19th!!

Coastal Annual Killifish of Venezuela and Colombia



Dr. Donald C. Taphorn of the St Louis area, spent nearly 30 years living in Venezuela and studying the fish of Guyana, Colombia, Ecuador, Peru and Venezuela and will discuss experience with the numerous Killifishes catalogued from the region.



Also Including Mini-Auction and Door Prize Raffles

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

Dinner with the Speaker in September 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





Dr. Donald C. Taphorn B. - Profesor Titular Jubilado

Dr. Taphorn grew up in Belleville, IL and graduated in biology from Southern Illinois University, Edwardsville, IL with a BA in 1973, and obtained his Masters Degree (1976) and Phd (1990) from the Zoology Department of the University of Florida in Gainesville. He has published nearly 200 papers in his career on fish taxonomy, biogeography, and environmental issues.

His first year in Venezuela was spent working on a mosquito larvae biological control project using fish in Maracaibo. He spent the next year teaching ichthyology at the Universidad del Zulia in the Hydrobiology Department. He then moved to Guanare, Venezuela where a new university, the Universidad Nacional Experimental de los Llanos Occidentales "Ezequiel Zamora" was being founded where he spent most of his career (28 years) until he retired in 2006.

At UNELLEZ he taught Zoology and Aquatic Resource Management courses to Natural Resource Engineers and founded the Museo de Ciencias Naturales de Guanare (MCNG- BioCentro) where he worked as curator of fishes and built one of the largest fish collections in South America.

Dr. Taphorn is a veteran of numerous expeditions to Guyana, Colombia, Ecuador, Peru and Venezuela, and remains active in exploratory expeditions and alpha taxonomy.

Below is a Partial Bibliography from the more complete site at Research Gate:

https://www.researchgate.net/profile/Donald_Taphorn3 (Entries underlined and in Blue are direct linked to the reference.)

- Taxonomía y Sistemática del genero *Hyphessobrycon* (Characiformes: Characidae).
- Guide to the Freshwater Fishes of Guyana
- Sistemática de los peces neotropicales *Bryconamericus* (Characiformes, characidae)
- [Annotated list and key to the stream fishes of Trinidad and Tobago.](#)
- Review of *Ancistrus* (Siluriformes: Loricariidae) from the northwestern Guiana Shield, Orinoco Andes, and adjacent basins with description of six new species
- Revision of the *Astyanax orthodus* species-group (Teleostei: Characidae) with descriptions of three new species
- Fishes and aquatic habitats of the Orinoco River Basin: Diversity and conservation
- Clasificación y Taxonomía de los Peces de Agua Dulce en Venezuela
- [Jamie Edward Thomerson \(1935–2015\)](#) (Ed: J.E. Thomerson, SIU-E, inspired many to study ichthyology and Killifish specifically. MASI Member Tom Keevin as the lead author.)
- Fishery ecology in South American river basins
- *Hyphessobrycon natagaima* (Characiformes: Characidae) a new species from Colombia, with a key to the Magdalena basin *hyphessobrycon* species
- Three new species of *Bryconamericus* (Characiformes, Characidae), with keys for species from Ecuador and a discussion on the validity of the genus *Knodus*
- Trans-Andean *Ancistrus* (Siluriformes: Loricariidae)
- Fish and aquatic habitat conservation in South America: a continental overview with emphasis on Neotropical systems
- Fish assemblages of the Casiquiare River, a corridor and zoogeographical filter for dispersal between the Orinoco and Amazon basins
- Description Of A New Annual Rivulid Killifish Genus From Venezuela
- Four New *Hypancistrus* (Siluriformes: Loricariidae) from Amazonas, Venezuela
- Two New Species of *Guianacara* from the Guiana Shield of Eastern Venezuela (Perciformes: Cichlidae)
- The freshwater habitats, fishes, and fisheries of the Orinoco River Basin
- Molecular phylogeny of the Live-Bearing Fish Genus
- *Renova oscari*, a new genus and species of annual killifish from Venezuela (Cyprinodontiformes: Rivulidae)
- Karyotypes of nine Venezuelan annual killifishes (Cyprinodontidae), with comments on karyotype differentiation in annual killifishes
- *Rivulus corpulentus*, a new killifish from Cordillera de La Macarena, Colombia (Cyprinodontiformes: Rivulidae)
- The Annual Killifishes of Venezuela. Part 1: Maracaibo Basin and coastal plain species
- The Annual Killifishes of Venezuela. Part 2: Species of the Orinoco Llanos
- Two new annual killifishes from Amazonas Territory, Venezuela (Cyprinodontiformes: Rivulidae)
- *Rivulus gransabanae*, a new species of killifish from Venezuela (Cyprinodontiformes: Rivulidae)
- *Rivulus tecminae*, a new killifish from Amazonas Territory Venezuela (Cyprinodontiformes: Rivulidae)
- *Rivulus immaculatus*, a New Killifish from Venezuela (Cyprinodontiformes, Rivulidae)
- Food Habits of Piranhas in the Low Llanos of Venezuela
- Some observations on Orinoco Basin annual killifish
- [Those Bitin' Fish from South America](#)
- [Limnology of Orinoco Basin annual killifish pools](#)
- First record of *Rivulus marmoratus* Poey, 1880 From the South American continent (Pisces: Cyprinodontidae)
- [Distributional notes on some north Florida freshwater fishes](#)
- [Annual Killifishes of the Orinoco Basin of Venezuela](#)



FROM THE VICE PRESIDENT

Gary Lange



Here is the Program Lineup for the 2019-2020 year. If you have comments or suggestions please let me know.

I would like to supplement the October meeting with local club member efforts. I'm asking for several volunteers to give 10-15 minute talks. The BAP or HAP people might rather give a talk instead of writing an article for their Program Award points but this time is also open to others that want the time. Anyone can use projector and PowerPoint if they want or just talk with no visuals.

This has worked well in the past as an opportunity for MASI Club members to update the rest of us on the challenging species they have spawned. With good notes the highlights can be printed in the Darter as last year.

2019

Sep 19

Dr Don Taphorn
Annual Killifish of Venezuela & Columbia

Oct 17

**Member's Super Bowl Show
& TBD**

Nov 21

Sal Silvestri of Norwalk AS
Apistogramma and Other Dwarf Cichlids

Dec 19

Christmas Party

2020

Jan 16

TBD

Feb 20

Charlie Mueller of Pittsburgh AS
Spawning the Mouthbrooding Loricarids

Mar 19

TBD
Tubbing?

Apr 16

Karen Randall of AGA
TBD

May 21

Pat Hartman of SW Michigan AS
TBD

Jun-19

Eric Bodrock of All Oddball Aquatics
Cory Breeding Made Easy



MASI is approaching 180 Memberships!

Ariel Prettyman	St Peters, MO
Brian Snelson	St Louis, MO
Norman Smith	Memphis, TN
Joe Faszl	St Louis, MO
Paul Rogers	Belton, MO
Rick Smith	University City, MO
Paul Bitter	Branson, MO

2019 New & Returning Members since the last Darter!

57 so far for 2019



The Missouri Aquarium Society has changed rapidly!

Say "Hello" to 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!

MASI FISHY BOWLING

EPIPHANY LANES 6:00 - 9:00 PM

Saturday, October 26th, 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





MASI 2019 Swap Meets

Holly Paoni

Missouri Aquarium Society Swap Team

For last minute Vendor Registration please contact - Holly Paoni:
hpaoni@gmail.com.

The Holiday Inn's large ball room and Atrium will be packed full of fish hobby goodness by some great Vendors & Breeders from all over the MidWest!

You won't want to miss this!

SWAP open 10:00 AM till 2:00 PM

Doors open for Early Bird Admission at 10 am. \$5.00 each.

Regular Admission starts at 11 am. \$3.00 each.

Children 10 & under free with a paid adult.

Bring your BAP, HAP, Challenge and MASI Donations for MASI's club table.

Raffle Prize of 25 gallon salt/fresh water aquarium

Need not be present to win!

**Sept 29,
2019 Swap
Meet**

**Registration for
Vendors is nearly
complete!**

Mark your calendar and plan now. This Fall Swap will be here soon.

September 29th - MASI Fall Swap

**Sales begin @ 10:00 AM
Holiday Inn Airport West
3400 Rider Trail S
Earth City, MO 63045**



Missouri Aquarium Society's Fall SWAP

Sept 29th, 2019

Sales Begin @10:00 AM

Holiday Inn, Airport West

3400 Rider Trail S

Earth City, MO 63045



Vendors:

🐟 [Mike Hellweg](#) - Exotic Aquatics - Nano fish, Bettas, Livebearers, foods, plants & more

🐟 [Holly Paoni](#) - Hca Aquatics- Guppies, Wild type livebearers, Goodeids, Neo shrimp, Bristlenose & more

🐟 [Joe Faszl](#) - Seascape Studios- Saltwater live food cultures & more.

🐟 [Allen Merkley](#) - Discus, Electric blue Rams & more.

