

The

DARTER

MAR/APR 2014



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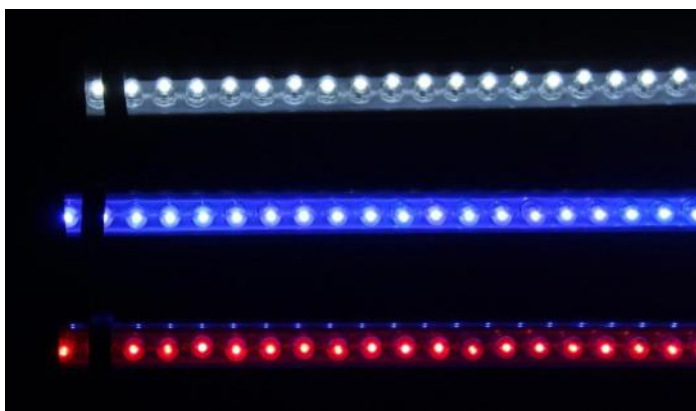


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Membership

Annual membership in the Missouri Aquarium Society, Inc. is \$15 and includes an electronic subscription to *The Darter*. A printed subscription is available with membership for \$20. *The Darter* is published six times per year. You can join or renew your membership at any meeting, most club events, or by contacting Ron Huck, membership chair, at 314-481-2915.



APRIL 17—KAREN RANDALL! "KERALA, EXPLORING GOD'S OWN COUNTRY"



MASI meets on the third Thursday of each month at 7:30 PM.



This talk will deal with Karen's adventures collecting plants in India with Christel Kasselmann. For those of you that have heard Karen before you know you are in for a real treat and I don't need to say anything more. For those who haven't heard her before, get it marked on your calendar now, take a vacation day, whatever, just make sure you're there.

On Friday, April 18, Karen will speak on "Having Fun with Nanotanks". This will be given at Jost Chemical, off Hwy 170 and St. Charles Rock Road at

8150 Lackland Rd. St. Louis, MO 63114.

Contact me for details.

Gary Lange

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About the Speaker

Karen Randall grew up with aquariums as a child. While experienced in many facets of the aquarium hobby, as an adult her focus turned to a concentration in planted display aquariums and the study and propagation of aquatic plants. Her articles and photography have been published in six languages in 9 countries. For many years she authored the monthly column, "Sunken Gardens" in Aquarium Fish Magazine. She is an international speaker on aquarium subjects.

Karen is past president of the Boston Aquarium Society, and serves

on the board of the Aquatic Gardeners Association. She was editor of the AGA magazine, The Aquatic Gardener for 5 years and is now technical editor of the magazine. She has served as a judge for both the AGA Aquascaping Contest and the Aqua Design Amano International Aquatic Plants Layout Contest since their inception. In 2010 she had the pleasure to serve as a speaker and jury member for the prestigious live international contest, "The Art of the Planted Aquarium" held in Hannover, Germany. She has also served as a consultant on several major projects at public aquaria.

MAY 15TH MEETING JUAN MIGUEL ARTIGAS AZAS

Juan Miguel Artigas Azas will speak on "Into the Heart of the Rio Negro and the Amazon Jungle".

A lifetime dream for many of us aquarists is to visit the Amazon basin and the Rio Negro, a river without comparison, home of one of the most diverse and beautiful fish fauna in the world; like the Angelfish, the cardinal tetra, the discus fish, the South American Arowana, the Oscars, the pink freshwater dolphins and a huge number of other fish species. Nowadays, the dream is attainable

and the beauty of the Rio Negro is yet mostly unaffected by human activities. Its sheer beauty and power are there to be enjoyed and never forgotten. Certainly, living this dream is not a disappointing experience. In this talk I present my experiences in the Rio Negro, showing the landscape, the fauna, the flora, both above and underwater. I can bet the attender will consider visiting this wonderful corner of earth and make it her dream .



This meeting will be at the hotel!



CLUB HOPPING By Steve Edie

More events will be added as clubs firm up their schedules. Check with the individual clubs for more details.

