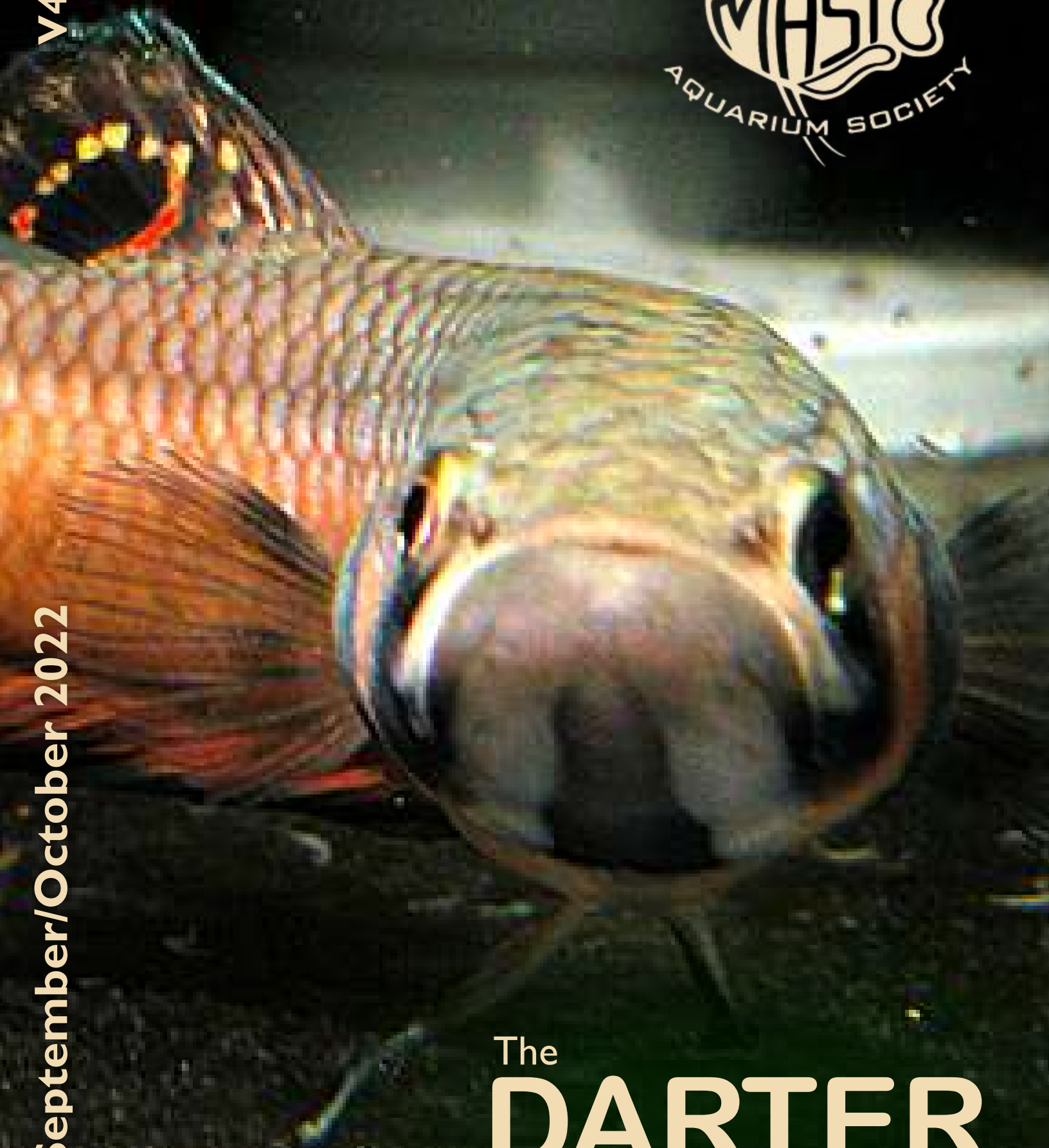


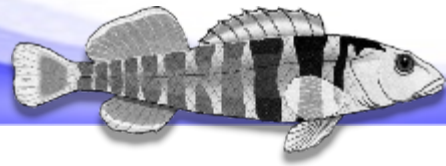
V48#5



September/October 2022



The  
**DARTER**



# The DARTER

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## THE DARTER

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## MEMBERSHIP:

Annual Voting membership in the Missouri Aquarium Society is \$15; annual Corresponding membership is \$10; both include 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 the membership chair.

**EDITOR OPEN** [editor@missouriaquariumsociety.com](mailto:editor@missouriaquariumsociety.com) [www.missouriaquariumsociety.com](http://www.missouriaquariumsociety.com)



**Cover: *Betta macrostoma*  
by Ted Judy**



# INSIDE THIS ISSUE



*I'm forever blowing bubbles  
 Pretty bubbles in the air,  
 They fly so high, nearly reach the sky,  
 Then like my dreams they fade and die.  
 Fortune's always hiding,  
 I've looked everywhere,  
 I'm forever blowing bubbles,  
 Pretty bubbles in the air.*



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## THE PRESIDENT'S MESSAGE

Mike Huber

**Get full value from the Missouri Aquarium Society by participating in these Highlights:**

- ✓ **General Educational Meetings** - 3rd Thursday of each month: Native Fishes October and Aquascaping in November
- ✓ **Fall SWAP** - September 25th
- ✓ **Award presentation** - September 25th
- ✓ **Fall Auction** - November 6th

**MASI has a busy end to 2022 ahead of us!**

**Christmas PARTY! December 15th!!**

**We will need plenty of Volunteers to Make these Events Happen! Please find the SWAP, Auction and Convention Chairs and offer your help.**

OPEN

## FROM THE EDITOR

**We're looking for a new DARTER Editor.**

Are you interested or know someone who might be?  
Contact either the President, Vice President or the Editor to explore.

*Thanks for your help!*

**Have we turned the corner after COVID?!**

There has been a lot of activity lately, working on the **SWAP**, **Aquascaping workshop** put on by our **Members**, getting the accumulated,

**2019-2021 delinquent awards ready to present to members and everything that goes along with them!**

Through all that, we've gotten more articles submitted in the past month than we have for the previous part of the year combined! So many that I've been able to put a few

away for future issues. And there are

some GREAT articles coming your way when we can get them prepared for you.

**Included here are 9 written articles or photo essays, encompassing 18 pages, the most in quite a while.**

*So much I'm expecting some slight issues sending this Darter issue to members because of the size of the file.*



**Content deadline for the 5th Darter of 2022 is November 7th!!**

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







## LETTER to the EDITOR

We received the following from Mike Hellweg as a thank you for any response you made to the letter he posted in the July, 2022 Darter.

### **UPDATE on the Compete's Act (Now called CHIPS-Plus)**

Hello all,

Congress has heard our pleas and has removed all changes to the Lacey Act that were included in the **COMPETES** act (now **CHIPS-Plus**)!

See the update from **USARK** below. If you're not already a member, please join both the Pet Advocacy Network ([petadvocacy.org](http://petadvocacy.org)) and the US Association of Reptile Keepers ([USARK.org](http://USARK.org)). Both of these groups are working hard to respond to the many extremist challenges against the pet industry.



*Mike Hellweg*

### **UPDATE:**

We have been posting relevant updates on our main alert page at <https://usark.org/2022lacey/>. To be brief, the "CHIPS-Plus" bill that passed in the Senate passed the House on 7/28 (243-187 vote). This bill includes some of the technology initiatives included in the America **COMPETES** Act, **USICA**, and other bills. The portions of **COMPETES** that were not germane to the intent of the bill (including the bad Lacey Act amendments) were not added to the **CHIPS-Plus** package. This should be the end of any threat from these Lacey Act amendments for this Congressional session.

Thank you to everyone who contacted their legislators and voiced opposition! Your opposition is hugely important and needed. When advocacy groups like **USARK** meet with legislators, they give us more attention if they have been hearing from their constituents. The Reptile Nation is a huge part of **USARK** and we just want to say thank you again to those who took the time to fight for responsible herpetoculturists.

Also, a huge thank you to other animal keepers and organizations who opposed these Lacey Act amendments! **USARK** and herp keepers were certainly not the only ones fighting. That we were able to stop these Lacey Act amendments shows that various animal interest groups can work together and make a difference. Thank you!

## **YOUR local supplier of animals and equipment for marine systems!**

Marine fish and invertebrates, live rock, R/O water, premixed saltwater, water additives, fish foods, meds, pumps, filters, heaters, skimmers, and more.

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**Aquaria & Gifts**

**SEASCAPE** Studio



**MASI General Meeting: 7:30 PM  
CT, Thurs, September 15th, 2022!!**



**Mike Hellweg:  
Meet the Wild Bettas**



**An introduction to the *Betta* species groups and most of the over 70 species in the genus. Keeping and breeding emphasis is drawn from personal experience keeping over 50 species and breeding over 30.**



**Bio:** Fascinated by fishes all his life, and having kept them as pets since he could barely reach the top of the goldfish bowl, Mike has successfully bred and traded fish with local shops since he was 9.

Owner of a small fish hatchery, Mike is a top ranked breeder (BAP) and top ranked aquatic horticulturist (HAP) of the Missouri Aquarium Society. He has specialized mainly in miniature fishes over five+ decades, his 475 successful species spawns represent 33 families. Fish successes are attributed to large regular water changes, live plants in every tank and culturing and feeding an assortment of live foods daily for both breeding stock and fry grow-outs.

Over the past three decades, Mike has given nearly 400 programs to classes, clubs, groups and conventions of the USA and Canada, and has written of keeping and spawning successes in nearly 400 articles published in hobby publications around the world. TFH Publications published two of his books on live foods and he self distributes a very popular booklet on shipping fish.



***Betta be There!***

**MASI Member Only Order  
of Wild Bettas planned.  
Details at the Meeting!!**

**Jost Chemical Complex:  
8195 Lackland Road  
St Louis, MO 63114  
Follow the signs - Map  
on MASI's Web**





# Chicago Aquatic Plant Society hosts AGA 2022

Talks emphasize plants and all aspects of the aquarium and aquascaping hobby: *Creating Paludariums, Photography and Videography, Scaping Saltwater Macroalgae, Rainbowfish, 2 Aquascaping Workshops, George Farmer Aquascaping Demo, Shedd Field Trip, Large Vendor Room, Sunday Auction and More.*



## Bigger & Better!

*(We're making up for missing last year!)*

# ★ AGA 2022 ★

AQUATIC GARDENERS ASSOCIATION  
**CHICAGO ★ ILLINOIS**



## REGISTER NOW!

September 30–October 2

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World-Class Speakers • Demos

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Two Workshops • All-Day Auction

*Don't wait—workshops WILL sell out!*

Keep up to date at  
[aquatic-gardeners.org](http://aquatic-gardeners.org)

or    [@aquaticgardeners](https://twitter.com/aquaticgardeners)



Information at CAPS: [www.chicagoaquaticplants.com/aga-2022](http://www.chicagoaquaticplants.com/aga-2022)  
Registration at AGA: <https://shop.aquatic-gardeners.org/>







**MASI General Meeting: 7:30 PM  
CT, Thurs, October 20th, 2022!!**

**Bob Hrabik: Discusses  
Missouri's Native Fishes!  
LIVE, from another Local Author!**



**Bob Hrabik, State Dept. Of Conservation Ichthyologist, now retired, will discuss Missouri's native fishes and collecting including productive capture methods and the Missouri rules and regulations surrounding them. He will discuss and indicate where to locate some of the best native fish for keeping in a home aquarium.**

**Bob hails from Nebraska, the son of an avid fisherman, he became hooked**

**on taxonomy, systematics, distribution, zoogeography, and ecology of native fishes while collecting bait used for ice fishing in the 1970s. Bob organized and curated the fish collection at the University of Nebraska State Museum and sampled extensively over Nebraska culminating in the popular guide, "The Fish Book (1987)"- featuring fine underwater native fish photos. Efforts in Nebraska continued even after working in Missouri and in 2015, Bob published the current: "The Fishes of Nebraska". He earned an MS from SE Missouri State University by describing the taxonomy and variation of the Mimic and Channel Shiners in the Mississippi River system. For 21 years Bob has led a biological research station on the Mississippi River at Cape Girardeau and collected throughout Missouri. Since 2012 Bob has been working on Missouri's 3rd edition of "Fishes of Missouri", nearing completion.**

**In May, 2018, Bob led MASI on an Epic collecting trip and the group collected over 40 species!! Part of this catch again caused Bob to rethink portions of the 3rd Edition! An Ichthyologist's work is never done!**

**Come plan  
another  
Expedition?!**

**Jost Chemical Complex:  
8195 Lackland Road  
St Louis, MO 63114**

**Follow signs or  
the Map on  
MASI's Website**







# MASI General Meeting: Thurs, November 17th!!

## Aquascaping BIG!



**Balin  
Shaw**

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

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



Balin founded the Chicago Aquatic Plant Society, which has grown to be one of the largest and strongest planted aquarium clubs in the US. He previously either restarted or helped found the Oklahoma City Aquarium Association, the Dallas-Fort Worth Aquatic Plant Club and the New England Aquatic Plant Society.