🐟 [Warren Crabtree](#) - Midwest Tropical Fish- A wide variety. To much to list.

🐟 [Chris Mohrle](#) - TBA

🐟 [Dwayne Peters](#) -Long Fin Paleatus Cories & Wild type *Betta Rubra*, Green Dragon Plecos, Flowerhorns,

🐟 [Jerry Jost](#) - A Great list of Cories.

🐟 [Shawn Carrol](#) - Big River Driftwoods - Driftwood, Red jewels, Plants & more.

🐟 [David Seiloff](#) - Large Peacocks, Haps, Leleupi, Food & dry goods.

🐟 [Al Grudzinski](#) - Bettas, Cichlids, Fishroom & tank supplies.

🐟 [Vinh Nguyen](#) - Angelfish and invertebrates.

🐟 [John Corey](#) - Neo shrimp, Guppies, Angels, & more.

🐟 [Bill Moran](#) - Angels, Swordtails, Guppies & more.

🐟 [Caleb Pitman](#) - Rainbowfish, Goodeids, livebearers, shrimp.

🐟 [Gary Lange](#) - TBA

🐟 [Kris Nelson](#) - Pleco Caves, Driftwood, NIs Foods & plecos - L46, L66, L183, L333, L411, Albino BN, Calico BN, Super red BN. Sterbai Cory. Syno petricola. Ng peacocks. Petrochromis sp. bulu pt. Dry goods. MAY be preorder only: Shooter50014@yahoo.com.

🐟 [Hilary Wheeler](#) - Axolotyls

🐟 [Andy Heck](#) - Koi & Pariaba Angelfish- Several Varieties.

🐟 [David Works](#) - Various African cichlids- Peacocks, Haps, Tangs, Victorians.

🐟 [Mark Simmons](#) - Driftwood, Male African Cichlids, Discus, Angels.

🐟 [Orin Moore](#) - Red Bristlenose, Plants, Cories & more

🐟 [Ed Millinger & Charles Harrison](#) - TBA

🐟 [Matt & Jeff Adler](#) - Several Full tank set ups. Tank/ stand/ equipment. Also several misc items.

🐟 [Jake Harris](#) - Rocks, Driftwood & Misc

🐟 [Belinda Holder](#) - Driftwood

🐟 [Jonathan Larson](#) - African Cichlids & Fancy Plecos

🐟 [Thadeus](#) - South American and African Cichlids, Flowerhorns

🐟 [Earl Robb](#) - 3 ft tank set up, lots of equipment & more

🐟 [Mike Martin](#) - Angels, Plants, Guppies & misc

Click or Scan to
check Vendor
updates or Pre-
Order on BAND:





Social Media Happenings

Holly Paoni

MASI & Social Media

There have been changes on the Social Media scene for clubs like ours. Facebook, for whatever reason, has been making it difficult for groups supporting the livestock hobbies to carry on many of their discussions through that platform. As a result MASI has seen fit to explore other Social Media platforms. Below is a run down of where to find information and social interaction within our Society.

- **Missouri Aquarium Society's Home page** - <https://missouriaquariumsociety.com/> - Used as a reference page for our activities with direct links to information about ongoing or upcoming programs and membership information. Go here to join or renew MASI membership or to get details about an upcoming event.
- **Missouri Aquarium Society's Forum** - https://missouriaquariumsociety.com/FishHeads_Forum/viewforum.php?f=6 - Because of FB polycys around sale of animals we have attempted to revitalize the Trading Post portion of the Forum. Use it to post information on hobby related items you may want or have available to sell. Sometimes visits can be slow but more activity, as with any social platform, helps attract additional users. If you need to post and can't remember or don't have a username and password, email Charles directly to gain access.
- **MASI BAND Main page** - <https://band.us/@masiclub> - BAND is a newly discovered App for many societies such as ours. It is a bit more open than Face Book and easy to join and share information within and with others, even for non-BAND members. Discussion so far appears to be open and generally freely supported. This is a Public MASI Group on Band that can be used to post upcoming events and to have general Aquatic Hobby discussions. Use this page to show off your hobby and interact with others about it.
- **MASI BAND Swap page** - <https://band.us/@masiswap> - This is a page specifically for discussion and posting about upcoming MASI SWAPs and other sales efforts by members or others on the platform. Post here instead of posting to any sales, rehomes or other livestock exchanges on FaceBook.
- **MASI FaceBook Main page** - <https://www.facebook.com/MissouriAquariumSociety/> - We still use this page as a posting location for general MASI information and about upcoming events. Visit it to find the latest postings about what we're doing.
- **MASI Facebook Discussion Group** - <https://www.facebook.com/groups/MissouriAquariumSociety/> - This is a discussion group that can be joined by FaceBook account holders and is useful for exchanging information about care of fish, setting up tanks, etc. To keep MASI in compliance with FB policy, DO NOT discuss sales, trading or even rehoming of any livestock on that platform. Those posts WILL be deleted. Use either the MASI Forum's Trading Post or one of the BAND groups mentioned above.

When posting or sharing on any portion of any Social Media platform, always consider them to be public and readily readable by anyone. Please let Club meeting rules apply: Keep it PG and respect others and their feelings. We want to encourage others, including kids, in this hobby. Post about hobby related items and questions but do not attempt to sell or transfer any legally banned or prohibited species. (If you can't legally sell it at an auction, do not post if on social media.

If you have any ideas, questions, or concerns, please feel free to contact me at hpaoni@gmail.com.

Thanks for your understanding and feedback as we test these waters.

Click or Scan to go to a Site:

MASI Home Page

MASI Trading Post

MASI Club Page

MASI SWAP Page

MASI FB Page

MASI Disc Page





Bowl/Show Chairman - Chris Mohrle

Meeting Bowl Show Winners

June - Catfish

9 Entries

Place	Catfish	Keeper
1	<i>Corydoras Sp.</i>	Pat Tosie
2	<i>Corydoras Sp.</i>	Pat Tosie
2	<i>Corydoras Sp.</i>	Pat Tosie



Place	Open	Keeper
1	<i>Labidochromis sp White</i>	Pat Tosie
2	<i>Melanochromis kaskazini</i>	Pat Tosie
3	<i>Apistogramma kullanderi</i>	Ed Millinger

July - Livebearers

5 Entries

Place	Livebearers	Keeper
1	Domestic Swordtail - Male	Bob & Lora Watson
2	Guppy Male	Bob & Lora Watson
2	Domestic Swordtail - Female	Bob & Lora Watson

Place	Open	Keeper
1	Columbian Blue Tetra	Ed Millinger

August - Open

9 Entries

Place	Open	Keeper
1	Super Red Ancistrus	Bob & Lora Watson
2	<i>Xenotoca Doadroi</i>	Bob & Lora Watson
3	Wild Type Molly	Pat Tosie



Don't forget:

Bowl Show Winners get *FREE Extra Raffle Tickets and Fish Buck Rewards!!*





MASI AUCTION MESSAGE

Mike Hellweg

As always, we can use a lot of hands to help out, from beginning to end, and any time in between. You can work for just a while, or all day. You may as well if you're going to be there anyway, right?

Remember, we've had several successful auctions - and **it's all because of our volunteers!** You don't have to be an expert - just willing to lend a helping hand, even if only for an hour or two.

Once again, we will be at the Holiday Inn Airport West - Earth City. Lunches will be available for purchase starting at 11:30 am.

For those who want to sell, be sure to contact me at the **MASI** auction email address beginning for members on **October 20** at midnight, and for non-members starting **October 27** at midnight.

If you haven't heard, the slots fill up fast! And the last two auctions only a couple of folks from the waiting list got moved up. So be sure to get your registration in right away in order not to miss out!

And for now, 'nuff said...

Wow! Seems like it was just the Annual Summer Auction, and already it's time for the Annual Fall Auction.

It is coming up quick! I hope we see you all on November 10.

View @ 10:00
Auction @ 11:00
Holiday Inn Airport West
3400 Rider Trail S
Earth City, MO 63045

November 10 - St Louis
FALL AQUATIC AUCTION





MASI Challenge

2019 George Maier Educational Fund



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?

2019



Help MASI support the George Maier Fund in 2019:

Donate used or new equipment, excess plants or fish from your tanks for the monthly mini-auction or donate cash. Mark all donations for the auction as Challenge. Receive Fish Bucks for helping that are spendable at the 2020 Awards Banquet.

This Fund honors Mr. George Maier, who was a founding member of the American Killifish Association; mentor to many, many members; and played a critical role in the organization's early success. The GM Fund is a tax exempt public charity, IRS 501(c)3, dedicated to issuing grants exclusively for the study of killifish. Grants are issued directly to students and professionals to offset expenses associated with studies that support the goals of the organization.

AKA's Specific Goals are: To enhance the knowledge of killifish, especially as applied to their

reproduction, life cycle, maintenance, nutritional requirements and food sources, biology, ecology, habitat, conservation, nomenclatural and biological relationships. The grant recipients are determined by an autonomous group of professionals who evaluate the proposals received. Members of the grant committee are all non-paid volunteers and donations go directly to grants.