Mar 27-30	Hartford, CT	Northeast Council of Aquarium Societies	Annual Convention	northeastcouncil.org
Apr. 4-6	St. Louis	Missouri Aquarium Society	Spring Show, Workshop, Auction	www.missouriaquariumsociety.com
Apr 26-27	St Louis	Gateway Guppy Associates	IFGA Show	www.gatewayguppyassociates.com
Apr 27	Chicago	Greater Chicago Cichlid Association	Swap Meet	www.gcca.net
May 15-18	St Louis	American Livebearer Association	Annual Show	http://livebearers.org
May 23-25	Chicago	Greater Chicago Cichlid Association	Cichlid Classic	www.gcca.net
May 23-25	Syracuse, NY	American Killifish Association	Annual Convention	http://aka.org
Jun 5-8	Crossnore, NC	North American Native Fishes Assn	Annual Convention	www.nanfa.org
Jul 10-13	Louisville	American Cichlid Association	Annual Convention	www.cichlid.org
Jul 19	Urbana, IL	Champaign Area Fish Exchange	Auction	www.champaignfish.com
Aug 10	St Louis	Missouri Aquarium Society	Summer Auction	www.missouriaquariumsociety.com
Oct 4	St Louis	Missouri Aquarium Society	Swap Meet	www.missouriaquariumsociety.com
Oct 16-19	Herndon, VA	All Aquarium Catfish Convention	Annual Convention	http://catfishcon.com/
Oct 24-26	San Antonio	Federation of Texas Aquarium Societies	Annual Convention	www.texascichlid.org
Nov 7-9	Chicago	Aquatic Experience	Industry Show	http://aquaticexperience.org
Nov 9	St Louis	Missouri Aquarium Society	Fall Auction	www.missouriaquariumsociety.com
Nov 21-23	Cleveland	Ohio Cichlid Association	Extravaganza	www.ohiocichlid.com

FROM THE PRESIDENT

Pat Tosie



WOW, we are having an awesome year with lots more to come! 2014 has started strong and will be a banner year for us. Our NEW EDITOR has given The DARTER a facelift and it looks fantastic. If you are not getting the electronic DARTER, you are missing out on all the color, plus you have a couple week delay in receiving it. Membership is strong, we have a wonderful speaker line-up which helps the attendance at our monthly meetings (I believe we had 65 and 80 at our last 2 meetings). Our February auction was record setting in money and attendance which enabled us to enlarge our room for our next one!

Our Spring Fling Fishy Thing is fast approaching on April 4-6 with an auction on April 6. You will be sure to want to make our speaker lineup:

- Liz Marchio "Forest Fishes of the Peruvian Amazon"
- Dr. Paul Loiselle "Cichlid

Power in Small Packages"

- Gary Lange "KISS Methods For Growing & Keeping Aquatic Plants For Your Tropical Fish"
- Rachel O'Leary "Nano Aquaria: the Ins, Outs and In Betweens"
- Our Awards Banquet will feature Dr. Paul Loiselle speaking on "Aquarists and Conservation" See our website for times.

We are hosting the American Livebearer Convention May 15 – 18 and our speaker lineup will be as follows:

- Dr. John Lyons: speaking on GWG "The North American Goodeid Working Group (NAGWG): purpose, origins, organization, and future plans".
- Dr. Godfrey Bourne will talk about "What Poecilia parae and P. picta are teaching us about color, sex and

personality."

- Rick Borstein talks on Livebearer Reproduction Strategies (Beginners Talk) and Automating Water Changes in your Fish Room.
- Charles Clapsaddle's talk is titled Hatchery Operations/ Breeding Techniques and he will also be giving the banquet talk.
- Mike Hellweg will present "Livebearing in Miniature".
- Gary Langes' talk "Digital Fish Photography – How to Photograph Your Fish For Fun and Profit" will help you take better photos.
- Jennifer Reynolds will teach us "Freshwater Stingrays in the Wild and in the Aquarium".

And as an added bonus, Juan Miguel Artigas Azas: will be at the MASI Monthly meeting giving a talk on Thursday night (Our monthly meeting will be at the

hotel) and he will also be giving a talk at the convention on Characodons.