Balin is President of the Chicago club and executive board member for the Aquatic Gardeners' Association and is the AGA's chairperson for the annual Aquatic Gardeners Association's International Aquascaping Contest. He has been instrumental in attracting, organizing and conducting the 2022 AGA International Convention in Chicago, IL.



**Meeting Includes Mini-Auction and Door Prize Raffles**

**Jost Chemical Complex: 8195 Lackland Road  
St Louis, MO 63114**



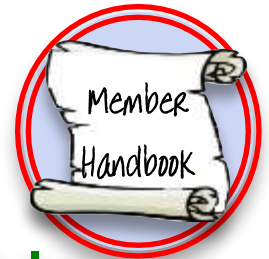


# MEMBERSHIP CHAIRMAN

Bob Watson

**MASI is still growing!**

John Everett	Springfield, MO
Marvin Hicks	Springfield, MO
Ryan Morgan	St Louis, MO
Kim Paris	Saint Charles, MO
Eric Somheil	St Charles, MO
Jeffrey Wooldridge	High Ridge, MO
Richard Reuben	St Louis, MO
Joseph Sheahan	Florissant, MO



**Welcome these new Members!**

**since the last Darter!**

## MASI Membership!

The Missouri Aquarium Society's Annual Voting membership is \$15; an annual Corresponding membership is \$10; both include 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 Bob Watson, membership chair, Email: [robertwrmsh@yahoo.com](mailto:robertwrmsh@yahoo.com).



Memberships

**Help MASI Support the Aquarium Hobby!**

**Support Locally by shopping our supporters.**

**Support Nationally & Internationally by supporting the MASI Challenge.**



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Pet Adoptions

Pet Services



Cat

Online Adoption Search

Dog Training

Fish

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Small Animal

Affordable Vaccinations

Reptile

Pooch Hotel

Bird

[www.petco.com](http://www.petco.com)

Pet Sitting by Rover.com



17 St. Louis locations





# COUNCIL MINUTES

Executive Council

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.

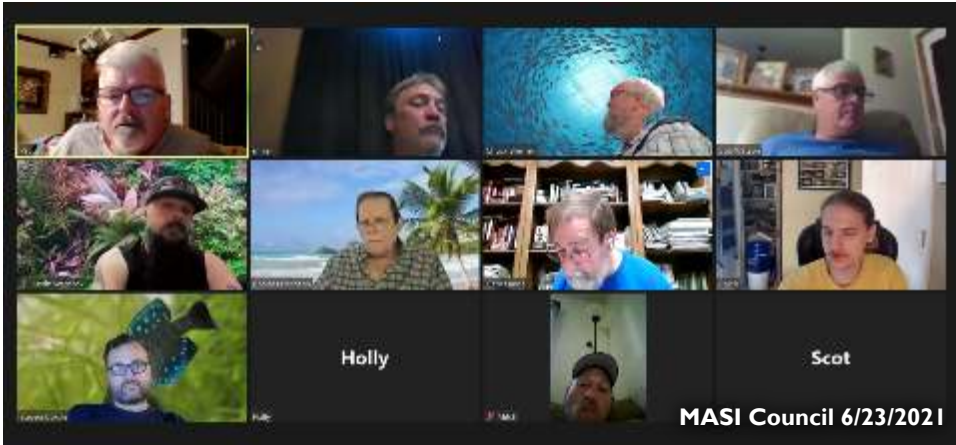
On page 2 are contacts for the current Executive Council and other Committee Chairs and Service positions within our Club. Please provide input to anyone or attend the Council meetings yourself.

Members are invited to attend the Council meetings to bring up issues, contribute to the discussion or just to see how the club is run. Meetings are currently being held by invitation on the ZOOM platform. Contact the Webmaster ([Charles@inkmkr.com](mailto:Charles@inkmkr.com)) if you desire an invitation.

**Give the Council your Feedback or Support!**

## Next Executive Council Meetings, many by ZOOM: at 7:30 PM:

**Future Dates: Sept 22nd, Nov 3rd, Dec 1st, 2022**



**ADVERTISING:** Steve will check with Ian Eggert about shop flyers. Steve will handle Facebook ads once a budget is approved. Holly has been handling social media blasts and providing Amazonas Magazine with yearly MASI event dates.

### OLD BUSINESS:

The FORC meeting still needs to be scheduled. Budgets need to be submitted to Mike Huber.

### NEW BUSINESS:

Pat wants to step down from being corresponding secretary and Steve wants to step down from exchange editor. Chris Mohrle is stepping down from show chair. Holly Paoni has volunteered and is awaiting confirmation.

Bob Watson is the new Membership chairman, and a new refreshment chair is needed to replace Mike Huber.

**A motion to adjourn at 8:30** was made by Charles Harrison and was seconded by Caleb Pitman. The motion passed.

### COUNCIL MEETING

**6/23/22**

**Pat Tosie called the meeting to order at 7:34.** Present were Steve Coxon, Scot Roach, Gary Lange, Charles Harrison, Caleb Pitman, Mike Huber and Chuck Bremer. Guests were Holly Paoni, Bob Watson and Mitch Wendel.

### REPORTS:

**SECRETARY:** Chuck Bremer read the Minutes from the May meeting. A motion to approve was made by Caleb Pitman and

seconded by Charles Harrison. The motion passed.

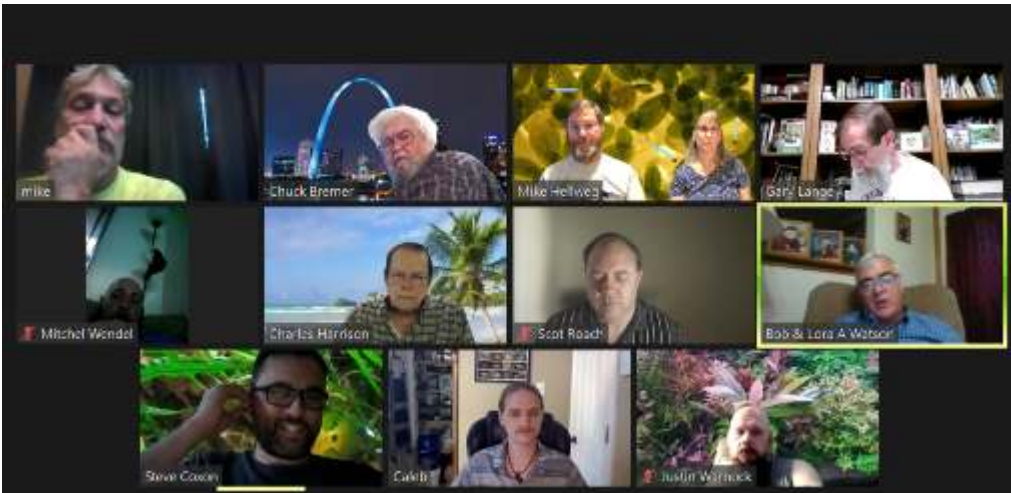
**TREASURER:** Scot read the Apr Treasurer's report. A motion to approve the report was made by Mike Huber and was seconded by Chuck Bremer. The motion passed. Scot then read the May Treasurer's report. A motion to approve was made by Gary Lange and was seconded by Chuck Bremer. The motion passed. Gary Lange asked that future reports be itemized for transparency.

**EDITOR:** Darter submissions are due by July 12.

**This Council Group Email Address reaches all the Executive council at once: [Council@MissouriAquariumSociety.com](mailto:Council@MissouriAquariumSociety.com)**







## COUNCIL MEETING

8/4/22

**Mike Huber called the meeting to order at 7:30.** Present were Steve Coxon, Scot Roach, Angela Hellweg, Gary Lange, Justin Warnock, Charles Harrison, Caleb Pitman, Mike Hellweg, Chuck Bremer, and Bob Watson. Our guest was Mitch Wendel.

### ANNOUNCEMENTS:

- The next Council meeting is Sep 1.

### REPORTS:

- SECRETARY:** Angela read the Minutes from the July meeting. A motion to approve was made by Mike Hellweg and was seconded by Charles Harrison. The motion passed.
- TREASURER:** Scot read the June Treasurer's report. A motion to approve was made by Mike Hellweg and was seconded by Bob

Watson. The motion passed. A motion to waive the July report was made by Steve Coxon and was seconded by Gary Lange. The motion passed.

- EDITOR:** The deadline for Darter submissions is Sep 6.
- SPRING WEEKEND:** The possibility of have a spring workshop in conjunction with the spring auction was discussed.
- CORRESPONDING:** Mitch Wendel needs to get the donations from Pat Tosie.
- SPEAKERS:** Steve said he has speakers lined up until April 2023.
- YOUTUBE:** Steve said he needs someone to handle Youtube streaming for monthly speakers at the General meetings.
- SWAP:** 33 tables have been reserved so far.

- WEB:** The hosting fee for the website has been paid.

### OLD BUSINESS:

None

### NEW BUSINESS:

- MASI will keep using Charles Harrison's URL for the club website,** but Mike Huber and Scot Roach should have access also as a back-up.
- A motion to approve the FORC Report and Budget for FY 2023** was made by Mike Hellweg and was seconded by Gary Lange. The motion passed.

A motion to adjourn at 10:04 was made by Angela Hellweg and was seconded by Charles Harrison. The motion passed.

6131 Ronald Reagan Drive  
Lake St. Louis, Missouri  
Phone: 636-685-2952

**Hours:**  
Mon - Sat 10 AM - 9 PM  
Sun 11 AM - 7 PM

The Fish Room at Petland has a broad variety of freshwater and saltwater fish and invertebrates, as well as a wide assortment of freshwater plants.





# MASI AUCTION MESSAGE

Mike Hellweg

**This report marks my completion of 10 years as auction chairman.**

**Whew! It went quick!**

It seems like I was just taking over from Marlon a few months ago. I've been chairman through 5 treasurers – and each of them has helped make the job of reconciliation after the auction a bit easier. Chuck Bremer has also

helped make the job even easier tracking all the stats that in the past I just “knew” were right, but I didn't have proof easily available without digging through a pile of papers and several spreadsheets.

**Now after the auction is over, within a day or so I can pull all kinds of stats out and overwhelm the Council with numbers!**

**One of the biggest changes has been our being able to accept credit cards.** Now almost half of our buyers use a card – making things so much easier on Scot. We can also literally pull up those stats within minutes of the end of checkouts.

What a difference to “back in the old days” when we used to spend two entire evenings reconciling the books after the auction! Now we're done in less than an hour, and that includes stuffing the checks in the envelopes and stamping them. Maybe soon we'll even be able to send folks their seller's share electronically (*Don't quote me on that, but I'll bet it's coming!*).

**Our auctions are now much easier on our volunteers,** more profitable for both the club and the sellers, and provide a great assortment of high quality fish, plants and equipment for our buyers. That all couldn't happen without all of you!

**Thanks everyone for making the auctions so much better for everyone!**

**As always, we can use your help setting up, running and cleaning up after the auction.**



*And for now, 'nuff said,*

Mike :

[Auction@missouriaquariumsociety.com](mailto:Auction@missouriaquariumsociety.com)



1905 West Highway 50  
Fairview Heights, Illinois  
62208  
618-624-8003  
1-877-388-6200  
Monday - Saturday : 9:00am  
- 9:00pm  
Sunday : 10:00 am - 8:00 pm

[thetyedyediguana.com](http://thetyedyediguana.com)

[admin@thetdi.com](mailto:admin@thetdi.com)

## Tye-Dyed Iguana

**50+ Tanks!**



**TDI now has Fish too!!**







# CORRESPONDING SECY

MitchWendel

**Hello, thanks for the opportunity to be MASI's Corresponding Secretary.**

I will be helping provide contact and achieving hobby support with businesses that deal with all things for our aquariums.