The AKA has issued 17 grants since 2011, valued at over \$37,000. These projects have included fundamental studies in annual killifish reproduction, interrelationships among killifish species, molecular biology studies, discovery of new species, parasite evaluations in wild populations of North American killifish and many other subjects.

The George Maier Fund is depends on donations and fund-raising events staged by volunteers and affiliate clubs. All donations are tax deductible.

The Missouri Aquarium Association's donation will be made directly to the American Killifish Association in early 2020.

Go to www.aka.org for further details.





COUNCIL MINUTES

Executive Council

2019-2020 Council Meetings		
Date	Place	Time
Sep-21	@ Eggert's	7:30 PM
Nov-02	@ Holmes'	7:30 PM
Dec-7	@ Harrison's	7:30 PM
Jan-16	@ Gen Meeting	7:00 PM
Jan-21	@ Heller's	7:30 PM
Feb-29	@ Pitman's	7:30 PM
Mar-28	@ Lange's	7:30 PM
Apr-18	@ Paoni's	6:30 PM
May-23	@ Bremer's	6:30 PM
Jun-20	@ Huber's	7:30 PM
Jul TBD	@ MASI Picnic	6:30 PM

The voting portion of the Executive Council consists of 4 elected officers, 6 elected council members and the 3 appointed positions: Auction Chair, Editor and Show Chair.

On page 2 are contacts for the 2019/20 Executive Council and other Committee Chairs and Service positions within our Club. Please feel free to provide input to anyone or to attend the Council meetings yourself.

Members are invited to attend the Council meetings to bring up issues, contribute to the discussion or just to see how they are run. Meetings are normally held the 3rd Saturday of each month at a Council member home but are changed to fit schedules on occasion.

Give them your Feedback and Support!

COUNCIL MEETING 6/29/19

Pat Tosie called the meeting to order at 7:32 at his home. Present were Angela Hellweg, Charles & Sue Harrison, Melanie Holmes, Mike Hellweg, Chuck Bremer, and Chris Mohrle. Guests were Holly Paoni, Kevin Wise, and Mike Huber.

ANNOUNCEMENTS

- The next Council meeting is July 27 at the home of Rick & Pam Jokerst. This is also the date of the MASI Picnic.

REPORTS

- **SECRETARY:** Angela read the Minutes from the May meeting. A motion to approve was made by Mike Hellweg and was seconded by Chuck Bremer. The motion passed.
- **TREASURER:** Mike Hellweg read the May Treasurer's Report. A motion to approve was made by Charles Harrison and was seconded by Chris Mohrle. The motion passed.
- **AUCTION:** The next auction is Aug 4.

- **LIBRARY:** Melanie would like the library list to be published in the Darter.
- **SOCIAL MEDIA:** Holly is still working on getting people to move to the MASI forum and away from Facebook for selling.
- **SWAP MEET:** The swap meet is Sep 29. Holly will start posting ads.
- **WEBMASTER:** Charles will have the new list of Officers and Council on the MASI website.

OLD BUSINESS

- The 2019 MASI Challenge fund is currently at \$1645.00
- The fish pond rescue was June 22. There are still some fish left to be removed.

NEW BUSINESS

- A motion to approve the operations section for FY20 FORC was made by Mike Hellweg and was seconded by Chris Mohrle. The motion passed.
- A motion to approve the 2019-2020 FORC budget was made by Mike Hellweg and was seconded by Melanie Holmes. The motion passed.



COUNCIL MEETING 7/27/19

Pat Tosie called the meeting to order at 7:30 his office. Present were Gary Lange, Jack Heller, Angela Hellweg, Ian Eggert, Charles Harrison, Melanie Holmes, Mike Huber, Holly Paoni, Caleb Pitman, Chuck Bremer, and Chris Mohrle. Guests were Kevin Wise and Sue Harrison.

ANNOUNCEMENTS

- The next Council meeting is Aug 24 at the home of Angela and Mike Hellweg.



REPORTS

- **SECRETARY:** Angela read the Minutes from the June meeting. A motion to approve was made by Charles Harrison and Chuck Bremer. The motion passed.
- **TREASURER:** Jack read the June Treasurer's report. A motion to approve was made by Charles Harrison and was seconded by Chuck Bremer. The motion passed.
- **EDITOR:** The deadline for submissions is Sep 10 and the Darter will be sent out Sep 16.
- **AUCTION:** The Aug 4 auction slots are filled with 53 sellers and 9 on the waiting list.

- **HAP:** Submissions have increased.
- **SOCIAL MEDIA:** Holly plans to shut down the Facebook Swap group at the end of July.
- **SOCIAL EVENTS:** The MASI picnic may be rescheduled.
- **SWAP:** 26 tables have been sold so far.

OLD BUSINESS

- The 2019 MASI Challenge for the George Maier Fund is currently at \$1773.00. Ideas are needed for the 2020 challenge.

NEW BUSINESS

- BAP points are listed in the Darter. It was suggested that they also be updated on the website.

A motion to adjourn at 8:35 was made by Charles Harrison and was seconded by Gary Lange.



**Got Fish?
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MASI SUPERBOWL

October 17

NO ENTRY FEES!!



Class List:

1st, 2nd & 3rd in Each Class

1. Old World Cichlid
2. New World Cichlid
3. Rainbowfish
4. Killifish
5. Livebearer: Fancy Finnacle
6. Livebearer: Normal or Wild-type Finnacle
7. Egglayers: Cyprinids: Barbs, Danios, Rasboras, Minnows, Goldfish; Characins: Tetras, Pencilfish, Piranhas, Pacu, Silver Dollars, etc.
8. Egglayers: Any other type
9. Catfish: Corydoras, Aspidoras, Brochis, Scleromystax and relatives
10. Catfish: All other

The Judges have the final decision if a fish has been properly placed in a category and under the correct name

Arrive Early!

UPON ARRIVAL AT SUPERBOWL

1. Entrant should arrive at Superbowl with the entry form correctly filled out and with fish.
2. There will be blank entry forms at the show site as well.
3. Show chairman looks at form and the fish. Chairman keeps form.
4. Show chairman gives accurate tank number labels to the entrant.
5. Entrant places tank number labels on the upper right corner of each tank.
6. Entrant places fish in judging area.

Prizes:

- Best in Show, People's Choice, Best Junior
- \$20 gift certificate to Tropical World Pets
- Cash awards all Classes:
 - \$3 first, \$2 second, \$1 third
- Junior Exhibitor (under age 16) any species
- Certificate and Cash awards: First, Second, Third
- Fish Buck Rewards: First 150, Second 100, Third 50; or 20 for entering



Rules:

- Turn in an entry form BEFORE placing your fish. Blank entry forms will be available.
- LABEL your bowls before placing in judging area (show chair will give you the correct labels once you turn in the entry form).
- One flat sided drum bowl or small tank (up to 10 gallons) per species is recommended - **multiples are allowed, however, the fish must fit the tank properly or can be disqualified by the judges.**
- If placing more than one species into one bowl, please separate different classes into different containers to allow each proper placement on the show tables.
- No heaters, pumps or filters allowed. A lid or tank cover is preferred (Saran wrap and a rubber band works).
- Any fish displaying excessive stress will be pulled from the show.

Judging:

3 Judges will observe each fish. Judges' decision is final. Any judging paperwork is confidential and will be destroyed after the show. Judges do not need to defend their actions.

Entry form:

- Correct common name on entry form, as provided by entrant to the show chairman. Correct Latin name is better. (Correct Latin name may be from older books and commonly accepted nomenclature. No need to have the up-to-the second name. "*Corydoras barbatus*" is ok as is "*Scleromystax barbatus*")
- Junior entries must be indicated by a J on judging form and tank label. Juniors compete against regular entrants for placing. Junior is under age 16.

AWARDS

People's Choice:

There will be a voting box, paper and pens. Everyone should observe the entries and vote for their favorite.

Best in Show:

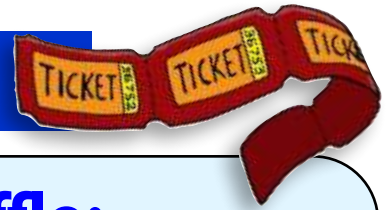
As determined by the judges

Best Junior:

Best single fish by a Junior entrant. Entry label on tank MUST have a "J" designation.



Raffle Winnings



AUGUST MEETING Raffle:



**Coral Life Aquarium light
Won by Daniell Kinder
Thanks to both Coral Life and Daniell!!**



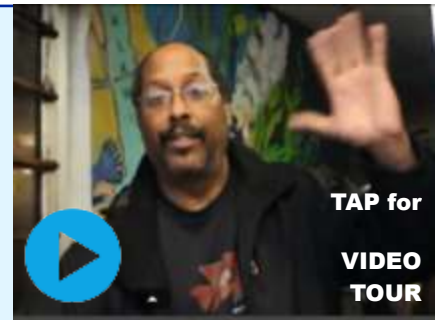
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and oddities.