MASI's Member of the Year elections will be held during the March meeting and we have 3 very worthy candidates: Cory Koch, Holly Panoi, and Derek Walker. They all have done a tremendous amount of work and all three deserve your vote.

March will also start Gary Lange's search for worthy candidates to run for President, Vice-President, Secretary, Treasurer, and Council members. We would love to have multiple people running for all these positions, so get active in the club and talk to Gary to get your name on for the June ballot voting.

Keep looking below water....

FROM THE EDITOR

Mark England



Thanks to everyone who took the time to comment on the last issue of The Darter. I received lots of positive notes and also some suggestions I will take to heart.

Also, special thanks to Ed Millinger who writes "From The Fish Room" every month, plus a feature article last month and this month,

a points update.

This month we've got a great article from Tony McMillan on Egyptian Mouth Brooders, a piece on banned fish species from Mike Hellweg, and two articles reprinted from our exchanges with other clubs. Thanks to our writers!

We've also got a great cover photo from Pat Tosie and more great photos from the authors of the articles.

The newsletter is a reflection of the club and your contributions are what makes it work.

I hope you enjoy this issue.

From The Fish Room by Ed Millinger

What are the five worst smells you could ever experience coming from your fish room? Be thinking about it, I will have my list at the end of this article.

Well, we had another great Christmas party this year. Many thanks to Amber and Cory Koch for all their hard work, we even had new members, Pam and Robby Simmons jump right in and help, now that's the way to get involved. Not only did we have delicious food to eat we also contributed a great deal of food to the church and their food pantry. It is a fine way to support the church and thank them for allowing us to meet every month in their facility.

As points tabulator I can tell you we had another year of terrific contributions from our membership. This year we had six members who earned over one hundred points in the participation and service category! The points member of the year for bowl show and participation and service will be awarded at the annual show.

Our website, www.missouriaquariumsociety.com has a link titled "Who We Are", click on that and under MASI Club Operation Policy just

past number 9 you will see "download" in blue. Click on that and the official MASI Handbook will appear. Here you will find a wealth of information about how the club operates and how you can become involved through our various programs.

The Anabantoid Association of Great Britain's publication "Labyrinth" in their December 2013 issue highlights a new snakehead *Channa andrao*, which along with *Channa orientalis* are the smallest snakeheads. The blue fins really set this fish apart, it is a great looking fish. It is a shame that they have garnered such a bad reputation. Snakeheads have been illegal in the United States since 2004, the larger snakeheads can reek havoc on local fish populations if released into native waters.

This issue's MASI way back machine takes us to the Nov./Dec. 2002 Darter. Our president was Jack Berhorst, Gary Lange-vice president, Jim Brodack-treasurer, and Klaus Bertich was our secretary. The executive council included Steve Edie, Angela and Mike Hellweg, Randy Ison, Charles and Mary Ann Leneau, Pat Tosie and John Van Asch. A number of first time spawns were

recorded in this issue, Pat Tosie had *Goodea atripinnis*, *Herichthys tamasopoensis*, and *Xiphophus mayae*. Steve Edie- *Cyphotilapia frontosa*, Gary Lange- *Melanotaenia catherinae*, and Mike Hellweg -*Betta unimaculata*. There were a number of fantastic articles including two from Mike Hellweg, one on *Betta enisae* and the other on linear piston pumps. Andrew White wrote about his experiences with spawning the L066 pleco and Mike Misuraco wrote about *Discus fry*. Pat Tosie was the editor, John Van Asch auction chair, Jim Miller postman, web mistress Michele Berhorst, and Dwayne and Phylliss Cotton ran the monthly bowl show.

When I have a new food to feed my fish I like to try it out on the day of or the day before I will be doing water changes. Just in case they reject it and I don't see the uneaten food that needs to be removed.

Thanks to Gary Lange for bringing in our January speaker Barbie Fiorentino, I have to say that not only did we have the largest attendance ever (72) but it was the quietest and best behaved audience ever. If you weren't a big pleco fan before the meeting,



chances are good that you are now.