**These businesses often provide MASI with donations** for our Silent Auctions, Raffle Prizes, and Door Prizes at each MASI meeting or other events. Helping our Club grow to it's highest potential by making these connections is very important to me.

**Already a BIG shout out to Warren Crabtree, owner of Midwest Tropicals** for donations of breeder boxes, filters and t-shirts. **See Midwest's Ad Below and visit!**

**Another thank you to Brine Shrimp Direct** for continuing their 5% discount on orders for all MASI Members - use discount code, 05114. As a reminder, the code is incorporated into their Logo on the Supporter page of each issue. If pricing does not look right during checkout, please reach out to Brine Shrimp Direct and they can help fix it. Please contact me for any larger orders with a possibility of better pricing.

**If you know of a business which would like to participate** with donations, or any helpful information please contact me. My email is [mitch.wendel87@gmail.com](mailto:mitch.wendel87@gmail.com) or my cellphone number: 1 (217) 710-9969.

*Mitch*



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*Pick up in Store or we can ship it to you.*

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**GOAL:**  
**\$2000+**

## MASI's 2022 Challenge is the Lake Miragoâne Limia Project!

**Dr. Rodrigues-Silva, manager of the Lake Miragoane project, will be speak to MASI in June, 2023 about it.** He will discuss the fish, the Project's plans and needs. Several of his papers have described new species of *Limia* from Lake Miragoâne in Haiti.

**Populations on Hispanola** are stable on the Dominican side, but several species on the Haitian side have limited ranges and may be in trouble. A infusion of funding from MASI will be very helpful to keep it going.







BOB

# CONVENTION/SHOW CHAIR

Bob Watson

**MEMBERS: DON'T FORGET to Reserve for MASI's Banquet happening after the SWAP, Sept. 25th!**

The Awards Night will consist of a Dinner with Trivia/White Elephant Give Away followed by the accumulated Awards from 2019-2021

## TRIVIA NIGHT/WHITE ELEPHANT

Each person will receive a number for the Give-Away as they arrive before the dinner.



During the banquet and before the presentations of awards there will be a distribution of voluntary donations from vendors selling earlier in the day, displayed on a table in the room.

Through the evening we will draw numbers and ask "fishy" questions. If the person answers correctly, they win a prize- if incorrect, another person is drawn and asked the same question.

A white elephant kicks in when the second number is drawn. Whomever answers that question has opportunity to either take an item from the table OR they can "steal" from one of the other winners, who then has the same opportunity. Only one "steal" will be allowed from each person and no item is allowed "stolen" more than twice.

*The activity and competition should be fun and entertaining for all.*

### Of special note regarding registration for the event:

**It is IMPERATIVE that Members sign up and pay in advance for the Banquet! NO EXCEPTIONS!** The Caterer **MUST HAVE** a reliable head count in advance.

I will man a last call table with a Banquet Reservation sheet and collect payments during the September 15th General Meeting. Banquet is \$30.

Reservations will be considered complete at the end of the meeting.

If you will not be present for the Sept. 15 meeting, please pay prior to that using the PayPal button found on MASI's main website:

<https://www.missouriaquariumsociety.com/AwardsBanquet2022.html>

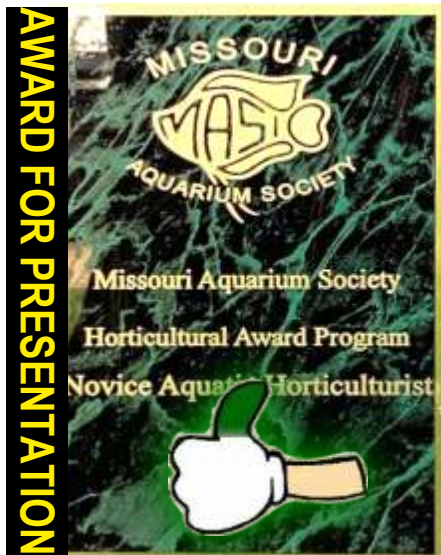
Unfortunately, there can be no banquet sign up or payment at the event on September 25th. We must know attendance ahead of time so the caterer can provide the food. He cannot do that if we do not know by Sept 16th that you will attend. You may pay by cash to the Banquet chairman (Bob Watson) at the MASI meeting or by Paypal from MASI's Website.

It is possible for those having other commitments during the banquet portion to arrive at about 6:30 for the Awards portion, but please indicate that to me for planning purposes.

If you have questions or need clarification, please contact me at email: [RobertWmrmsh@yahoo.com](mailto:RobertWmrmsh@yahoo.com) , text or call: (217) 532-3238.

Following the SWAP at 5pm  
Located at Jost Chemical's Building  
8097 Lackland Road  
St Louis, MO 63114  
*RSVP*  
With payment by the September 15th Meeting  
to Bob Watson

**Banquet:**  
\$30 per person  
Includes Pork Madeira Dinner,  
with loaded mashed potatoes,  
vegetable, dessert,  
and drinks



The 20<sup>th</sup> Northern Midwest ZNA Koi Show hosted by Gatewan Koi and Pond Club



# ST. LOUIS KOI SHOW & POND EXPO



**SEPTEMBER 23, 24  
& 25, 2022**

**Fri. 3-5pm, Sat. 9am-5pm and Sun. 10am-2pm**

**TIMBERWINDS NURSERY  
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**Free event. For more information visit [www.nmzna.net](http://www.nmzna.net)  
[www.gatewaykoiandpondclub.org](http://www.gatewaykoiandpondclub.org) or call 314-276-9461**



***Multi Vendor Fish SWAP: Sunday,  
September 25, 2022***

**Buyers enter 12:00 Noon till 3:00 PM.**

**\$5 adults, Children Free!**

***\$3 after 1 PM***

**Make your best Deal!**



**Public Events at Jost Chemical Complex:  
8195 Lackland Road; St Louis, MO 63114**

*MASI has both Sellers and Buyers at many events.  
All transactions at such events are strictly between those parties involved.*



# Partial List of SWAP OFFERINGS!

September 25, 2022, Noon Entry

8195 Lackland Road; St Louis, MO 63114

Still undergoing additions. If it isn't here, don't despair!!

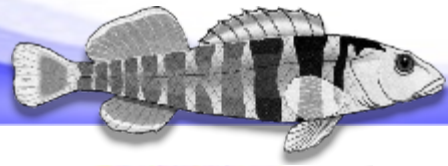


- 🐟 Clint Johnson - *Apistogramma*, fancy Plecos, neocaridina shrimp, rainbowfish, cichlids, and more
- 🐟 Steve Coxon - *Apistogramma baenschi*, *Aphysemion striatum*, *Amatitlania nanolutea* (extra F's), Angels, Plants, Driftwood, *Caradina* Red Tiger shrimp.
- 🐟 Derek Zollinger - Variety of Plecos
- 🐟 Justin Warnock - Plants & 3D Printer Gadgets and Aids
- 🐟 Warren Crabtree - Various hardware items, lights, filters, plus Plants and Fish!
- 🐟 Jeremy Hittler - Plecos, guppies, swordtails, cichlids, angels
- 🐟 Jason Wack - Plecos -Especially Bristlenose
- 🐟 Mike Hellweg - TBD - a variety of schooling fish, nano fish, dwarf cichlids, and more, including foods
- 🐟 Jake Harris - *Apistogramma*, *Kribensis*, Guppies, Plecos, Celestial Pearl Danios, Cherry barbs, Tetras, *Betta*
- 🐟 Kevin Wise & Holly Paoni-several lines of Guppy, Endlers, Goodeids, other wild livebearers, Central American cichlids, plants, driftwood, and more!
- 🐟 Dave & Wendy Meyers - *Bucephalandra* Plants & Natural Decorations: Wood, Cholla, etc.
- 🐟 Rick Tinkleburg - Variety of hard to find, locally bred fish, including Livebearers and Cichlids
- 🐟 David Farel - Live Foods & Equipment
- 🐟 MO Aquatics & Russell Crandon - Flower Horn, Discus, Guppies, Parrot Fish, Community Fish, Tetras, Corys, Arowana, Angels, Plecos, & Shrimp
- 🐟 Josh James - African Cichlids, Bristlenose Plecos, *Corydoras*, Guppies, Koi
- 🐟 Mark Simmons - Discus and filters
- 🐟 Caleb Pittman - Rainbows, Shell Dwellers, Livebearers, and low tech plants
- 🐟 Bob & Lora Watson - Both Fancy & Wild Type Livebearers, Guppies, Cichlids, equipment, and foods.
- 🐟 Jerry Jost - *Corydoras* & More *Corydoras*!!
- 🐟 Leroy McCreary - Fancy, Show Winning Guppies
- 🐟 Mike Swets - Snails, Plecos, and more
- 🐟 Ed Millinger - TBD, gotta check the Fish Room!!
- 🐟 Jessica Ely - Fly traps, *Drosera*, *Pinguicula* - Carnivorous plants and care guides
- 🐟 Carnivorous Plant Club - Carnivorous plant club info and more
- 🐟 Alan Womack - Jalo Reef, Dragonblood, Red Shoulder Peacock, Yellow Labs - Malawian Cichlids
- 🐟 Tropical World Pets -Have to see what is available in the store for Hard Goods, Foods and Livestock
- 🐟 Allen Merkley - Various locally bred Livestock
- 🐟 Mike Misuraco - Longfin green dragon ancistrus, red shoulder angel fry, filters, and more.
- 🐟 David Zink - Livebearers, plants, tetra, and others.
- 🐟 Chad Brockmeyer - Neocaridina Shrimp
- 🐟 MASI Merchandise & Donation Table that could have ANYTHING!

There will be a Membership Table for those wanting to join the Missouri Aquarium Society or renew lapsed memberships.







# The DARTER



**July's Triple Crown Convention in Louisville, KY offered something for everyone and afforded a chance to make or meet old friends from nearly anywhere.**

**These Pics are from the Vendor/Show room**

**An [Amazonas' recent newsletter](#) gives other views. If viewing, while there, sign up to receive it regularly.**



**Dustin, of Dustin's Fishtanks**



**Kurt, manning a booth while up from FL**



**Gary Bagnall of ZooMed**

**Stephan Tanner of Amazonas/Swiss Tropicals & Mike of Minifins**



**Chuck Davis' Art was front and center. Was that your seat, Steve?**



**< Vendors & Show Room >**





One of the most interesting, and controversial, programs was given by Bryan Landry on the concurrently embattled US Lacey Act

If one chose not to take part in the banquets on site there were several other eating establishments around the area.

There were plenty of parties going on at any time and Fish were everywhere!



Chili Mac at Skyline Chili



# PET CONNECTION



Between The Hill and Botanical Garden  
2212-2214 S. Vandeventer Ave.  
- St. Louis, MO. 63110

Pet Connection is the place to come, whether you're looking for a new pet or just need to take care of one you already own.

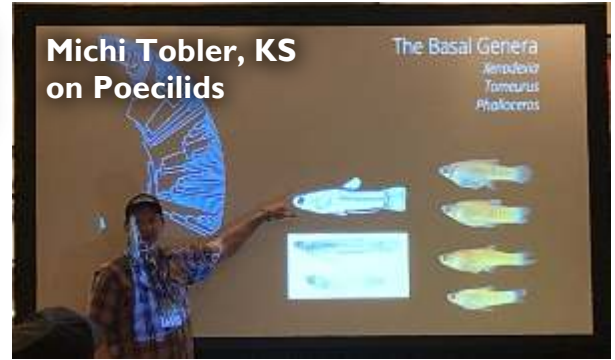
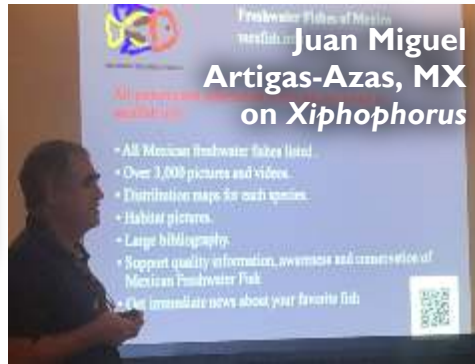
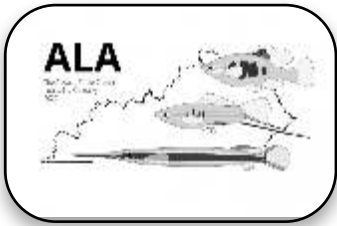
www.petconnectionstlouis.com  
petconnection89@sbcglobal.net  
314-773-7387 / 773-PETS  
Mon - Fri: 10 AM till 6 PM  
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For fish products shop the yellow and blue aisles.