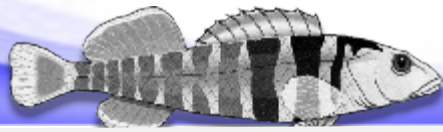
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best



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SHOP HOPPING - January 2019

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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
Home Page	Midwest Tropical Fish
Current Specials	Petco on N Lindbergh
In Store Specials	PetsWay - 2 Locs
Facebook	Pet Connection
Weekly Specials	Sailfin Pet Shop
Facebook/Specials	Aqua World - 2 Locs
Monthly Specials	Tropical World Pets
Weekly Specials	Corals & More
Fish List	Malawi Aquatics
Upcoming Events	Seascape Studios



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SATURDAY 11:00PM-8:00PM
SUNDAY 11:00PM-6:00PM
CLOSED MONDAY



LOCAL Activities



Missouri Aquarium Society 2019-20 Calendar

2019		
Sep 19	General Meeting	7:30 PM
Sep 29	Fall SWAP* 	10:00 AM
Oct 17	SuperBowl Competition 	7:30 PM
Nov 10	Fall Auction* 	9:00 AM
Nov 21	General Meeting Dwarf Cichlids	7:30 PM
Dec 19	Christmas Party** 	7:30 PM
2020		
Jan 16	General Meeting	7:30 PM
Feb 9	Winter Auction* 	9:00 AM
Feb 20	General Meeting Loricarids	7:30 PM
Mar 19	General Meeting	7:30 PM
Apr 16	General Meeting Planted Tanks	7:30 PM
Apr 25	Spring SWAP* 	10:00 AM
Apr 26	Spring Auction* 	9:00 AM
May 21	General Meeting Goodeid Livebearers	7:30 PM
Jun 18	General Meeting Oddball Aquatics 	7:30 PM
Jun 19-21	AKA National Convention 	
Aug 9	Summer Auction* 	9:00 AM
Sep 27	Fall Swap* 	10:00 AM
Nov 8	Fall Auction* 	9:00 AM

Want to get the DARTER 6x per year? Don't Forget to Join MASI!!

A Year's membership is \$15 and includes an electronic subscription to The Darter 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 Ed Millinger, membership chair, at 573-883-9943.

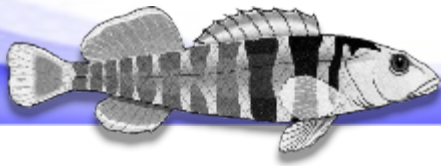
Help MASI Support the Aquarium Hobby! Support Locally by shopping our supporters. Support Nationally & Internationally by supporting the MASI Challenge.

3rd Thursday General Meetings at:
 7:30 PM - DORSETT VILLAGE CHURCH
 2240 BENNINGTON PLACE
 MARYLAND HEIGHTS, MO 63043

Events marked in RED* at:
 HOLIDAY INN: AIRPORT WEST, EARTH CITY
 3400 RIDER TRAIL SOUTH
 ST. LOUIS/EARTH CITY, MO 63045

**** MINI-AUCTIONS AT ALL GENERAL MEETINGS EXCEPT DECEMBER**





Meet MASI Fishy Folk:

Mike Slater



- 🐟 **Family members?** Spouse, Kathy, a Macoupin County Master Gardener and the force behind our daylily farm.
- 🐟 **Years keeping fish?** Fifty Seven, starting in 5th grade and taking home some guppies from the class aquarium at the end of the year. Had at least one tank going except for the 6 months in Army training.
- 🐟 **What was in your first tank?** Guppies
- 🐟 **How many tanks do you have set up right now?** Defined as glass cubic rectangles, I have 40 set up.

- 🐟 **Favorite fish as a pet?** Is that defined as having a given pet Name? then none.
- 🐟 **Your dream tank?** A large tank of Tanganyika cichlids in a biotope setting with only fish from a certain place on the lake.



Jars from Betta breeding

- 🐟 **Your realistic dream tank?** Maybe a smaller tank of same
- 🐟 **Your latest fish related accomplishment?** Finally spawning and raising Discus after many years.
- 🐟 **Your latest goal?** Repeating that success.
- 🐟 **Other pets?** Over the years Kathy and I have owned, bred and shown Doberman pinschers and Whippets. We also owned, showed and finished Championships on 2 half-brother Miniature Wire-haired Dachshunds. Presently we have stopped the breeding and are simply racing our whippets around the country in racing events –not literally racing them, they're way faster than us!



Fish Room Entry...



...and Exit.



Discus to be proud of!



Bred & raised! Koi Angels and Brochis splendens



after the Army I bred Brichardi. Before I joined I bred Serpae tetras, Pearl Gouramis, and some Cories. I had my own list going but I seem to have misplaced it. I was also a member of SLAKA and bred several killies including winning Best Nothobranchius in Show at the Annual AKA Show they hosted with my pair of N. Guentheri.

I recently did a bucket list trip to Peru with Michael Barber and cruised the Amazon collecting various fish. The highlight was a night-time side trip up the Nanay River collecting wild Discus.

Editor note: *Mike's Fishroom is accompanied by an innovative rainwater collection and management system that allows him to utilize nearly 100% rainwater for water changes.*



The Fishroom is right beside the Whippet Office!

Anything else?

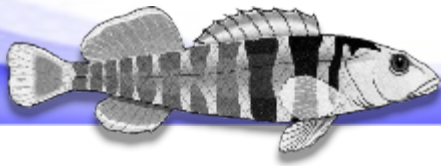
Over my lifetime, I have been intrigued first with *Betta splendens*, even giving a talk on their genetics in a Freshman Science class in high school. –What a nerd! Twice in my life I bred Bettas, the second time recently and showed them in IBC shows, I was quite successful at a recent Annual Show and decided that it was not for me.

Since I started with guppies in 1962, I was always intrigued with Fancy Guppies and was introduced to Gateway Guppy Associates back in the early 1990s by Leroy McCreary and started showing in IFGA shows with some success. I stopped when we got heavy into breeding and showing our whippets in 1998. I'm back in it now and am waiting for some to become show-worthy.

Meanwhile I have always been into breeding other species, many before I was ever in MASI. In junior college and living at home, I bred zebra danios. In the 1970s I bred Convicts and Kribensis. Back in college at Illinois

One of 2 large Daylily crossing and selection blocks Mike and Kathy manage.





Fish Pond Rescue

A Day in the Life of MASI Fish Rescue

By Mike Huber

MASI'S FISH RESCUE, AKA John Van Asch, got a message from someone who had a pond overstocked with fish. So a rescue date was set for June 22 to help him out.

I was supposed to go native collecting already on that date with another group but I told John that first I would help him. We did not know how many people were going to be there, so I also called a friend of mine who has a lake and 2 ponds and wanted a few Koi and goldfish to put in his ponds and we contacted yet another MASI member who also has a pond and wanted some Koi and goldfish for his pond.

The three of us only lived a few miles from the rescue place so it was easy to get to. When the 1st friend and I arrived John was already their talking to the pond owner. So the three of us- the pond owner, my friend



and I jumped in and started to seine the pond.

The owner had drained it to about four feet on the deep end. We made a couple of seine passes before the other MASI member showed up and jumped in to help.

The sides of the pond were uneven and difficulty keeping the seine against them created problems with the fish slipping past the seine along the sides of the pond. As we seined

the pond and dipped fish out with a dip net, we handed them to John and he would put them into tubs and buckets.

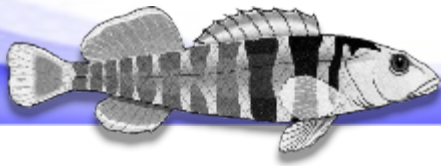
After about two hours of effort we had about 70 fish removed from the pond, although the owner assured us there were many more there. But after a few seines without catching any fish we decided we would come back at a later date and try again if he wanted more fish removed.

As a rescue, we divided the fish up between the four of us and took them to the new homes in several ponds and a lake.

THANK you so much to the pond owner for letting us keep these fish!

My wife and I like sitting on our back porch and watching them in our water garden. We love to feed them and watch them eat and they give us so many hours of watching pleasure.





Avoiding possible egg hatch issues with Sodium Thiosulfate

By Gary Lange

SODIUM THIOSULFATE AND Problems with hatching some types of eggs

Besides avoiding "snow" in your aquariums by adding too much dechlor there is another reason to be cautious with sodium thiosulfate or any other dechlorination solution.

If you are a breeder you might avoid using too much sodium thiosulfate or maybe even any dechlor at all for some fish. I first started thinking about this problem about a year ago when I was having trouble hatching two species of very interesting *Pseudomugils*. *Pseudomugil ivantsoffi* and *Ps. reticulatus* both tiny fish that have fairly large eggs. For me the eggs required at least a 2-3 week incubation period.