Another 72 was a record, the number of sellers who signed up for the February auction. It turned out to be our largest auction ever! What was impressive is that we took it all in stride and it actually ended sooner than other smaller auctions. We have been blessed with some terrific leadership as auction chairs, many long term. Ralph Wilhelm, John Van Asch and now Mike Hellweg have set and maintained a high standard of efficiency.

My five worst smells in the fish room are

1. Fire
2. A bad micro worm culture
3. Black worms that have gone bad
4. A dead fish
5. An over ripe wingless fruit fly culture.

What would your list include?

Electronic Distribution Now Available In Full Color

For those who prefer, the Darter is now available electronically, instead of the paper distribution. To change from paper to electronic distribution, email me at editor@missouriaquariumsociety.com. You will get your Darter sooner and the club will save printing and postage. And, as in 2013, you will save \$5 on your membership.

Spring Fling Fishy Thing!

IT'S SHOWTIME!

The St. Louis Airport Crowne Plaza hotel will be the site of our yearly show.

There will be 11 classes in the show plus additional classes sponsored and judged by the Gateway Guppy Associates & StL Betta Society. Surely each of you can find something to enter and don't forget, the first entry is free!!

There will also be a vendor room, tank raffle and a coloring contest for the kids!

Our spring auction will on Sunday! So mark your calendars and make plans on attending all 3 days! More info can be found on the MASI website and Facebook page!

April 4 - 6

BANQUET KEYNOTE SPEAKER

- Dr. Loiselle will also be the keynote speaker at our annual awards banquet Saturday night. His talk is titled "Aquarists and Conservation".

FEATURED SPEAKERS

- Rachel O'Leary "Nano Aquaria: the Ins, Outs and In Betweens",
- Gary Lange "KISS Methods For Growing & Keeping Aquatic Plants For Your Tropical Fish"
- Liz Marchio "Forest Fishes of the Peruvian Amazon"
- Dr. Paul Loiselle "Cichlid Power in Small Packages".

SHOW CLASSES

1. Aquascaping
2. Livebearers
3. Characins
4. Cyprinids
5. Anabantoids
6. New World Cichlids
7. Old World Cichlids
8. Catfish
9. All other fish/critters
10. Original Art/Photography (fish related)
11. White Elephant (fish related)

AWARDS

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Go to the ALA Webpage
<http://livebearers.org/>



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and
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The Official Magazine of the 2014 ALA SHOW

BREEDING PSEUDOCRENILABRUS “MULTICOLOR VICTORIAE”

By Tony McMillan

“The male Egyptian Mouth Brooder has a brightly colored golden body with an occasional tint of blue”



Tony McMillan photo

For most (but not all) aquarium hobbyists there is a basic progression when breeding tropical fish that follows a certain upward trajectory. We usually start with a domestic livebearer of some sort such as Guppies and Platies. Then our next step is usually an easy egg layer such as the Zebra Danio or Convict Cichlid. As we go further up the ladder we cross other thresholds and reach new milestones by breeding Wild Livebearers, Anabantoids, and more complex Cichlids. I reached one such milestone when I bred the mouth brooding Cichlid *Pseudocrenilabrus multicolor victoriae*, commonly known as the southern Egyptian Mouth Brooder.

The genus *Pseucrenilabrus*, like many other genera of fish, has had its share of confusing nomenclature. Since the late 19th and early 20th century *Pseudocrenilabrus multicolor* has been

known by the synonyms of *Chromis*, *Haplochromis*, *Hemihaplochromis*, and *Paratilapia multicolor*. I originally purchased the cichlids under the name *Pseudocrenilabrus philanderer*. However, according to the source material used in the Breeder's Award Program (BAP) they were placed as *multicolor victoriae*. And to be perfectly honest, in all the hours of literary and internet research I've done I cannot spot a significant difference between the two species. It's also possible, as happens with many species, some post import crossbreeding may have occurred somewhere along the line. So for the sake of argument, *multicolor victoriae* stands.