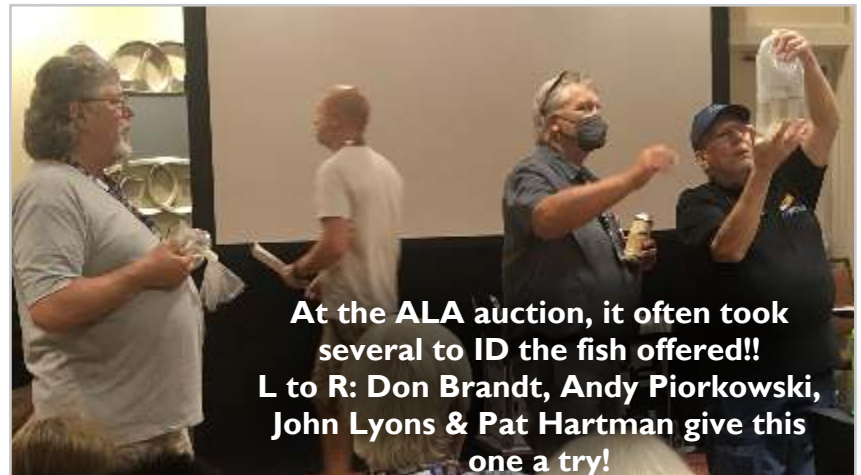




Although 4 program venues were available, ACA, ALA, AKA & ANGFA, each with their programs and ancillary activities. One often found oneself sticking with the one most familiar.

I often attended the ALA, although the others did provide additional activities on occasion.

Jim Langhammer passed just before the Convention. He was scheduled to receive a Special Appreciation award from the ALA, given posthumously.





The AKA and ANGFA, always hosts for such brightly colored fish were also very active during this convention.



They are so good at distributing their chosen genre that about all I was able to photograph were AKA show winners already re-bagged for their final auction!!



**Jack Heller**  
**Newly Inducted AKA Lifetime Fellow**



MASI's own Jack Heller was awarded a much deserved Lifetime Fellow of the AKA for all his work.

**Congratulations Jack!!**



O2 for Re-Bagging



Re-Bagging Assembly Line



Show Killies, re-bagged for the AKA distribution Auction

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







# The large ACA's presence was felt all around the Triple Crown.

The ACA Babe's auctions were entertaining as usual and the ACA had a Rockin' Hospitality Room.



Each Associations had a Vendor room booth



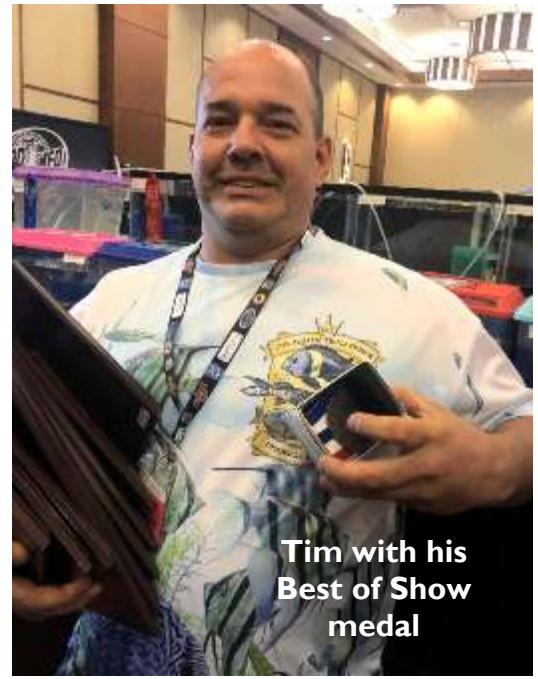
Turquoise Severum - *Heros efasciatus*



Cuban Cichlid - *Nandopsis tetracanthus*

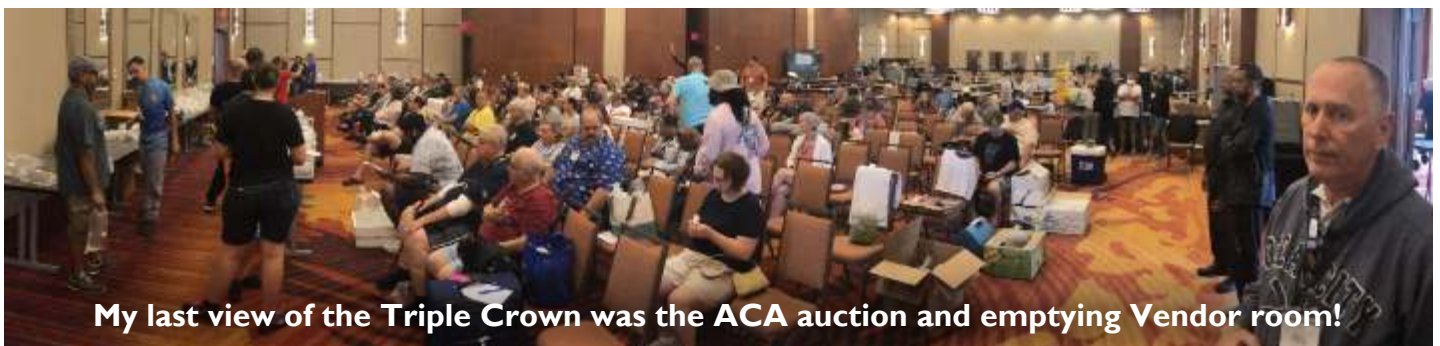


Orange Flame - *A. caucatoides*



Tim with his Best of Show medal

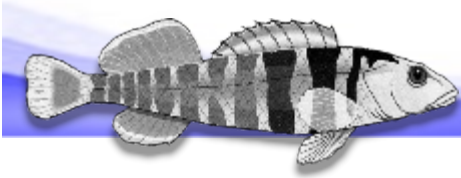
The ACA is always big on Shows. Tim DeRoberts won many awards at this 50th. Here's Tim and some of his Show winners, both large and small.



My last view of the Triple Crown was the ACA auction and emptying Vendor room!







## WELCOME TO THE MUSEUM OF AQUARIUM AND PET HISTORY

**Welcome to The Museum of Aquarium & Pet History.** This museum is dedicated to the history of aquarium & pet keeping and includes a huge depository of over 3,000 items that were historically used to keep pets. These items would be antique aquariums, fish bowls and stands, bird cages, squirrel cages, dog, cat, bird, and fish foods and medications, pet advertising signs including neon and automation, pet product shipping wood crates, metal fish shipping cans, etc., etc. The museum also has a library with over 1,000 aquarium and pet books, 5,000 aquarium and pet magazines, and hundreds of original letters from pet companies, pet publishers, aquarium & pet hobbyists, pet stores, etc.

Currently the museum is housed in 4 buildings with only one that is set up for display. Building number 1 (display building) currently houses over 200 antique aquariums and fish bowls plus over 200 bird cages along with dog & cat food

items, plus antique pet advertising signs and more. Currently we are not open to the public but plan on monthly YouTube videos to showcase the collection plus updates and articles on the website about the collection. Please subscribe to our YouTube channel and website.

One of the features of the museum website will be to showcase the history of both pet companies and aquarium hobbyist. We welcome outside contributions on company history from anyone who may have worked at a company no longer in business, or one still in business that has been in business for 25 years or more. We also would like any historical information on tropical fish farms or aquarium, bird, dog, cat, etc., hobbyist that have made a significant contribution to pet & aquarium keeping.

**We would thank you for stopping by.** Please stay tuned for lots more aquarium & pet history on this site in the months ahead! (Graphic Hot-linked!)



# The MUSEUM OF AQUARIUM & PET HISTORY



**NOW OPEN!! CHECK IT OUT AT: WWW.MOAPH.ORG**

**Videos** of hundreds of pet artifacts including antique aquariums, bird cages, fishbowls and stands, dog advertising, Chipmunk cages, vintage pet foods, medicines, etc., etc....

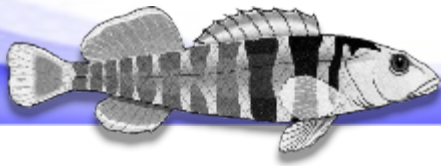
**Articles** are written by current pet historians on Parlor Aquariums, Rare Aquarium Pumps, Vintage Trade Cards, Famous Bird Stores, History of reptile keeping, etc., etc....

**Illustrations** of rare and usual aquariums, pet companies of yesteryear, crazy pet products, etc....Check us out at-

**MOAPH.ORG**







## Spawning *Sewellia lineolata*

-

## Reticulated Hillstream Loach

By Mike Huber



© Charles Koenig

**A** 40 GALLON BREEDER with 2 over sized sponge filters and a corner filter box run with air was used.

Everyone said that this fish needs a very clean well oxygenated tank, with a lot of turn over and fast flow, but I kept a stable well maintained tank. A large rock pile of black smooth rocks was placed in the middle of the tank, and the tank held some plants, mostly *Anubias*. The day I first got them, if one walked into the fish room they would all scurry off and into the rock pile. After a few months they did not scurry off but remained on the glass,

hanging out in the plants, or on the sponge filters.

After having them for over a year it seemed I would never get them to spawn. I had fed them good food, maintained good water quality and a stable pH of 7.4 to 7.6 with very small fluctuations and a steady temp of 74F but had given up. One morning after feeding I saw what I thought was dirt on the rock pile...then the dirt moved! I ran up stairs and told Irene that we had new baby Hillstream Loaches. We both went down stairs and watched them for quite a long time.

After a couple days most of the fry would come out of the rocks when the adult group would come to food and feed.



Sewellia  
Collection  
Region

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Sun Closed

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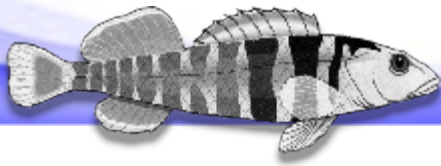
Sat 10:00-6:00

Sun Closed

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OPERATED FOR OVER  
Fifty YEARS

Aqua-World is  
undergoing a Web  
Remake





## Jenynsia onca

-

## The One-sided Livebearer

By Mitchel Wendel



© Leo van der Meer

**JENYNSIA ONCA** is a rare fish in the hobby native to Brazil and Uruguay. It is not easy to find and not often mentioned.

This fish has multiple common names such as the one-sided livebearer, left-sided livebearer, Jaguar livebearer and spotted livebearer. *Jenynsia onca* are members of the family Anablepidae, which also includes the Four-eyed fishes (*Anableps* spp.).

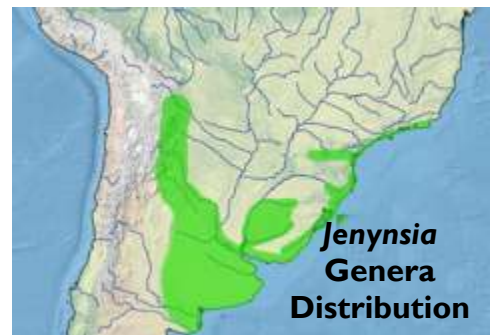
Their tank temperature should range from 70-80 degrees. Males grow to around 2 inches and have an asymmetrical gonopodium that will

either hook/swing to the left or to the right. There is a myth that a left sided male can only mate with a right sided female and vice versa, but it has been disapproved. Females are symmetrical and grow to around 3 inches.

As livebearers, they give birth to live fry. Like other livebearers, their tank should be furnished with plenty of plants such as mosses, rooted and floating plants, and even driftwood, to provide cover for their fry. Well-conditioned fish will reproduce every 2-3 months under favorable conditions. The gestation period for females is around 6 weeks and they can give birth to anywhere from 5 to 20 fry. The males tend to be amorous

most of the time, so try to have two or more females to every male.

*Jenynsia onca* are peaceful fish and move in groups as if they are schooling. So having 8-10 in a reasonably sized tank would be preferred. They are active and quick and very fun to watch.





## STL's Aquascaping Center!

Open MTW: 5p-9p; TFS: 10a-9p; Su: 11a-6p

MAZI Members  
10% Discount!