My problem was that I could see the fry developing quite nicely but it seemed like they could never make it out of the egg. They would just die instead of hatching and I was only getting perhaps ten percent of my viable eggs to hatch. To some extent this was also happening with some smaller *Pseudomugil* eggs like *Ps. gertrudae* "Aru II's" and *Ps. Luminatus*. I took my problem to the world's expert on breeding and raising *Pseudomugils*, Wim Heemskerk, a Dutchman. He feels that sodium



Pseudomugil ivantsoffi (Blue-eye)- I couldn't solve the mystery of getting these eggs to hatch until I realized it was sodium thiosulfate that seemed to be the problem.

thiosulfate was causing a hardening of the egg membrane.

Since we have chloramines in our water in St. Louis and really most of Missouri I needed to remove the amine instead of degassing like you can commonly do when there is only chlorine in the water. Using a filter with activated carbon did the trick after a few hours AND my hatch rate for both of these species went way up.

I still have to perform a few more controls but for me I'm leaning toward sodium thiosulfate as the culprit. I was a killifish nut before being a "bowhead" so I am quite familiar with some of the ways both use to resolve hatching problems and none of them really worked for these *Pseudomugil* species.

Now that I am seeing this problem resolved with *Pseudomugils* I can only wonder if it might also be a problem for killifish in some cases, ESPECIALLY if

one is drastically overdosing their water with dechlor. Killifish folks might consider if some hatching problems are perhaps related to a hardened egg membrane caused by sodium thiosulfate in hatching water.

Testing for Chlorine

Why is it sometimes important to know if any chlorine remains? Occasionally the water companies vastly increase the amount of chloramines or chlorine that they add to the water. If after a large water change and addition of dechlor you are seeing problems with your fish a quick check for chlorine is really helpful to make sure that they haven't doubled or tripled their dosage. For me trying to remove the chloramines with a carbon filter instead of dechlor this test kit was a life saver.

A chlorine test kit uses 1 drop of test solution to 5 ml of water and quickly indicates if you've eliminated

***Pseudomugil reticulatus* - Another beautiful *Pseudomugil* with difficulty hatching of their eggs.**





all of the chlorine. Sera and LaMotte both sell chlorine test kits but MASI's own Charles Harrison also sells one on his website, <http://inkmkr.com/Fish/ItemsForSale.html> Give Charles a holler before the next meeting and I'm sure he'll be glad to sell you a chlorine test kit, very cheap insurance to always have on hand.

To Left: Chlorine and chloramine test kit from Charles Harrison Clear solution on left is chlorine free, solution on right contains chloraine/chloramine and needs to be treated with more dechlor.



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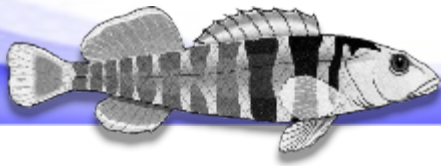
Sunday 11:00-6:00



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Minifins

Acanthopsis species

The Horseface Loach

By Mike Hellweg, CFN
(Certifiable Fish Nut)

LOACHES ARE POPULAR aquarium residents that most aquarists keep at one point or another.

Some are gregarious and spend a lot of time out in the open, others are aggressive or solitary, and yet others spend their time simply hiding until the lights go out. Then there are some true oddballs that actually spend their time buried in the substrate with only their eyes showing. They have long snouts with the eyes placed high up on the back of the head just in front of the gills, giving their head the overall appearance of a horse's head, hence their common name, allegedly first applied by the Pan Am pilot who first introduced them to the hobby.

In their native lands of Southeast Asia they are known by many names such as "sand fish", or *pla sai*, in Thai. There they are considered a food fish and eaten deep fried, seasoned with turmeric and garlic.

Here in the USA, I've seen them sold in happier situations as aquatic pets in fish stores by names such as banana loaches, horseface loaches,

The Horse's head?



horse head loaches, long nose loaches, sand loaches, and moose face loaches.

There is a bit of confusion in the trade as to which species are actually being imported. There are currently 7 species recognized in the genus *Acanthopsis*, with likely a few more to be described. While hobby literature usually references only one species, *A. Choirorhynchus* -with several different species pictured in different literature all given the same name- it is obvious that different species have been available from time to time as sometimes they have a long thin body with a long, narrow snout, and at other times they have a shorter snout and shorter, thicker body.

Husbandry is the same for all, so for this article we'll just consider all as "Horseface Loaches" and go from there. All species are reported to reach about 5 - 9 inches in the wild, and usually top out about 4 -6 inches or less in our aquaria, although I have seen a couple of 8 inch specimens in fish shows around the country.

The horseface loach's unique head is not just for show. It has a practical purpose. When startled they are actually able to burrow through the substrate so quickly that it appears they are "swimming" through it! Their narrow, tapering snout and narrow cylindrical body makes this easy. In addition, their eyes are covered with a retractable thin membrane that protects them while the fish is sand swimming.

When they rest, they often position themselves just under the surface of the substrate with only their eyes protruding. The gill openings are right behind the eyes, so they can breathe easily when resting in this manner without exposing themselves to predators. Most of the scientific literature reports that they only engage in this behavior when "startled by a predator" (or, I guess, a scientist with a net), but after years of keeping dozens of specimens of likely three or four species, I can say that at least with my specimens it is a common behavior even when "predators" are not present.

Their bodies are a sandy tan to silvery color with brownish or black blotches, dots, or partial bars often forming a thin dark line along the lateral line, depending on the species. The bellies are usually whitish and the fins are usually clear. This coloring



helps camouflage them against the sand substrate.

Smith reports eight distinct patterns based on their collection location in Thailand alone, but notes that even more are recorded in the literature. These could be distinct species, or just locality variants of a single species. The scientific literature is mostly silent on this. The combination of sand swimming, body structure and cryptic coloration all allows them to hunt for food while avoiding predators that otherwise might be able to see them easily in the clear streams they prefer.

Their mouths are right at the front, surrounded with three pairs of barbels. They have one tiny pair above the upper lip, one pair on underside at the side of the mouth, and one pair on the "chin" below the mouth. These barbels are covered in taste buds and in addition their lips are covered by sensory organs called papillae that serve to help locate food. These structures help them to find food without actually having to see it.

If they have a fine substrate like sand, they will pump the sand through their mouths and out their gills almost



looking like little puffs of sandy smoke. As the sand passes through they swallow the tiniest particles of detritus that they can use as food. With larger gravel, this behavior is not often observed in aquaria.

Their preferred foods are detritus, worms, insect larvae, and small crustaceans. In the aquarium they will take flakes, all types of sinking foods like pellets and frozen foods (brine shrimp, mysis, and bloodworms are favorites), but they should be offered a treat of live white worms, black worms, or tubifex worms on a regular basis. They will

also scour the substrate for every bit of missed food, so even tiny crumbs won't escape them.

They are reported from the Irrawaddy River drainage in Burma in the north throughout Thailand, Laos, Cambodia and Vietnam to the Malaysian islands of Sumatra and Borneo in the south. In the wild they are most often found in clear flowing streams and rivers that have a sandy substrate, though they are reported from the muddy Mekong as well. This wide distribution means they are able to adapt to many differing water parameters so pH and hardness are not as important as clean, flowing water. They prefer temperatures in the mid to upper 70's Fahrenheit.

A river tank would be an ideal habitat for them. A long, low tank would be perfect. Consider something like a 33 gallon extra long (48 x 12 x 12) as the perfect tank. Instead of setting up the filter on the back as one would normally do, add the filter to one end with the current directed across the length of the tank.

Some people even make a special filter for stream fish with a power head at one end and a sponge filter at the other connected with a length of PVC pipe under the gravel that works incredibly well in a tank like this, creating a directional current and filtering the water at the same time.

Cover the bottom with an inch or so of sand or fine round gravel. You can add a few plants, but the horse face loach's unique sand swimming behavior will likely root up these plants fairly quickly unless they are well established before the fish are added. It might be best to stick to plants like Java moss, Java fern, and Anubias that can be attached to driftwood or rocks.

Make sure there is plenty of room for the fish to burrow. Choose peaceful tankmates that will stay in the water



column. Giant danios, zebra danios, and similar riverine fish would be ideal as they stay up near the surface and love the water movement in a tank like this.

Like most loaches, Horsefaced Loaches are social fish and prefer to be in large groups. Instead of purchasing a single specimen or two or three fish as most fish keepers do, consider purchasing a group of six to twelve fish, especially if you are using a larger tank. Males can be a bit scrappy, but though they might do some serious damage if there are only a couple fish, little harm is done if there is a big enough group.

I can find no accounts in any literature of either captive or wild spawning. I would be willing to bet that the main reason for this is that not enough aquarists keep a group of these interesting fish for a long enough time in a tank without competition.

They are easy to sex when mature. Males have enlarged pectoral fins that have thicker first rays than those of females. Gravid females are unmistakable, as when full of eggs they are bulging. All of the literature reports that they reach sexual maturity at just over 2 inches, but this

is based on a single specimen of a ripe female collected from central Thailand in 1927. She was only about 6 cm long. So whether that is applicable to one species or the entire group is open to debate.