Commonly known as the Southern Egyptian Mouth Brooder, *multicolor victoriae* does not inhabit Egypt proper although it does inhabit the

marshes, lakes, and streams of the Nile river and its headwaters down to Lake Victoria. The distribution of the genus continues south along the east coast of Africa to the Republic of South Africa. As a genus itself, *Pseudocrenilabrus* extends west into Central Sub-Saharan Africa, but is replaced on the west coast by the genera *Steatocranus* and *Pelvicachromis*, among others.

The male Egyptian Mouth Brooder has a brightly colored golden body with an occasional tint of blue if viewed in the right lighting. The lips are bright blue, while the dorsal and caudal fins are tinged in red. The anal fin is tinted with blue with a bright orange tip. The female of the species, while being less flamboyantly colored than the male, are still very attractive in their own right.

BREEDING PSEUDOCRENILABRUS “MULTICOLOR VICTORIAE” (CONTINUED)



*“they are maternal
mouth brooders”*

Other unique facts about the Egyptian Mouth Brooder is that they are maternal mouth brooders. This means the female broods the fertilized eggs in the buccal cavity in her mouth. The male also likes to have a harem of females. If there are not more females in the tank he may stress the brooding female.

I purchased a trio of the Pseudocrenilabrus at Tropical World Pets, one brightly colored displaying male and two females. Or so I thought. After a couple days in their new 29 gallon home, I noticed one of the duller females had

the orange tipped anal fin of the male of the species. This orange tip serves as an egg spot. This male had adopted the duller coloration of the female as an act of submission to the dominant male.

I hadn't given much thought to breeding the species so I didn't worry about it too much. Meanwhile the dominant male went about his business taking gravel in his mouth and spitting it out as so many male cichlids are wont to do. I failed to notice he had picked out a special place in the corner of the aquarium behind the heater.

While casually walking past the aquarium one evening, I noticed the dominant male and the female in the corner behind the heater swimming in a frenzied circle. They were spawning! I hurriedly grabbed a camera and tried filming while observing at the same time. The female would lay an egg, the male would go over it and she,

aiming at his anal fin, would then take the fertilized egg in her mouth. Unfortunately my Synodontis pleuropis also took notice and started to interrupt the spawning. And so they stopped spawning almost as soon as they began (the choppy three minute video is uploaded on my Facebook page).

Since I had only one female instead of two, I removed the brooding female and placed her in a 10 gallon tank. Her buccal cavity was indeed distended, but to make sure I offered her a single bloodworm, which she refused to eat. She became noticeably thinner as she forsook her own nourishment for the sake of her young within her buccal cavity. The young, meanwhile, were gaining nourishment from their own yolk sack.

After 12 days the female released her young for their inaugural foray into the outside world. She never let them stray very far those first few days and was quick to gobble them up into her buccal cavity if she felt it was unsafe. She started to take the occasional bloodworm at this time. I also learned I had eight to ten young. I have read they may have up to one hundred young. I may have had better luck if it wasn't for the coitus interruptus of my Synodontis catfish.

It was at this time I wanted to try a trick I had heard about for helping overprotective females to expel their young from their buccal cavity. It was designed I believe for Rift Lake



BREEDING PSEUDOCRENILABRUS “MULTICOLOR VICTORIAE” (CONTINUED)



species that will sometimes hold to the point of starvation or to free up the buccal cavity so the female can ward off overaggressive males while she is in a much healthier state. Thus the hobbyist would raise the young sans oviophile mother. I also heard of this trick being used to expel young from the pouch if the brooding parent happened to be carrying both their young and the young of the parasitic Tanganyikan *Synodontis* catfishes, thus preventing the baby catfish from eating the baby cichlids while in the buccal cavity.

And the trick is this: take a large turkey baster, and remove the bulb off the end. Then take the mouth brooding cichlid and place it head first into the tube of the Turkey baster. Keep the tube of the

baster submerged to stress the parent and fry as little as possible. Replace the bulb back on the end of the baster and gently squeeze the bulb. The rush of the water going over the parents gills will flush the young from the parents mouth and out the tip of the Turkey baster.