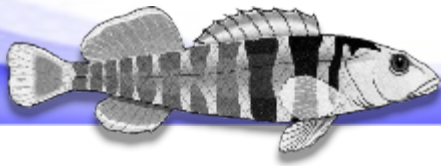





3131 MORGANFORD RD  
ST. LOUIS, MO 63116  
PH: (314) 282-0257  
EMAIL: ARTOFAQUARIA314@GMAIL.COM







## MEASLES TETRA

### *Pseudochalceus kyburzi*

By Chase  
Kleinstecker

**T**HE MEASLES TETRA is a very unusual and interesting fish that is rarely seen in the hobby. It has many names, including Kyburz Tetra, Giant Spotted Emperor Tetra, Pink Spot Choco Tetra and Measles Tetra. It is a colorful fish that has various shades of greens, blues and yellows, and is sprinkled over its' body with red dots, hence the measles name.

**They were first described by Schultz in 1966**, but have been seldom imported since. They come from the Choco region of Columbia and coastal blackwater drainages of Guyana and are closely related to the Emperor Tetra, *Nematobrycon palmeri*. 73 to 79 degrees F. is a comfortable temperature range. It is a fast-swimming, schooling fish that can reach 3 1/2 inches and requires a good-sized tank, as it can be territorial and may be somewhat nippy toward smaller fish. They seem to do better in groups of 6 or more fish. Males are slightly larger, have more color and have a longer dorsal fin in adults. They will vigorously eat a variety of foods, including pellets, flakes, and meats,



From video of spawning provided by the author.

and are fun to watch feeding on floating foods because they move so fast.

#### **BREEDING**

The literature gives only hints on their breeding habits, that they might be egg scatterers or cave spawners. In February of 2019, I purchased 2 young fish that I thought might be a pair from Water Colors Aquarium in Grand Rapids, MI. They were placed in a 70-gallon tank with a flowerpot on its' side and some other tetras, and I waited for them to grow out.

**When they got to 3 inches, I noticed some unusual behavior.** The male had been quite aggressive toward the female, and she would hide in the plants most of the time. One evening in January of 2022 I noticed that the female had become the aggressor. The male had established a territory about 6 inches in diameter in the gravel bordered by some plants, and the female invaded it and started pushing him around! She got beside him and started quivering for about 10 seconds. They did that several times and I figured they were laying some eggs in the gravel territory "nest".

**Because any fry would not survive in a community tank**, after things settled down, I put a "siphon on a stick" in the nest to gather the eggs. Even with backlighting, only 1 egg was

found, so I figured that the eggs were very adhesive, and siphoned out more gravel, vigorously agitating it to dislodge any eggs. I managed to collect about 30 eggs, which were clear, tiny, and difficult to see.

**The eggs were rinsed and placed in clean tap water to hatch.** The fry became free-swimming in 7 days. They accepted newly hatched brine shrimp right away, had voracious appetites, and were easy to raise. They were turned locally in for Breeders Award Program (BAP) points and some were distributed to local club members.

I am not sure many people realized what an unusual and interesting fish this is and unfortunately, a few months later the female turned the tables and killed the male!

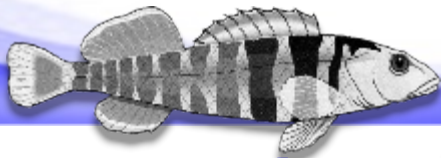
This may be one of the first recorded spawnings - or maybe not, but I believe this fish is only available to the hobby as wild-caught.

***Pseudochalceus kyburzi* is a beautiful, interesting, and unusual species** which challenges breeders to reproduce and help save wild fish populations.

This article has also been posted to Chase's website which stresses the breeding of fish: [chasesfishes.com](http://chasesfishes.com).







## Spawning *Betta splendens*

-

## The Common Bubble Nesting *Betta*

By Steve Coxon

### FIRST SPAWNED BETTA

*splendens* when I was in high school, about 30 years ago. I had to convince the owner of one store to special order a female for me as at the time, females weren't sold in any of the local fish stores.

**That was quite an undertaking for a 15-year-old** with no real mentor not- even Google or YouTube, just the information found in my books and magazines. That spawn was mildly successful, but I only managed to raise a handful of fry without an understanding of live foods.

**I didn't keep bettas again until Mike Hellweg gave a wild type betta talk on Zoom during the pandemic.** Then I started working with several species of wild type bettas. But had no



Female

Male of pair spawned



plans to breed *Betta splendens* again until I saw the 'Blue Rim' variety at Aquashella in Dallas in August, 2022. The owners of "Oh My Betta" import them from Thailand and helped me pick out a pair.

**The pair were kept separate after returning from Dallas** and fed well with high quality prepared and frozen foods as well as live grindal worms, blackworms, and brine shrimp. Both were vigorous eaters and the female began to look plump.

**After about two weeks of conditioning, I prepared a 10-gallon tank** with about 5 inches of treated tap water, a heater set to 78F, and a sponge filter with a low flow. I added some java moss, hornwort, a ZooMed Betta Log and a 3-inch square of bubble wrap. The male was released into the tank to settle in for a few days.

**My wife found a hurricane glass at a thrift store** for me to separate the female and still allow the male to see her in the tank. He was extremely excited to see her and after a bit of flaring display around and around her glass, he got busy building a bubble nest under the bubble wrap.

**After waiting an extra day,** the female looked ready and the hurricane glass was removed. The male again showed his excitement by flaring and



Spawning  
Dance



dancing around the female. After watching for a bit, I had to leave.

**That evening, when I checked on her, she was lying on her side under the bubble nest** and for a moment I was sure the male had killed her. However, I soon discovered I had just missed an egg drop. The male was grabbing falling eggs in his mouth and the female soon startled out of her stupor and began helping him- which he did not approve of, but she did help bring eggs up to the nest.



**Spawning Embrace**

**This is one of the most exciting spawns I've been able to witness** and I captured a bit of it on camera and created a short YouTube video with it: <https://www.youtube.com/watch?v=xLHVXy2Af-0>

**The female was removed the next morning.** The male was unhappy with her presence and already forcing her to hide behind the java moss. After that he demonstrated excellent parenting, constantly tending his nest to ensure the eggs were safe. About two days later, the fry were under the nest and the male was busy keeping them

together whenever some accidentally wiggled away.

**A few days later, the fry were free swimming** and I started feeding microworms. Again a few days and the fry were scattered across the tank and the male was still frantically trying to gather them. I removed him and found that he spit 5 fry in the catch cup.

**The fry at one week had become voracious baby brine shrimp eaters.** Microworms continued to be offered for the first week as well as some vinegar eels and were supplemented with a small amount of Sera Micron.

**Now, I am slowly increasing the water level** and have increased the flow on the sponge filter. I'm currently considering options for separating the males from the females in a month or two.

**I've bred many fish over the past few years, but Betta splendens has been one of the most fun! I'm already looking forward to discovering how many fry carry the parents' "Blue Rim" coloring!**

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**Newly hatched fry under the bubble nest**



**Free swimming fry at about 1 week**



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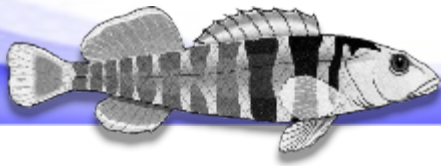
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## Minifins

# The Mouth-brooding Bettas

By Mike Hellweg,  
CFN  
(Certifiable Fish Nut)

**E**VEN THOUGH THE name “*Betta*”, often draws a male fancy *Betta splendens* to mind, famous for building floating nests made of sticky bubbles and many would be surprised to learn that of the approximately 75 known species of *Bettas*, only about a dozen of them are bubble-nesters!

**Most Bettas are actually mouthbrooders**, and at least a couple species are “switch hitters”, sometimes building small bubble nests, sometimes building a nest then taking the eggs in their mouth, and other times skipping this step and going right to mouthbrooding.

**Mouthbrooding most likely evolved from bubble nesting**, a logical progression. Bubble nests work great in stagnant water, keeping the eggs and eventual fry up near the oxygen rich surface, while protecting the eggs from predators, drying out, and from the heat of the sun. But once fish move into streams, bubble-nests are hard to keep together. Some species of bubble-nesting Bettas in the *coccina* group are well known for moving their eggs to new nests several times during incubation, and even moving fry after



Male *Betta channoides*  
brooding eggs

©Ted Judy

hatching. It doesn't take much to transition from this to simply just holding the eggs and the subsequent fry in their mouth the entire time.



*B enisae* Habitat

©Zhou Hang

From my own experience with approximately three quarters of the 60 or so known species of mouthbrooding *Bettas* I know there are a few items of misinformation have circulated for nearly 70 years about the labyrinth fishes, exacerbated by mis-information perpetuation from the internet.

**One myth, started in the 1950's**, is that all labyrinth fish MUST have warm, moist air over the tank or their fry get pneumonia and die. Dr. Gene Lucas personally disproved this in his lab working with thousands of spawns of *Betta splendens* over the years. I have personally witnessed this many times when there was cool air over the water. Not only did the labyrinth fishes not suffer any ill effects, but they

successfully spawned! My best example was *Macropodus opercularis* successfully spawning and raising new, healthy fry in a tub in November in St. Louis that wasn't brought indoors until Thanksgiving weekend!

**Many folks also automatically think “aggression” when they hear the name Betta**, because the male *B. splendens* are commonly known as “fighting fish” and are best kept singly and often Europeans even refer to all *Betta* species as “fighters”. But you might be surprised to learn that most *Betta* species actually do better in groups, and that in most species, it is the female, not the male, that is the aggressive sex! In most species, the female initiates spawning, and if the male isn't ready, or if his mouth is already full of eggs and she still has eggs to spawn, she will drive him away and court another male to continue the process! I've witnessed this with several species.

**Sexing mouthbrooding Bettas is fairly easy**, even when they are only a month or so old. When you look down from above, as you see in these photos, the mouth of the male is very large and “U” shaped while that of the female is smaller and “V” shaped. As they grow larger males also generally have a much longer dorsal fin that is carried close to the body, while females carry







their smaller, clear dorsal fin erect. Male mouthbrooders often have extensions of the rays of their caudal fin, and often the posterior of their anal fin and even the pelvic fins.

**In my early days of working with mouthbrooders**, like most hobbyists I tried to economize and started with single pairs of fish without much luck. Eventually I stumbled onto the idea that they do better in small groups of a half dozen to maybe a dozen or so adults, with more males than females if possible.

**Since I started keeping them in groups, I've had success with almost every species** that I've tried, with the exception of *Betta balunga*, which instead reminded me of how well *Bettas* can jump and how far they can travel after they land on the floor!

**Many of the larger species of mouthbrooder males will engage in mock fights and displays including "yawns"** at each other by opening their mouths as wide as possible. While this looks imposing, very little to no actual harm is done. Some will even "yawn" at their keeper through the glass, especially those in the *unimaculata* group. One huge male *unimaculata* would even "yawn" at me with a mouthful of eggs!

**Most of the mouthbrooders come from cooler, slowly flowing shallow water**, and are often found at higher elevations. While we often think "soft and acid" when we talk about water parameters for *Bettas*, most of the species- *but not all!*, will do very well and even successfully spawn

in neutral to slightly alkaline, moderately hard water.

**In all but a few cases, heaters are unnecessary**, and room temperature water is just fine. This was learned from a group of *Betta enisae*, when I didn't realize the heater had failed until several hours after they had spawned. When putting my hand in to catch one of the holding males the water was not only cool but actually cold! Temperature was in the upper 60's Fahrenheit. The fish did not get sick but instead colored up beautifully- relatively speaking for *enisae*, which isn't a really colorful fish anyway. They spawned successfully and all 4 males successfully raised their fry.

**Mouthbrooding Bettas are not too picky about their home** beyond a few necessities. I generally set them up in a 20 long for smaller species, or a 30 breeder or larger for the larger species. Most of my tanks have a fine layer of sand on the bottom, and I add a couple of pieces of driftwood. I also add a couple of flower pots turned on their sides – 4-inch pots for the smaller species and 6-inch pots for the larger species – one for each female, plus a couple of caves where less dominant fish can get out of the line of sight of the dominant female.

**I add a handful of coconut chips, pieces cut from coconut halves** that form mini caves on the bottom, a handful or two of well soaked dried oak leaves, several clumps of Java fern or a couple of pots with Crypts or similar plants in them, and a sponge filter. The final thing that I've found is the difference between success and failure with several species is to add several Zoo Med floating logs – at least one for each male. More on those in a bit.