If they are like other Cobitids, it is likely that they are egg scatterers, with pairs swimming side by side, possibly with the males using their enlarged pectoral fins to grasp the females' pectoral, holding the pair together in the current and ensuring fertilization of the maximum number of eggs. They likely lay a large number of eggs over a rocky bottom and count on the current to disperse them far and wide in hopes that at least a few young will survive to maturity. Some Cobitids lay eggs that float for a while before sinking, while most lay eggs that sink immediately but I find no references to which type the horseface loaches might produce.

The horseface loach has something to offer all aquarists from beginner through intermediate to advanced. It makes an interesting addition to a community tank, where it will often be observed just peeking from the gravel and is also an interesting challenge to the advanced

aquarist looking for something truly unusual.

...and for the breeder looking for the ultimate challenge? Well, how about a fish whose spawning has never been recorded either in nature or the aquarium? How can you beat that?

References:

- Smith, Hugh M.; The Freshwater fishes of Siam, or Thailand; Smithsonian Institution, TFH Publications, Jersey City, NJ; 1965 reprint
- Rainboth, Walter J.; Fishes of the Cambodian Mekong; Food and Agriculture Organization of the United Nations, Rome, Italy 1996
- Breder, Dr. Charles M. and Rosen, Dr. Donn Eric; Modes of Reproduction in Fishes; TFH Publications, Jersey City, NJ; 1966



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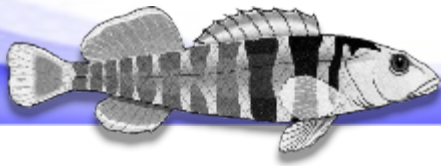


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Brevibora dorsiocellata Known as the Eye-Spot, Ocellated or Emerald Eye Rasbora

By Mike Huber

THESE FISH HAVE a beautiful color around the eyes and like all the schooling fish they love to swim around the tank together.

I bought 10 small fish and raised and conditioned them in a 20 long, planted tank with some other fish of similar type. After several months I noticed some of the females that were very full in the body and were holding eggs. I fed them more live food and did a water change on their tank then checked the two tanks I had set up for them to spawn in and made sure those tanks had the proper setup.

The spawning tanks are 20 long with round rocks, a little bigger than marbles and less expensive, in them so the parents can't get to the eggs and have a few potted plants, so the fish feel comfortable. The water temp is 78 F at 6.5 ph. The spawning tanks are in a window which is about 8 feet long so they get a natural sunrise which helps some fish to spawn.

In the evening I picked out two pair and moved them to the first



© Mick Wright - Seriously Fish

spawning tank and after two days I moved them to the second tank. When I went to move them back to the original tank I could already fry bouncing around the rocks.

The hardest part of these fish is not to get them to spawn but- like most of these fish and other dwarf fish, including *Elassoma*- is feeding the fry. I raised infusoria as a first food after which I fed them baby brine shrimp, micro worms, and banana



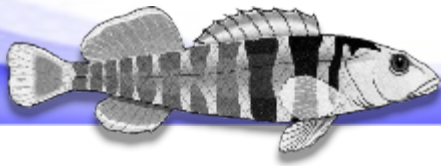
Fry
© Msjinkzd



Blackwater habitat, Borneo. © Michael Lo - Seriously Fish



The DARTER



Keeping the Pirate Perch *Aphredoderus sayanus*

By James E. Wetzel

THE PIRATE PERCH *Aphredoderus sayanus* is the sole member of the family Aphredoderidae within the small minnow-like order Percopsiformes which includes trout-perch family Percopsidae and the cavefish family Amblyopsidae that are all endemic to North America.

There are two apparent subspecies with *Aphredoderus sayanus sayanus* along the east coast and *Aphredoderus sayanus gibbosus* centered on the Mississippi River drainage with an integration zone through Georgia and Mississippi.

The Pirate Perch is the most generalized and wide spread and shares many characteristics with those in the family Amblyopsidae. Like the epigeal Amblyopsids (i.e. Swamp Fish *Chologaster cornuta*, and Spring Cavefish *Forbesichthys agassizii*) the Pirate Perch has a base brown coloration and obvious eyes. An additional five Amblyopsids (Hoosier Cavefish *Amblyopsis hoosieri*, Northern Cavefish *Amblyopsis spelaea*, Southern Cavefish *Typhlichthys subterraneus*, Ozark Cavefish *Amblyopsis rosae*) are obligate cave dwellers lacking pigmentation and eyes. Cavefishes stimulated my early interest in the order Percopsiformes because of the mystery surrounding their reproductive biology.

The Pirate Perch and Amblyopsids share the highly

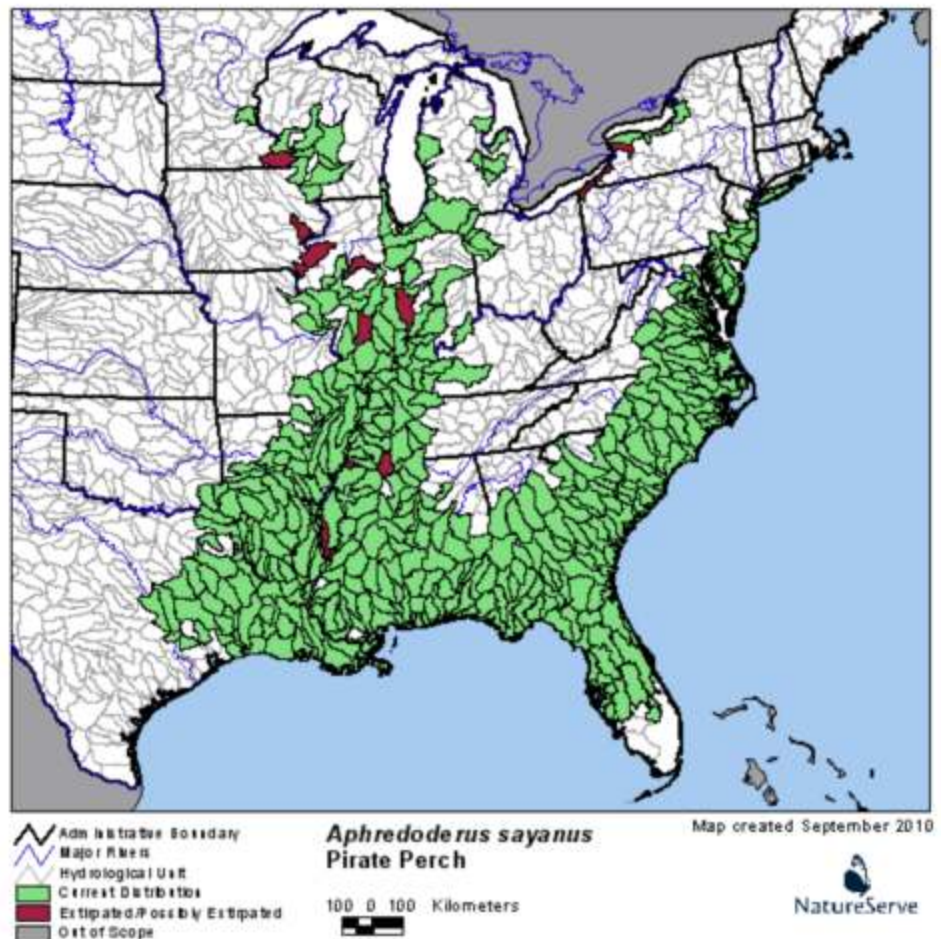


From Wikipedia Commons

developed lateral line system position and a gular position of the anus and urogenital openings. The lateral line system enables this group to detect and locate water movement which aids with navigation and capture of prey. The urogenital opening positioned near the gular region is related to the fish spawning transbranchiorally where the

gametes are sucked into the branchial chamber via the opercula and then ejected through the mouth into protected locations where the embryos can develop.

Pirate Perch are typically associated with low gradient streams shaded by trees. During the day the fish are concentrated in piles of detritus





Forward placement of the urogenital pore.

From Wikipedia Commons

Pirate Perch are seasonal breeders with reproduction occurring during the early spring. Signs of breeding (embryos / prolarvae) are most evident in with root wads like those found under bank cuts. When breeding is underway groups of males and occasional females are found associated with those same locations.



In many ways the social interactions around the breeding sites is similar to toads breeding around a pond. The males patrol and nip each other as they protect their respective



spawning sites. When a female approaches the males engage in little trembling dances with fins outstretched. If a female begins to push her head into the spawning site then the male(s) put their heads in next to hers. The trembling of both sexes seems to help the fish synchronize gamete release. The release and expulsion of gametes is through transbranchial spawning as described in Poly and Wetzel 2003, referenced below.