After about nine days the female stopped taking the young into her buccal cavity for protection. I then put her back in the 29 gallon with her mate and the submissive male. The young I raised on Microworms and baby Brine Shrimp.

Unfortunately I lost the parents some months later during one of my many hospital stays. I gave some of the young to my niece who kept them alive for some time. As the female *Pseudocrenilabrus* was an excel-



lent mother and maternal mouth brooder, the turkey baster trick wasn't really necessary, I just needed to prepare myself for my next threshold species in the Breeder Awards Program, hopefully a Tanganyikan holding *multipunctatus* fry.

Figures 1 & 2: *Pseudocrenilabrus* pair with male on the right

Figure 3: Brooding Female with distended jaw refusing Bloodworm

Figures 4: Female and fry being flushed from turkey baster

Figure 5: Female with fry.

Sources:

www.Fishbase.org

Mike Hellweg: The Southern Egyptian Mouth brooder

www.fishchannel.com

A JEWEL IN THE BARB FAMILY

By Wayne Toven



“The natural habitat ... is slow moving waters of streams in the hilly forests of southern Sri Lanka”

Reprinted with permission from the Jan Feb 2014 Tank Topics of the Greater Akron Aquarium Society

I forget where I first acquired my black ruby barbs, (referred to as brbs from now on) *Puntius nigrofasciatus*, or at least that is what they were called when I bought them probably at a fish club auction in 2009. As is the norm now, the names they be a changin’, they used to be *Barbus*, then *Puntius*, which is currently the genus for all Asian barbs according to Wikipedia, but they have now been changed to the genus *Pethia*, so a revision is very possible in the near future. After all of that, they are a tropical fish that belongs in the minnow family Cyprinidae.

The natural habitat of brb’s is slow moving waters of streams in the hilly forests of southern Sri Lanka, at elevations of about 1000 feet. These streams

are in the Kelani and Niwala basins, which are tropical but in the shaded streams the water is cooler, temperatures range from 68 – 79 degrees F. The water is slightly acid-ic at a PH of 6 – 6.5 and has a hardness of 5 – 12 dGH. Substrates vary from sand to fine gravel, with dense vegetation. Brbs are benthic or bottom feeders, so in the wild their main menu consists of organic material found in the detritus and filamentaceous algae.

Wild populations have diminished greatly due to habitat deforestation and collecting for the aquarium trade. The brb was placed on the IUCN red list of threatened species as vulnerable in 1986, but was downgraded to conservation dependent in 1996. What that

means is that the export of wild caught specimens from Sri Lanka is prohibited, so all brbs sold in the aquarium trade are being commercially bred. This commercial breeding has resulted in a variety of new color and fin varieties, and they are also being used to create hybrid forms of tiger barbs—just what we don’t need—more hybrid designer fish in the hobby. We need to keep the species true to its nature.

Their shape is similar to other banded barbs, a pointed head and a high back with a deep body. Brbs grow to a maximum size of almost 3 inches; males can get a little larger than the females but slimmer. Young brbs have a yellowish gray coloration with three wide black vertical stripes; the

A JEWEL IN THE BARB FAMILY



Wayne Toven photo

adult male's body color varies from a silvery to bluish black with a reddish head, females display a duller coloration, both have the three wide black vertical stripes. The whole dorsal fin of the male will be a dark black, the anal fin is a reddish-black to black, and the ventral or pelvic fins are a dark reddish color, while on the female's fins

only the base is black. The color of the fish can vary due to mood, or stress caused by poor water quality. When a sexually mature male is in breeding color the head can be an intense crimson, and the body an iridescent reddish-black, definitely a very striking fish no need to change it through hybridization.

Brbs although they are omnivorous, when kept in the aquarium it is important that a good quantity of vegetable matter be included in their diet, I feed mine a variety of small floating and sinking pellet, a flake mix with extra veggies, and occasionally frozen bloodworms.