**Sponge filters work well, and Mattenfilters work even better** – especially ones covered with Java ferns, *Anubias*, various mosses, and even *Bucephalandra* - these are my preferences.

**Power filters are fine with most mouthbrooders**, and many hobbyists have good success with canister filters, too. Whichever filter you choose, just make sure you maintain it according to manufacturer's instructions.

**Feeding couldn't be easier.** All Bettas are lie-in-wait predators hard-wired to immediately go after anything that hits the surface – usually insects in the wild. Even wild caught fish will

usually take prepared foods like flakes and pellets right from the start. This should be enhanced with live and frozen foods several times a week to add meat to their diet.

**They aren't picky.** They should be fed once or twice a day, five or six days a week. They will go for all types of worms, insects, crustaceans, and many of the larger species will even eat small fish. Many will also eat crushed snails. Cherry shrimp are relished, so don't try to keep shrimp in their tank. Of course, they will also eat frozen versions of the same.

**If housing mouthbrooding Bettas similar to the manner described above and feeding them well, once they reach sexual maturity they will generally spawn.** Exceptions to this are *Betta foerschi* and *Betta strohi*, which in my experience won't even start false spawning attempts until they are about two years old, and won't successfully spawn until they are almost four years old. After that, like most other mouthbrooding *Bettas*, they may continue spawning until there is no room for any more fry, nor room at any friends or shops that will take them. Those friends will likely walk away when they see you coming!

**With most species that I've watched spawn, the female initiates spawning** and drives the chosen male into one of the flower pots. They then perform the typical Anabantoid embrace when the male wraps his body around the female and forms a "cup" with his anal fin. The female lays a few to a half dozen or so eggs in this cup and, after a few seconds, she will then pick up the eggs and spit them at the male and he catches them in his mouth.



In some species the male will help gather the eggs as they fall to the bottom, in others he just lets the female do it. This act will be repeated several times until either the female is out of ripe eggs or the male's mouth is full and he won't catch any more eggs. If the female still has eggs left, she will drive the male away and look for another male. I've had large females spawn with as many as 4 males in sequence.



**Male *Betta unimaculata* collecting eggs**

©Haji Badaruddin

Once the male's mouth is full, he moves off to brood the eggs in a quiet place near the surface. That's where the Zoo Med floating logs come in. They are a perfect place for the male to brood his eggs. As the male broods, he "chews" the eggs in his buccal (throat) pouch. You can see this well in Ted Judy's lead in photo of a male *Betta channoides* holding.

In most species, the brooding male's head becomes intensely colored – usually in shades of blue, green, yellow or even a combination of these colors. At times, I've had three or four males holding at the same time, in the same tank and in the same floating log. It's really a sight to see!

Another myth is that most males do not eat while they are holding. Most maybe, but there are exceptions. In a few species (*B. albimarginata*, *channoides*, *falx*, and *strohi*) I have witnessed that, interestingly, about two to three days after spawning, when food is added to the tank, the male goes to a solitary space in the tank, usually one of the floating logs, and spits the eggs. He

then goes and eats as well. After eating his fill, he returns to the log and picks up all of the good eggs, but leaves the fungused and infertile eggs behind.

This could be why many breeders report that the male holds for a couple days, then he's back eating and they may never actually see him when he is holding again. I've also seen males do this and other fish in the tank find the eggs and eat them while the male is eating. Usually, this male spawns again within a week or so.



**Several *Betta rubra* live in MASI tanks**

©Haji Badaruddin

After spawning, the male holds for about two weeks and then spits the fry. After that they are on their own. Unlike fry of bubble nesters, the fry of mouthbrooders head to the bottom instead of the surface after release. Adding the coconut shell pieces and the pile of leaves provides a place where the fry can hide. Some species like *Betta ocellata* are excellent fry cannibals, while others like *Betta macrostoma* completely ignore their fry.

Fry are big enough to take newly hatched brine shrimp and microworms right from the start. They grow quickly and after about a month, they can take Grindal worms as well and will also go after flakes,



***B. Rubra* juvenile**

©Haji Badaruddin

floating pellets and similar foods.

Mouthbrooding Bettas are a lot of fun to keep, even if you don't want to breed them. They are long lived and

they interact with "their" human, and larger species will even take food from your hand.



***Betta foerschi***

©Gustav Eek



©Zhou Hang

***Betta albomarginata* pair**



©Zhou Hang

***Betta balunga*  
Known jumper!**



***Betta macrostoma***

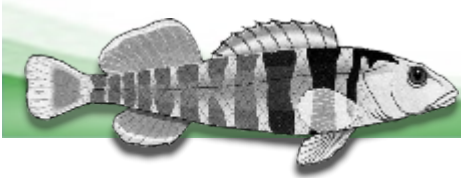
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**As always, never forget to sit in front of the tank and spend time just watching and enjoying your fish! Isn't that's why we all got into this wonderful hobby in the first place?**

Select photos from Seriouslyfish.com







## Missouri Native Plants for Aquaculture

# Helanthium tenellum

## Dwarf burhead

By Micah Issitt & Adrienne LeGault

**T**HE “**SWORD PLANTS,**” or “burheads” are absolutely essential in aquaculture. Beginning with the old standard amazon sword plant, *Echinodorus grisebachii*, there is now a whole plethora of other species on a list that is still growing. They spread across the Americas.

**There are many different types, with different leaf shapes and colors,** but most of them can be thugs in an aquascape, growing so fast and so large that they can dominate the display. There are a few unusual sword plants, however, that provide very different opportunities for aquaculture.

**Three species of sword plant, locally known as “burheads,” are found in Missouri,** and all are excellent for aquaculture, though in different ways. The tall burhead, *E. Berteroi*, and the so-called “radican” sword plant, or creeping burhead, *E. Cordifolios*, are large, fast growing plants that can be substituted for any of the other tropical swords in the aquarium. *E. berteroi* is an absolute monster, reaching the top of the average aquarium in no time



*Helanthium tenellum*  
Aquarium Carpet

and, whenever possible, growing clear of the water. This makes the tall burhead a good choice for planting in or near ponds and they tend to thrive in marginal environments. *E. cordifolia* is better suited for the aquarium, because it tends to grow to a more manageable size, but the species can also be rather brutish if afforded absolute freedom.

**The third species is the true wildcard of Missouri’s swords in more**



**Radican Sword -**  
*Echinodorus cordifolios*



**Tall Burhead -**  
*Echinodorus berteroi*

**ways than one.** For one thing, the third species of “sword” in Missouri is no longer a member of the primary “sword plant” genus, *Echinodorus*. Originally, the dwarf burhead was considered a true burhead and was given the binomial name “*Echinodorus tenellus*,” making it a sister to the other *Echinodorus* species in the state. The genus name *Echinodorus* refers to the leathery husk on the seeds of plants in this genus, while the species name, “*tenellus*,” means tender or soft, a







plants, which means they grown in the form of rosettes, with leaves expanding out in a circle from a central point. The dwarf burhead is therefore one of the “micro sword” species that are grown in the aquarium, reproducing by sending out runners

reference to the dwarf burhead’s softer, tender leaves, which is one of the clues indicating that these species were more distantly related than originally thought.

**In a later reorganizations, *Echinodorus tenellus* was placed into a new genus, and given the name *Helanthis tenellum*, which makes the dwarf burhead a more distant “cousin” to the other Missouri swords and the most northerly representative of the *Helanthis* genus, which also contains two species found from Mexico south to South America and into the West Indies.**

**As described, the dwarf burhead is very different from its Missouri cousins,** producing tender loose, grassy leaves that spread like a carpet over the floor of the aquarium. The species has become a popular alternative for carpeting, especially in larger tanks and is often sold under the name “micro sword” or “dwarf chain sword.” They tend to like quite a bit of light, but will tolerate light shade. The species ranges from Massachusetts down the central and eastern United States, into Mexico, then Central America, and into Brazil. This means that *H. tenellum* will continue to thrive in low, temperatures that would stunt the growth of more tropical species. They are also quite happy to live in a terrarium or vivarium, and can be added to biotopes that represent much of the eastern Americas.

While *H. tenellum* can be used effectively as carpeting, like the true swords, *Helanthis* are rosette

that pop up wherever there is room to emerge. They can be coaxed into spreading directionally by using fertilizer tablets to create nutrient rich pockets of soil for them to explore.

**The true charm of the dwarf burhead, in our opinion, comes when the plant is grown in its emerged form,** either as a pond plant or in a paludarium. In marshy conditions, the dwarf burhead will grow into dense bunches, which can produce quite a display when they flower in groups. In moist environments, *H. tenellum* can replace grasses and other adventitious weeds.

**The dwarf burhead is also quite fun when grown in a water garden container** in pots sunk about an inch or so below the surface. When grown as emerged plants, a rich soil is still welcome, but they tend to appreciate anchoring in sandy soil. A sand cap or sand mixed with nutrient-rich soil will work well. To us, the plants look a lot like full sized swords that were made for a doll house.

***Helanthis tenellum* should never be collected from the wild.** In Missouri, the species is only known to occur in a few counties and it is considered at risk for extinction.

**Aquarium strains are regularly available,** but aquarium strains should not be allowed to escape cultivation or to create wild populations. Introducing potentially deleterious traits from aquarium cultivation is a risk not worth taking, as well as introducing the

species to areas where it would not otherwise occur.

**Any local explorers who happens to find *H. tenellum* in the wild should report their findings to the Missouri Department of Conservation (MDC.gov), as the species is considered at high risk for extirpation in the state.**

While care should be taken to contain aquarium strains, the plant does well when introduced to native gardens. Unlike the other burheads found in the state, *H. tenellum* generally functions as an annual in Missouri gardens, with the population dying out in winter but spreading by seed. As long as there is an area of sandy soil, the plant can colonize large areas, even creating low lawns of hundreds of tiny sword plants in shallow water. The species will not venture too deep into the water as it needs high light levels and so will tend to remain in the shallows.

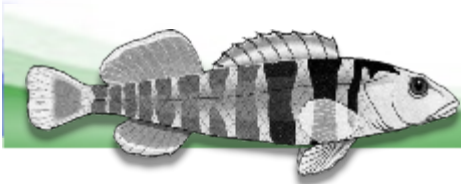


**Caused by the plant’s rarity in North America** and because the species is somewhat inconspicuous in its environment, there has been little research into the kinds of Missouri native insects that might frequent the plant. Water gardeners with this species should therefore take note of the insects using the plant for cover and food.

**In our garden, *H. tenellum* is one of the species we use at the top of the ramp leading into our wildlife ponds. Though it is easily out-competed by other native species like *Heteranthera dubia* or *Ludwigia peploides*, where unimpeded, the species does tend to form thick “lawns” of foliage.**







## Friends Don't Give Friends These Pest Plants!

By Gary Lange & Justin Warnock

**T**HIS CONVERSATION EVOLVED on the MASI BAND page, starting with an enquiry regarding some *Phyllanthus fluitans*, "Red Root Floater" for sale: **"Will Red Root Floater squeeze out duckweed (*Lemna minor*) eventually?"** The authors replied with thoughts of other "evil" plants beyond duckweed.

### 1st: Comments about Duckweed, *Lemna* sp., as an aquarium pest:

**Gary Lange:** Duckweed will grow under much lower light conditions than red root floater. Duckweed is "easily" gotten rid of though. It just takes some work 3-5 days in a row. Lower the water a bit in the tank and then pull out every piece you see using a fine mesh net. Don't lower the water too much as not to let duckweed get stuck in your rooted plants. Make sure to splash water up on the inside lip of the tank where duckweed hides to remove it all. Remove the tank cover and wash it well too. You might as well finish with a good 50% water change; your fish will thank you. If you did get any duckweed in the rooted plants swish them around to remove as much as possible.



## Duckweed and Friends

Next day again remove 10-20 % of the water so you can get a good look at the surface to find any duckweed that you missed the first time. Again splash the corners and inside lip. Clean the top edges with a Dobie pad to make sure you don't have any stuck on hidden ones. If you did a good job the first day you may only see a few.

Repeat this procedure on days 3-5. Duckweed will be gone. I have to do this when I forget to "wash" some fish that I buy at auction that always seem to come with missed duckweed in the bag. I have 90+ tanks and no duckweed!

**Melanie Holmes:** Justin Warnock screen prints a duck weed removal tool and sells it! Reach out to him! It's fantastic!!