Only males seem to spend any amount of time around developing embryos and it may simply ensure presence in the event additional ripe females approach. Adults are cannibalistic. Shortly after hatching prolarvae begin moving away from spawning area to rest on the bottom-often in the crevices provided by an irregular bottom. As the prolarvae develop they darken becoming a dark gray color by the time they are ready to feed. Feeding behavior is similar to the adults and vision does not appear to be



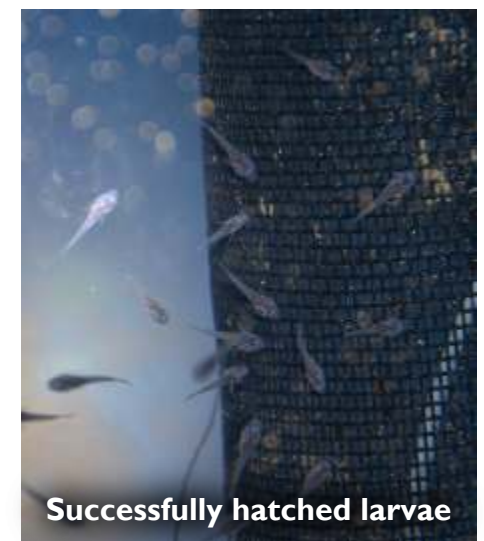
Adult nuzzling into spawning media

important. The larval through fry stages target zooplankton and other small invertebrates that are close to or in contact with the substrate the fish is swimming near.



Eggs imbedded into spawning material. White are infertile.

Pirate Perch can do well in an aquarium setting assuming there is sufficient cover. Overturned flower



Successfully hatched larvae

and root wads. At night the fish move about usually in close proximity to the stream bottom where they progress slowly about with rhythmic paired-movements of the pectoral fins being the most obvious sign of propulsion. The majority of prey consumed are insects and crustaceans small enough to fit easily in the fishes mouth and easy for the human observer to see. The prey must move, otherwise the Pirate Perch cannot detect it. When prey is detected the fish will orient its body so the mouth is close to where the prey is located- then the mouth opens explosively sucking the prey item inside. Vision does not appear to play a role in how a Pirate Perch feeds. By the following morning the Pirate Perch effectively return to roost for the day.

When a Pirate Perch is disturbed, the most frequent response is a rapid straight line move that ends when the fish collides with something. The direction taken is simply away from the threat. The fish are less inclined to eat immediately after being disturbed and require some time before resumption of feeding activity.



pots, hanging plant roots, pieces of pipe, and piles of course rocks can provide good daytime roosting cover. The Pirate Perch do not share the cover patches well and are much more active there when the number of individuals is higher. The pattern of nocturnal activity can be overcome for observation purposes using two lights. The first light a daylight bulb on a timer and the second a red light that operates when the other light is off. No heating is needed.

Feeding is easiest using live foods. Larger species of water fleas

work very well as planktonic forage and baby brine shrimp are readily consumed by first feeding larvae until the fish approach 1.5" total length. Scuds and the various cultured worms also make for good forage. Earthworms, especially when cut into chunks, are also consumed but consumption of those over long term are not good for keeping fish in good weight. Small fish are also consumed, although mostly when lights are off, as the Pirate Perch are not good at pursuing evasive prey.

Generally, Pirate Perch are poorly suited for community tanks. They can be housed with Pygmy Sunfish *Elassoma* spp. and Dwarf Crayfish *Cambarellus* spp that are too large to ingest whole. Top-minnows can also make good tank mates.

[Poly, W.A. & J.E. Wetzel \(2003\). "Transbranchial spawning: novel reproductive strategy observed for the pirate perch *Aphredoderus sayanus* \(Aphredoderidae\)". *Ichthyol. Explor. Freshwaters.* 14 \(2\): 151-158.](#)

Unmarked photos by the author.

The author, James Wetzel, has been an Missouri Aquarium Society member for several years.

His Day job is as a Lincoln University Associate Professor of Animal Science in aquaculture for the Department of Agriculture and Environmental Science for in Jefferson City, MO.

Jim received his Ph.D. At the Southern Illinois University of Carbondale and his M.S. and B.S. from Purdue University. Previous work was on the Orconectes of Southern Illinois and his current research focus is on the Breeding and Genetics of Sunfishes, Fish Nutrition and Intensive Culture of Larval Fishes.

He teaches aquaculture-related animal science courses, primarily Fundamentals of Aquaculture, Aquatic Biology, Breeding and Genetics of Aquatic Organisms, as well as Monogastric Nutrition and, for the Graduate Environmental Sciences Program, Limnology. His research primarily focuses on development of sunfishes for food production. He has been the PD or Co-PD of projects funded by the USDA and Missouri Department of Conservation and published over 25 research articles. Wetzel provides guidance to high schools with aquaculture related projects and has been working to develop 4-H programs for Missouri in the area of aquaculture.

For a list of his current publications see his [profile at Lincoln University](#). Some of his previous publications may be found [here](#).

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2019 BREEDER'S AWARD PROGRAM - Steve Edie



July 2019

Member	Genus	Species	Common Name	PTs	Bonus	CARES	Total
Chuck Bremer	<i>Ilyodon</i>	<i>whitei</i> "Rio Huamita" #@		0		10	1302
	<i>Skiffia</i>	<i>bilineata</i> #@	Two Lined Skiffia	0		15	1317
	<i>Phallichthys</i>	<i>quadripunctatus</i> #@	Four Spit Merry Widow	0		5	1322
	<i>Poecilia</i>	<i>salvatoris</i>	Liberty Molly	5			1327
Mike Hellweg	<i>Amititlania</i>	<i>sajica</i>	T-Bar Cichlid	10			7195
	<i>Neolamprologus</i>	<i>leleupi</i>	Lemon Cichlid	10			7205
	<i>Poecilia</i>	<i>sp. "El Salto" *</i>	Orange Line Guppy	10	5		7220
	<i>Tanichthys</i>	<i>sp. "Da Nang" *</i>	Da Nang White Cloud	10	5		7235
Jerry Jost	<i>Corydoras</i>	<i>filamentosus</i> *		15	5		3222
	<i>Corydoras</i>	<i>pastazensis</i> *		15	5		3242
	<i>Corydoras</i>	<i>tukano</i> *		20	5		3267
	<i>Scleromystax</i>	<i>sp. "C112" *</i>		10	5		3282

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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August 2019

Member	Genus	Species	Common Name	PTs	Bonus	CARES	Total
Kathy Daly	<i>Belonesox</i>	<i>belizanus</i>	Pike Livebearer	15			693
Mike Hellweg	<i>Elassoma</i>	<i>gilberti</i> *	Blue Pygmy Sunfish	20	5		7260
Mike Huber	<i>Aulonocara</i>	<i>sp. "Rubescens"</i> *	Ruby Red Peacock	10	5		2563
	<i>Astatotilapia</i>	<i>calliptera</i>		10			2573
Jerry Jost	<i>Corydoras</i>	<i>sp. "C091"</i> *		10	5		3297
Ed Millinger	<i>Crenicichla</i>	<i>saxatilis</i>	Ringtail Pike Cichlid	15			1066
Holly Paoni & Kevin Wise	<i>Goodea</i>	<i>atripinnis</i>		10			1032
Caleb Pitman	<i>Ancistrus</i>	<i>sp. "Pucallpa"</i>		10			242
	<i>Melanotaenia</i>	<i>sp. "Kali Rum"</i> *	Kali Rum Rainbow	10	5		257
	<i>Poecilia</i>	<i>reticulata</i>	Black Moscow Guppy	5			262
Brad Riley	<i>Corydoras</i>	<i>aeneus</i>	Bronze Cory	10			10
Pat Tosie	<i>Coptodon</i>	<i>kottae</i> * @		10	5	10	6162
	<i>Haplochromis</i>	<i>paropius</i> @		10		10	6182
	<i>Poeciliopsis</i>	<i>gracilis "Tamasopo"</i> *		15	5		6202
Bob & Lora Watson	<i>Skiffia</i>	<i>francesae</i> "Rio Teuchitlan" @	Golden Skiffia	15		15	320

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- ** = 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>



HORTICULTURE AWARD PROGRAM - Mike Hellweg

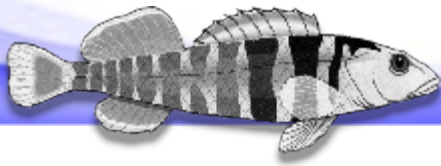
July & August 2019 - ...and The Points!