Most barbs are a schooling fish, they should be kept in groups of at least six or more, they spend most of their time in the middle of the water column, so an adequate swimming area should be provided. I currently house my group of 2 males and 4 females in a 100 gallon aquarium decorated with rocks, driftwood, live plants, and a sand substrate. Filtration is taken care of by a matten sponge filter that covers the whole end of the tank and is 4 inch thick poret foam, with two air driven pvc lift tubes that provide plenty of water movement. Their tank mates consist of 2 dennisoni barbs, Mesonoe-mechelilus triangularis Batik loaches from Sally Boggs when she was a speaker many years ago at one of our club meetings, a few Australian rainbows, and Staeocranus tinanti. The S. tinanti spawned in the tank which I discovered by accident when I almost killed them, but that is the topic of a future article.

The brbs did not successfully spawn in the aquarium, I would see a male colored up and a female plump and full of eggs from time to time, but never saw any fry, probably due to the open buffet for the tank mates when they laid eggs.

Brbs can be spawned in groups or pairs, being notorious egg eaters they need to be set up for spawning so they can not get to the eggs. I decided since they weren't successful indoors they would go outside into one of my 110 gallon tubs for the summer and see how they do there, the tubs have a lot of hornwort, water lilies, and other marginal plants. They are unfiltered, the plants do most of the filtration taking in the fish waste products as fertilizer, and they do a good job. Brbs can lay more than 100 eggs in a spawn in shallow water, the eggs will hatch in 1 – 2 days and the fry will be free swimming in about 24 hours after hatching. I figured wit hall the hornwort some fry should survive the adults. Well a few did, I netted out 14 fry late in the summer, so I could turn in the six for our Breeder Award Program, and the rest went to an auction. The adults came back inside and are still in the 100 gallon tank in the fish room, and still look good.

References:

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Wikipedia

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Freshaquarium.about.com

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LIGHTING REVISIONS ARE POSITIVE STEPS

By Gerry Kuhl

“The fish look better and can be easily viewed. The fish are generally more calm and peaceful. The males are much more active.”



Gary Kuhl photo

I maintain between 45 & 50 tanks with various domestic species, including 6 exclusive guppy tanks. In October we returned from vacation and found two more fluorescent fixtures not working. There were also two overhead compact fluorescent bulbs that had burned out.

At that point I began to investigate the feasibility of conversion to LED lights. Two fluorescent bulbs cost about \$40, and need to be replaced every one or two years. The starters and switches are not reliable. A new LED unit, depending on size, costs \$60 and runs for 20,000 to 50,000 hours. The LED unit reduces the energy consumption from about 18 KWH to about 8 KWH. A KWH in our area costs about 11 cents. I was delighted when

I received my first electricity bill. Some electricity vendors will rebate a dollar amount per fixtures, just for making the conversion to LED lighting.

I purchased 8 new LED fixtures in various lengths. Each fixture is rated at 6500 Kelvin, on a 10 hour per day timer, and I have every tank lighted. I have nothing but good things to say about my changes in lighting.

- a. The fish look better and can be easily viewed. The fish are generally more calm and peaceful. The males are much more active.
- b. Livebearers graze during the day. They pick at the food, and there is less food wasted. I can feed a bit on the heavy side and know they will eat steadily

between feedings. Guppy fry really enjoy eating in a less competitive environment.

- c. Due to the 6500 Kelvin plants grow readily, and provide cover for the babies. I have been able to take shop plants that have been discarded and rejuvenate them into healthy plants. Hornwort, anacharis, anubias, purple canubis, hairgrass, and java moss grow readily. Any species in a pot can be easily moved to the side for water changes. The plants provide a source of microscopic food for the fry, which always seem to pick at the leaves and stems.
- d. The fixtures are of mini-

Reprinted with permission from the January 2014 Fin Flap of the Eastern Iowa Aquarium Association

LIGHTING REVISIONS ARE POSITIVE STEPS



“If I remember”

Although this has been a great forward step for me, there are a few minor drawbacks. The high initial cost will be offset by lower energy costs. There is the possibility of algae blooms, which means the daily usage has to be reduced, Newly introduced fish may be “skittish” because they are not accustomed to the lighting, which sets right on the edge of the tank, and the sudden turn on of the lights (newer timers include a gradual on and off function, similar to a rheostat. Mollies love anacharis, and will easily decimate the tender new leaves!!