**Gary:** Justin was formerly with the Greater Seattle Aquarium Society, (GSAS), one of the most active clubs in the country and one of the "inventions" that they promoted was a duckweed removal device. It consisted of a 12 ounce plastic soda bottle some netting and a pump that surface skims the tank to help keep duckweed in check. This is what I initially thought Melanie was referring to. In my experience that tool doesn't remove all of the duckweed but keeps most of it gone. Until you put the work in and

splash the corners you will never be completely duckweed free.

Justin's current device is his Duckweed Whacker, made on a 3D printer. The previous bottle skimmer will keep duckweed at bay but won't remove it all- that takes active management. I have one of Justin's Duckweed Whackers now but I hope I won't have to test it out any time soon. It has grooves in the back to allow water to flow through but retains all of the duckweed.

It looks like a good tool ONCE you remove the major infestation, if you are already up to gathering quarts of the evil stuff. I shudder thinking of duckweed infested tanks that I've seen in some fishrooms.

**Justin Warnock: \*\* Warning duckweed rant to follow!!\*\***

What works best is threatening the person that gave you duckweed, ha-ha.

But seriously, Gary is right. If you have a serious infestation it is going to take work and requires being on it constantly until you eliminate any trace of it. This includes inside filters, nets, gravel vacs, or anything else that moves in and out of tanks. I refuse to buy plants from anyone that doesn't clean those plants of it. I don't have time on top of maintaining double-digit



numbers of high-tech planted tanks to be bothered with duckweed. I have not had it in my tanks in 20+ years.

**It is possible to not have to deal with it but it takes initial work to stopping duckweed before it takes hold.**



My 3D printed tool doesn't perform miracles and is an alternative method just like the Gary's yogurt cup feeders he sells. They are simply alternative to ~~as it makes things~~ easier to perform a specific task.

**The best bet to eliminate duckweed starts with cleaning new plants when you get them and BEFORE they get anywhere near your tank.** Then having a brine shrimp net ready in case you missed a single piece of duckweed-which is enough to start an invasion. If you miss a piece and see it in your aquarium, stop what you're doing and net it out, immediately before it finds a spot to hide or cling to the underside of the tank trim or wherever.

**I start the process of duckweed hunting by getting a white container,** filling it with some water, floating the new plants in there, and swishing them around to make sure no duckweed is hiding under leaves or anywhere else. If you find some, dump the water, refill, and start the process again until you're no longer finding ANY, and only then do you start getting your fine mesh net to the tank ready to go for any pieces you might have missed. If you spot any, stop what you're doing with the plants and net it out. It might sound like a lot of

work but fighting an infestation is a lot more trouble.

Find a source for plants that you know doesn't have duckweed. It is always ok to ask before buying. I introduced some "famous" shops to this while advising how to set up their plant program. People like myself will find an alternative source for plants and having unadvertised duckweed can ruin a shop's reputation with serious plant people. Duckweed is the wrong plant to distribute as "a free bonus plant". It's not a positive bonus!

Of the hundreds of species of plants turned in for HAP programs all over the country, I've never once, nor will I ever, turn in regular duckweed for a HAP submission!

**\*\*Ok, my duckweed rant is over\*\***

## **Beyond Duckweed:**

**... *Utricularia gibba*:**



**Gary: Justin, if duckweed is "aquarium disease" then *Utricularia gibba* is warts in places you don't want them!** There is unfortunately no vaccine for this super aquatic nuisance. Some of the Florida aquatic plant nurseries often have this as a "bi-catch", especially with some hairy types of plants. Pond plants are often loaded with it so I wash them 5-6 times using pretty much your method: white bucket cleaning, over and over and over again.

**Justin: Gary, I've heard you comment that "Friends don't give friends *gibba*" - or something to**

that effect, and forgot how much of an issue that stuff can be.

Back in the 90's, when I was first starting out in the hobby on a serious level a buddy who was quite a bit older than I, and had been in the hobby for decades before me, had some *gibba*. Before the Internet neither of us knew what it was but it was stringy and hardier than java moss... When long fin white clouds first started to show up at The Wet Spot in Portland he grabbed some to try breeding them.

**He became frustrated** because he knew the female was dropping eggs but there were no fry being produced... long story short, when we figured out what the *gibba* was and switched out to moss he started having success. I can't say it was the *gibba* for certain but those traps were likely eating either the eggs or the infusoria that the fry would have fed on. The point is that there can be repercussions with these nuisance hitchhiker plants other than just being annoying.

**... *Crystalwort, Riccia fluitans*:**



**Gary: While we're at it let's add *Riccia fluitans* to that list.** At first glance one wouldn't think it would be a problem but it often seems to morph into something a little different. Instead of being that wonderful bright green color and floating it turns into a dark green plant that sinks and spreads everywhere.

**This is more like a "flu or head cold" though,** as with a lot of work one can eventually get rid of it. It took about four years for me to





completely remove it from my seven foot aquarium. Difficult removal is especially true in a large tank where it is almost necessary to strip the aquarium to remove all the *Riccia*. For aquascapers to think about, it may not be a good plant to add to a large aquarium.

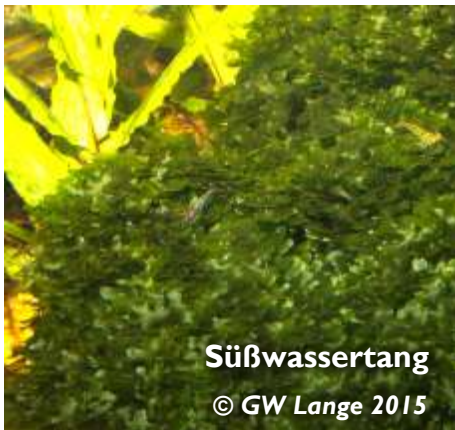
**Justin:** I personally like *Riccia* when in control but it is true that a lot of people hate it because of its tendency to become a nuisance plant.



**Riccia - Beautiful when contained, but be warned**

© Justin Warnock

... Süßwassertang:



**Süßwassertang**

© GW Lange 2015

**Gary:** Not of the same magnitude by any means but something that can also become a nuisance in a large planted tank is *Süßwassertang*, *Lomariopsis lineata*.

The prothallus form of this fern is used in the aquarium hobby. It is a great little green plant that floats around the bottom of your tank. The only problem is that in a large aquarium it's almost impossible to remove and one just lives with it. I think of it more like a "hang-over" after too much beer on Friday night. Somewhat painful but you'll probably do it again.



**Phyllanthus fluitans is a flowering plant.**

© GW Lange 2015

... and the plant that started this conversation, *Phyllanthus fluitans*, aka "Red Root Floater".



**Red Root Floater Overload**

© Gary Lange

**Gary:** This is Red Root Floater Overload! Yeah, time to clear it out again.

If given the chance with good lighting and fertilizer this plant can take over the surface of your aquarium. Luckily that problem is easily solved by just a quick scoop off the surface and to totally remove it that can be done quite quickly also.

If you have optimum conditions this is why it's called red root floater as the roots turn red. It will also flower if you're providing enough light and fertilizer! ...probably not a disease though, more of an "ice cream brain freeze".

I gave *P. fluitans* the moniker Red Root Floater, for which both Karen Randall and Dr. Christel Kasselmann have given me a lot of grief. Although Dr. Kasselmann doesn't use many common names in the index of her latest 2019 English

edition of "Aquarium Plants" you'll find one for "Red Root Floater". It was just a hard sell on Aquabid as *Phyllanthus blah-blah*. You know aquarists, keeping it simple is sometimes the best way!

**Justin:** I'm not sure what you mean about *Phyllanthus fluitans* overrunning a tank ha-ha-ha! I have been letting it grow for an upcoming weekend Show and Sale with the St Louis Carnivorous Plant Society.

**Justin:** Both those Experts are great assets to the plant side of the hobby. We flew Dr. Kasselmann in to Seattle when I was there and she signed some of my copies of her books- since sadly lost in my numerous moves.

I struggle when listing plants for sale because I don't know the local common names very well but I usually know the scientific name or at least the genus they come from and her books help.

**Gary:** BTW the latest Kasselmann book can be purchased via Florida Aquatic Nurseries, for about \$80. It's expensive to ship but still worth it. I bought a signed copy from Europe then gave my German copy to a real German in MASI who helped us get this thread started! Thanks, Melanie!



**Resources:** Aquarium Plants – Christel Kasselmann 2019 English Edition



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# 2022 BREEDER'S AWARD PROGRAM - Steve Edie

## BAP: July 2022



Member	Genus	Species	Common Name	PTs	Bonus	CARES	Total
Steven Hoffman	<i>Xenotoca</i>	<i>doadrioi</i> @	Red Tail Goodeid	10		10	240
Mike Huber	<i>Ancistrus</i>	<i>sp. "Chocolate"</i>		10			4436
	<i>Gambusia</i>	<i>punctata</i>		5			4441
	<i>Rineloricaria</i>	<i>sp. "LI0A"</i>	Red Lizard Whiptail	15			4456
	<i>Mikrogeophagus</i>	<i>altispinosus</i>	Bolivian Ram	15			4471
	<i>Nannostomus</i>	<i>trifasciatus</i> *	Three Line Pencilfish	20	5		4496
	<i>Pomoxis</i>	<i>nigromaculatus</i> *	Black Crappie	10	10		4516
	<i>Sewellia</i>	<i>lineolata</i>	Reticulated Hillstream Loach	20			4536
Holly Paoni & Keviin Wise	<i>Ameca</i>	<i>splendens</i> #@		0		10	1282
Caleb Pitman	<i>Poecilia</i>	<i>wingei</i> ^	N Class Endlers Livebearer	0	1		1029
	<i>Xiphophorus</i>	<i>sp. "Domestic Swordtail"</i>	Black Berlin Swordtail	5			1034
Curtis Skouby	<i>Corydoras</i>	<i>aeneus</i>	Bronze Cory	10			345
Bob Watson	<i>Danio</i>	<i>margaritatus</i>	Celestial Pearl Danio	10			701
	<i>Tanichthys</i>	<i>albonubes</i> ^	White Cloud	0	1		702
Mitchel Wendel	<i>Alfaro</i>	<i>cultratus</i>	Knife Livebearer	10			275
	<i>Jenynsia</i>	<i>onca</i>	Left Sided Livebearer	20			295
	<i>Amatitlania</i>	<i>nigrofasciata</i>	Convict Cichlid	5			300
	<i>Poecilia</i>	<i>sp. "Domestic Molly"</i>	Gold Sailfin Molly	5			305
	<i>Xiphophorus</i>	<i>pygmaeus</i>	Pygmy Swordtail	10			315

### BAP Key:

- \* = First MASI species spawn (5 point bonus)
- \*\* = First MASI species and genus spawn (10 Pt bonus)
- \*\*\* = First MASI species, genus and family spawn (15 Pt 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

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

CARES <http://caresforfish.org/>



# BAP: August 2022

Member	Genus	Species	Common Name	PTs	Bonus	CARES	Total
Chuck Bremer	<i>Aspidoras</i>	<i>albater</i>	Spotted Aspidoras	10			1587
	<i>Ilyodon</i>	<i>whitei</i> "Rio Huamita" #@	Trout Goodeid	0		10	1597
	<i>Julidochromis</i>	<i>regani</i> "Black" *		10	5		1612
	<i>Oryzias</i>	<i>latipes</i>	Rice Fish	5			1617
	<i>Pethia</i>	<i>conchoniis</i>	Rosy Barb	10			1627
	<i>Phallichthys</i>	<i>quadripunctatus</i> #@	4 Spot Merry Widow	0		5	1632
	<i>Skiffia</i>	<i>francesae</i> "Sayula" #@	Sayula Skiffia	0		15	1647
	<i>Tropheus</i>	<i>moori</i> "Bemba Orange"		15			1662
	<i>Tropheus</i>	<i>moori</i> "Sunset" *		15	5		1682
Steve Coxon	<i>Pterophyllum</i>	<i>scalare</i>	Angelfish	10			355
Mike Hellweg	<i>Chromidotilapia</i>	<i>guntheri</i>	Gunther's Mouthbrooder	10			7740
	<i>Xenotoca</i>	<i>doadrioi</i> "Hacienda San Sebastian" *@	San Sebastian Redtail Goodeid	10	5	10	7765
Mike Huber	<i>Abactochromis</i>	<i>labrosus</i> *		10	10		4556
	<i>Astatotilapia</i>	<i>latifasciata</i> #@	Zebra Obliquidens	0		10	4566
	<i>Copadichromis</i>	<i>sp.</i> "Mbenji Blue" *		10	5		4581
	<i>Mylochromis</i>	<i>lateristriga</i> *		10	5	10	4606
	<i>Petrotilapia</i>	<i>sp.</i> "Chitimba" *		15	5		4626
	<i>Protomelas</i>	<i>similis</i>		10			4636
	<i>Pundamilia</i>	<i>nyererei</i> "Ruti Island" *@		10	5	10	4661
	<i>Petruichthys</i>	<i>brevis</i>		15			4976
Jerry Jost	<i>Corydoras</i>	<i>napoensis</i>		10			3417
	<i>Corydoras</i>	<i>sp.</i> "CWI163"*		10	5		3432
Ed Millinger	<i>Julidochromis</i>	<i>marlieri</i>		10			1196
Caleb Pitman	<i>Betta</i>	<i>rubra</i>		15			1049
	<i>Chilatherina</i>	<i>fasciata</i> "Clearwater Creek" *		10	5		1064
	<i>Melanotaenia</i>	<i>parva</i> @	Sunset Dwarf Rainbow	10		10	1084
	<i>Melanotaenia</i>	<i>sikuensis</i> *		10	5		1099
Curtis Skouby	<i>Betta</i>	<i>rubra</i>		15			360
	<i>Betta</i>	<i>splendens</i>		10			370
	<i>Limia</i>	<i>melanogaster</i>		5			375
Bob Watson	<i>Macropodus</i>	<i>opercularis</i>	Paradise Fish	5			707
Mitchel Wendel	<i>Limia</i>	<i>perugiaie</i>		5			320
	<i>Macropodus</i>	<i>opercularis</i>	Paradise Fish	5			325





# 2022 HORTICULTURE AWARD PROGRAM - Mike Hellweg



Usually I don't see a need to write a chairman's message, but this time I think it's necessary.