Member	Genus & Species	Common Name	Type	Points
	Chris London	145 points		
	<i>Anubias barteri</i>		V	15
	<i>Anubias barteri</i>		IB	20
	<i>Cryptocoryne aponogetifolia</i>		V	15
	<i>Marsilea crenata</i>	Water Clover	V	15
	<i>Microsorium pteropus windelov</i>	Lace Java Fern	V	10
	<i>Najas guadalupensis</i>	Guppy Grass	V	5
Chris Mohrle	550 Points			
	<i>Azolla caroliniana</i>	Fairy Moss	V	5
	<i>Hemianthus glomeratus</i>	Amano Pearl Grass	V	15
	<i>Hydrocotyle tripartita</i> Japan		V	10
	<i>Lomariopsis lineata</i>	Susswassertang	V	5
Christina Jones	5 points			
	<i>Vallisneria americana tortissima</i>	Corkscrew Val	V	5
Chuck Bremer	1235 points			
	<i>Caltha palustris</i>	Marsh Marigold	OB	10
	<i>Heteranthera dubia</i>	Water Stargrass	OB	15
	<i>Hymenocallis liriosme</i>	Texas Spider Lily	V	10
	<i>Thalia dealbata</i>	Water Canna	V	10
	<i>Thalia dealbata</i>	Water Canna	OB	10
Daniel Kinder	160 Points			
	<i>Ceratophyllum demersum</i>	Hornwort	V	5
	<i>Lomariopsis lineata</i>	Susswassertang	V	5
	<i>Salvinia cucullata</i>	Vietnamese Salvinia	V	5
Ed Millinger	370 Points			
	<i>Cryptocoryne affinis</i> Metallic Red		V	15
Holly Paoni	1770 Points			
& Kevin Wise	<i>Bacopa australis</i>	Southern Bacopa	IB	20
	<i>Eichhornia crassipes</i>	Water Hyacinth	OB	5
	<i>Ludwigia peploides glabascens</i>	Creeping Water Primrose	V	10
	<i>Ludwigia peploides glabascens</i>	Creeping Water Primrose	OB	10
	<i>Pistia stratiotes</i>	Water Lettuce	IB	10
Jake Harris	10 points			
	<i>Limnobium laevigatum</i>	Brazilian Frogbit	V	5
	<i>Salvinia cucullata</i>	Vietnamese Salvinia	V	5
John Van Asch	790 Points			
	<i>Salvinia cucullata</i>	Vietnamese Salvinia	V	5
Travis Irvin	25 points			
	<i>Ceratopteris thalictroides</i>	Water Sprite	V	5
	<i>Hygrophila lancea</i>	Lance Leaf Hygro	V	5

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





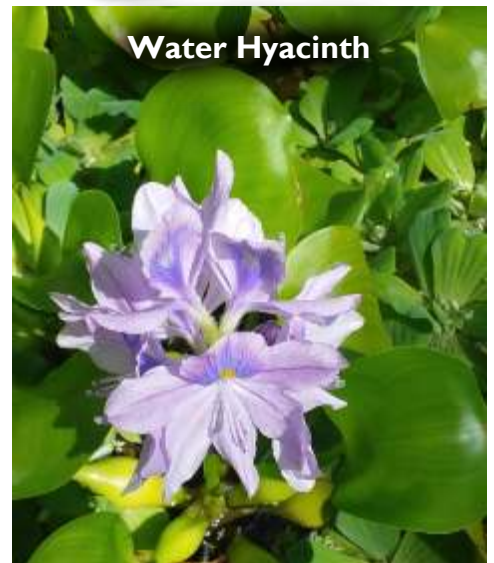
HORTICULTURE AWARD PROGRAM - Mike Hellweg July & August 2019 - *The Blooms...*



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Water Hyacinth



Water Canna



Water Stargrass



Marsh Marigold

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



2019

Sep 28-29 - Aquashella, Niles, 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 6 - CLS Rare Livebearer Sale @ GCCA Swap

Oct 12 - HAAS Fall Auction, Kansas City, MO

Oct 19 - NWAAS Auction, Rogers, AR

Oct 20 - Greenwater Auction, Joliet, IL

Nov 10 - MASI Fall Auction, St Louis, MO

Nov 10 - QC Fish Swap, Davenport, IA

Nov 17 - Greenwater Swap, Joliet, IL

Nov 22-24 - OCA Extravaganza, Strongsville, OH

Dec 1 - GCCA Swap, Hoffman Estates, IL

2020

Jan 12 - GCCA Swap, Hoffman Estates, IL

Jan 12 - Little Egypt Swap, Belleville, IL

Jan 19 - Greenwater Auction, Joliet, IL

Jan 25 - CAFÉ Auction, Champaign, IL

Feb 9 - MASI Winter Auction, St Louis, MO

Feb 9 - QC Fish Swap, Davenport, IA

Feb 23 - GCCA Swap, Hoffman Estates, IL

Mar 8 - Rockford Swap, Rockford, IL

Mar 15 - Greenwater Swap, Joliet, IL

Mar 21 - TCTFS Auction, Peoria, IL

Mar 21 - EIAA Spring Auction, Cedar Rapids, IA

Mar 29 - QC Fish Swap, Davenport, IA

Apr 5 - GCCA Swap, Hoffman Estates, IL

Apr 17-19 - NEC Convention, Cromwell, CT

Apr 25 - MASI Spring SWAP, St Louis, MO

Apr 26 - MASI Spring Auction, St Louis, MO

Jun 11-14 - ALA Convention, Coral Springs, FL

Jul 11 - CAFÉ Auction, Champaign, IL

Jun 19-21 - AKA Natl Convention, St Louis, MO

Jul 16-19 - ACA Convention, Sacramento, CA

Aug 9 - MASI Summer Auction, St Louis, MO

Sep 27 - MASI Fall SWAP, St Louis, MO

Sep 27 - GCCA Swap, Hoffman Estates, IL

Oct 8-11 - CatCon - Herndon, VA

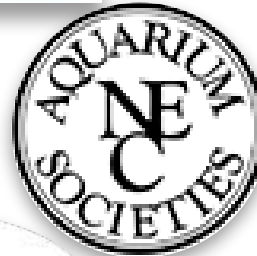
Nov 1 - GCCA Swap, Hoffman Estates, IL

Nov 8 - MASI Fall Auction, St Louis, MO

Nov 20-22 - OCA Extravaganza, Strongsville, OH

Dec 6 - GCCA Swap, Hoffman Estates, IL

CLUB HOPPING Steve Edie



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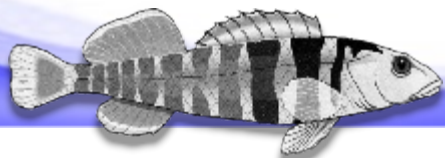
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MEMBER CLASSIFIEDS

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
Mike Hellweg MiniFins	General Aquarium Support: Dechlor, Coconut Caves, Flake Foods, Plants & Custom Fish Orders Contact by email or buy at the back of the room at MASI General meetings	Contact for Pricing	Email: Mike@Minifins.com
Jim Brodack	110 gallon and 75 gallon tanks for sale! Both tanks have stands.	Contact for Pricing	314-308-9951 (cell) or Jbrodack@charter.net

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

MASI Members of good standing can place a fish related classified ad in the Darter for free. Send your ads to the editor. 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 meeting.

IN SEARCH OF (ISO)

Member	Looking For:	Contact
Want Mike Huber	<i>Neotoca bilineata</i>	314-737-6759
Want Jim Wetzal	<i>Neolamprologus brichardipulcher</i> , <i>Neolamprologus multifacisatus</i> or other Shell Dwellers, <i>Julidochromis marleri</i> adult female, <i>Tropheus duboisi</i> male	pirateperch@rocketmail.com
Want Chuck Bremer	<i>Nymphaea micrantha</i> ,	BremerCD01@gmail.com

Check out these ISO and Availability posts on the [MASI Forum's Trading Post!](#) Also check BAND.us/@MASIclub & BAND.us/@MASIswap! [Links on page 11.](#)

ISO	Available
Male Cichlid Peacock & Haps	Platy Fry
Long Fin German Blue Rams	N. multifacisatus -- Shelledweller
Neocardina Shrimp	J. transcriptus Bemba
Shubunkin Goldfish	Mystery Snails
Endlers or Mixed Guppies	Black Bar Endlers
A "Red" Discus	Freshwater Ray pups
Breeding size Apistogramma	Daphnia and Gammarus





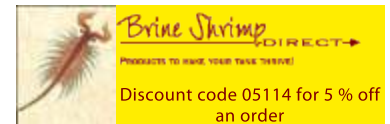
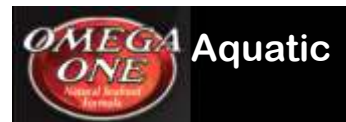
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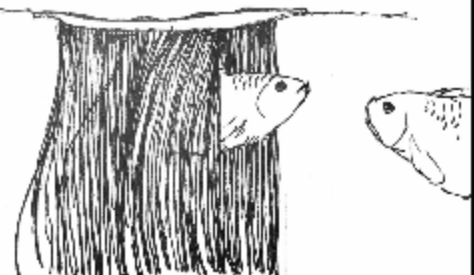
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SUPERBOWL ENTRY FORM



ENTRANT NAME: _____

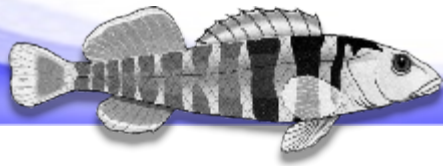
JUNIOR UNDER AGE 16? _____

NOTES: _____

ENTRY No. (leave blank)	CLASS	NAME OF FISH (COMMON but Latin is appreciated)

I, the undersigned, agree that these are my fish, kept and cared for by me for a minimum of 60 days prior to the Superbowl.





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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		

**September
Rainbows**

**No more
Monthly
Bowl
Shows
after
September
in 2019**