**We talked a bit about the HAP at the last Council meeting.** Folks are getting a bit lax and I haven't been enforcing the rules as tightly as I should be.

**As a reminder,** in order to get credit for vegetative reproduction of a stem plant, it is necessary to turn in at least 5 stems, each at least 5 inches or longer. Online sellers are getting by with sending a single one or two inch long stem, but our club meetings are not the Internet. For vegetative credit for a floating plant like Duckweed, Azolla, Salvinia, Frogbit, Red Root Floater, etc. or for any of the mosses, you need to turn in at least a cup of plants, not two or three thimbles full.

**Finally, I appreciate that you are bringing your forms to me, but I also need to see the plant before you put it on the auction table.** We've recently had some misidentified plants and I can't catch that if I can't see the plant. Unfortunately, I get stuck at another table and can't always get to the auction table to see the plants before they are auctioned. Please bring the plant to me with the form before putting it on the auction table.



Thanks for your cooperation!

Keep 'em green!

Mike

Member	Genus & Species	Common Name	Type	Points
<b>Chuck Bremer</b>	<b>1700 points</b>			
	<i>Anubias heterophylla</i>	Large Leaf Anubias	IB	20
	<i>Canna flaccida</i>	Golden Canna	V	10*
	<i>Canna glauca</i>	Yellow Canna	V	10
	<i>Canna indica</i>	Red Flash Canna	V	10
	<i>Canna flaccida</i>	Golden Canna	OB	10
	<i>Crinum americanum</i>	Bog Lily	OB	20
	<i>Crinum americanum</i>	Bog Lily	V	20
	<i>Eleocharis dulcis</i>	Chinese Water Chestnut	V	10*
	<i>Hygrophila difformis</i>	Water Wisteria	OB	5
	<i>Lobelia chinensis</i>	Chinese Creeping Lobelia	OB	10
	<i>Pontederia crassipes</i>	Dwarf Water Hyacinth	V	5
	<i>Pontederia crassipes</i>	Water Hyacinth	OB	5
<b>Gary Lange</b>	<b>2005 points</b>			
	<i>Nymphaea sp.</i> William McLane	William McLane Water Lily	OB	10*

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



## July & August, 2022 (Cont.)

Member	Genus & Species	Common Name	Type	Points
<b>Holly Paoni &amp; Kevin Wise</b>	<b>2360 points</b>			
	<i>Echinodorus cordifolius</i>	Radican Sword	OB	15
	<i>Lindernia rotundifolia</i>	Watermelon Plant	V	15
	<i>Lindernia sp. India</i>	Indian Lindernia	V	15
	<i>Marsilea hirsuta</i>	Hairy Four Leaf Clover	V	15
	<i>Mayacca sellowiana</i>	Starburst	V	20
	<i>Rotala rotundifolia</i>	H'Ra Vietnam	V	15
	<i>Sagittaria graminea</i>	Narrow Leaf Arrowhead	OB	5
	<i>Typha angustifolia</i>	Graceful Cattail	V	5
<b>Justin Warnock</b>	<b>775 points</b>			
	<i>Anubias barteri nana</i>	Dwarf Anubias	V	15
	<i>Anubias barteri nana "Petite"</i>	Petite Anubias	V	15
	<i>Bacopa sp. Colorata</i>		V	10
	<i>Cryptocoryne wendtii Tropica</i>		V	15
	<i>Didiplis diandra</i>	Caterpillar Plant	IB	20
	<i>Fissidens fontanus</i>	Phoenix Moss	V	20
	<i>Hygrophila corymbosa Kompacta</i>	Kompact Hygro	V	5
	<i>Limnophila rugosa</i>		V	10
	<i>Ludwigia arcuata</i>	Needle Leaf Ludwigia	V	10
	<i>Piptospatha ridleyi</i>		V	20
	<i>Rotala rotundifolia colorata</i>		V	15
	<i>Rotala sp. nanjenshan</i>		V	15
	<i>Taxiphyllum alternans Taiwan</i>	Mini Taiwan Moss	V	5
<b>Mitch Wendel</b>	<b>25 points</b>			
	<i>Ceratophyllum demersum</i>	Hornwort	V	5
	<i>Egeria densa</i>	Anacharis	V	5
	<i>Lemna minor</i>	Dwarf Duckweed	V	5
	<i>Pistia stratiotes</i>	Water Lettuce	V	5
<b>Steve Coxon</b>	<b>365 points</b>			
	<i>Anubias barteri nana</i>	Dwarf Anubias	V	15
	<i>Anubias barteri nana "Petite"</i>	Petite Anubias	V	15
	<i>Cryptocoryne wendtii</i>		V	15
	<i>Echinodorus cordifolius</i>		OB	15
	<i>Hydrocotyle vulgaris</i>	European Pennywort	V	10
	<i>Hydrocotyle vulgaris</i>	European Pennywort	OB	10
	<i>Hygrophila pinnatifida</i>	Feather Leaf Hygro	V	20
	<i>Lomariopsis lineata</i>	Susswassertang	V	5
	<i>Microsorium pteropus Windelov</i>	Lace Java Fern	V	10
	<i>Microsorium pteropus needle leaf</i>	Needle Leaf Java Fern	V	10
	<i>Nymphaea stellata</i>	Dwarf Aquarium Lily	V	20
	<i>Nymphoides hydrophylla Taiwan</i>	Taiwan Lily	V	20
	<i>Riccia fluitans</i>	Crystalwort	V	10

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





# HAP Blooms

Blooms often provide the definitive species ID

July & August, 2022



HAP Report has Contributor IDs



*Didiplis diandra*



*Echinodorus cordifolius*



*Sagittaria graminea*



*Anubias heterophylla*



*Hydrocotyle vulgaris*



*Lobelia chinensis*



*Canna flaccida*







*Nymphaea sp.*  
William McLane



*Pontederia crassipes*



*Crinum americanum*



*Hygrophila difformis*



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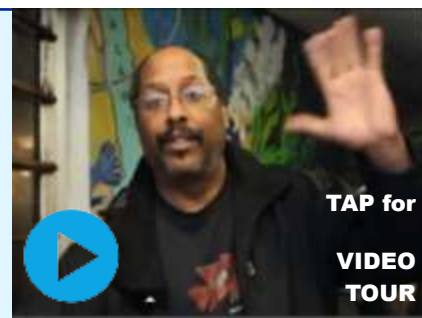
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# 2022 SCHEDULE & CLUB HOPPING

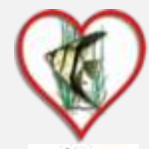
Steve Edie



9/25/2022	MASI	Fall SWAP - St Louis, MO
9/25/2022	QCFS	Quad Cities Fish Swap - Davenport, IA
9/30/2022	AGA	9/30-10/2 AGA Natl Convention - Chicago, IL
10/7/2022	AACC	10/7-9 AACC Catfish Convention Herndon, VA
10/8/2022	AQUA	10/8-9 Aquashella, Chicago, IL
10/8/2022	HAAS	Fall Auction - Kansas City, MO
10/30/2022	GCCA	Tropical Fish Swap - Hoffman Estates, IL
11/6/2022	MASI	Fall Auction - St Louis, MO
11/6/2022	QCFS	Quad Cities Fish Swap - Davenport, IA
11/18/2022	OCA	11/18-20, OCA Extravaganza 2022 - St Louis, MO
12/4/2022	GCCA	Tropical Fish Swap - Hoffman Estates, IL

Shaded Lines are Local Events

Nearby Clubs linked to their logo



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Other links on MASI's

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## Date Group 2023 MASI Events

2/11/2023	MASI	Winter Auction - St Louis, MO
4/29/2022	MASI	Spring Auction - St Louis, MO
11/4/2022	MASI	Fall Auction - St Louis, MO

Check details at these links:

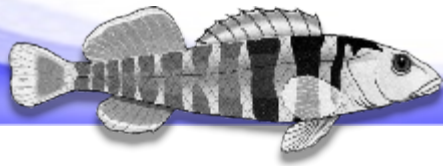


Double-Check dates, times and locations before driving long distances!!



PLEASE CONFIRM





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	Flubendazole, 10% powder 25 grams	\$25.00
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	Methylene Blue 5% solution (4 ounces)	\$12.75
	Acriflavine Concentrate (4%) solution, 2 ounces	\$12.70
	pH test kit. pH meter in a bottle, 4 ounce test solution	\$7.00
<b>Mike Hellweg</b> <b>MiniFins</b> <a href="mailto:Mike@Minifins.com">Mike@Minifins.com</a>	<b>General Aquarium Support:</b> 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
<b>Gary Lange</b> <a href="mailto:GwLange@sbcglobal.net">GwLange@sbcglobal.net</a>	Miracle Tubifex Worm Feeder	\$7 or 3/\$18
	Blackworm Feeder	\$6 or 3/\$15
	Brine Shrimp Strainer	\$5
	Get One of Each above	\$15
	Freeze Dried Brine Shrimp	\$2



Contact	Wanted
<b>Mike Hellweg</b> <a href="mailto:Mike@Minifins.com">Mike@Minifins.com</a> Or see me at a meeting or call: (636) 240-2443	<b>I'm looking for one Scattergood Filtering</b> hang on tank filter, made in Missouri from the 1940s to the 1960s.

# WHAT'CHA GOT?

Additional Items Changing Constantly on [BAND.us/@MASIswap!](https://band.us/@MASIswap)

👉 **MASI BAND Swap page** - <https://band.us/@masiswap> - This is now a CLOSED Group specifically for discussion and posting about upcoming MASI SWAPS and other sales efforts among members or others with approval on BAND. Post any sales, re-homes or other livestock exchanges on BAND. **Do NOT post these to Facebook, they will be removed!** **Those wishing to join** will need to register with BAND, and then ask the moderator to join the group. It's not hard, it's just a name, email or phone #, a confirmation text or email. Then request to join, answer all 3 simple questions that are set up and once the Moderator approves, you are in.





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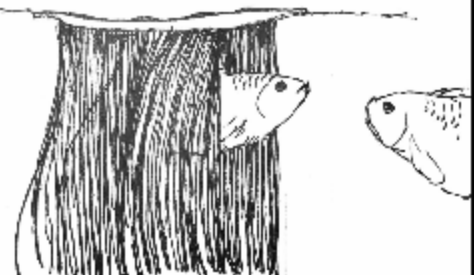
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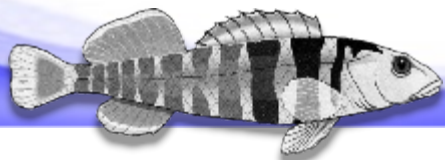
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