mal height (3/4 inch) which means they fit into tight spaces.

e. The Fluval brand of lights can be changed to either blue or white. The Cur-

rent brand of lights are available with a remote control, 6 preset colors, 16 dynamic effects including clouds and lightning storms. And they come with a memory function,

which allows the user to create and save his/her own colors.

f. Timers mean regular daily light and the lighting is not dependent on the user’s

Photos by Gary Kuhl



MEMBER OF THE YEAR NOMINATIONS

HOLLY PAONI-WISE

Holly has been a dedicated hobbyist for many years. In 2013 both Holly and her partner Kevin became very active members – to everyone’s advantage! Holly took on the role of publicizing MASI events on the many forums where she is active. As a result, each of the past year’s auctions has grown by leaps and bounds by all measurable parameters – attendees, sellers, average prices, and money raised for the club. Club membership is up, along with participation in the MASI social media. I had the pleasure of visiting

Holly and Kevin’s fish room. Though crowded with hundreds of aquaria which require seemingly never-ending upkeep, you’d be hard pressed to find healthier, more cared for creatures. Holly’s vast knowledge is freely passed on to fellow aquarists regardless of their experience level. Thus, through Holly’s tireless publicity efforts, willingness to share her knowledge of the all things aquatic, and eagerness to welcome to the club any member regardless of their time in the hobby, Holly is growing and enriching MASI as a whole.

Debbie Sultan

DEREK WALKER

I would like to nominate Derek Walker for member of the year. Derek has been a very active member in the club for a long time. He is always willing to lend a hand when the club needs one. When the club needed a new swap chairman, Derek was there to say he would do it. Under Derek’s leadership and guidance the swap has evolved into a huge success for the club. If this wasn’t enough, he decided to chair the ALA convention. We all know this is not a easy task to take on but I know he will do a great job and make us all proud that he is a member of

MASI. What my favorite thing about Derek is that he is always giving fish and plants to people and the only thing he says is "you don't have to worry about paying me, just give me something I have not done before when you get it". This unselfishness is exactly what this hobby is all about.

Harold Walker

CORY KOCH

Cory was Member of the Year last year and although nominated again, has declined

Ed.

BANNED SPECIES LIST UPDATES FOR 2014



By Make Hellweg

“NEVER release any fish, plant or invert into the wild.”

For several years now, hobbyists in Missouri have been aware that there are a few species of fish, inverts and plants that are not allowed to be kept in our tanks or ponds. There are only a few species on the list, and following the MO Wildlife Code is not onerous. In accordance with the law, MASI seeks to educate folks to avoid these few species. We do not allow these species in our shows, at our meetings, or in our auctions. You cannot submit them for BAP or HAP credit. Submission points for those who submitted them before bans went into place are grandfathered in. The laws are not there to take some of the pleasure of keeping fish and/or aquatic plants away from us, but rather to prevent those few species from becoming invasive aliens in the State, causing injury to or loss of native species, or, in the case of some mollusks, that might be harmful to the agricul-

ture industry upon which we all depend for food.

As a side note, even if the majority of the species we keep are not threats to native wildlife, it is very important that hobbyists NEVER release any fish, plant or invert into the wild. We should all act conscientiously (or if you don’t want to be altruistic, then think selfishly to the same end) to protect not only our hobby, but also our environment and the species that are native to Missouri. As we see on our annual collecting trips, Missouri is blessed with many beautiful species of fish – many rivaling marine fish in their gaudy coloration, and many others that are amazing and unique in their own right. Any good hobbyist should never want to do anything to bring harm to them.

There are no new additions to the Missouri list for 2014, but recently, the State of Illinois updated their wildlife laws and several of the same species as

Missouri have been added. In addition, they have added several species of plants that are on the federal list of noxious weeds to their State banned list. This is primarily to protect the Great Lakes watershed and its vast economic engine. While none of the animals are available in the hobby, hobbyists should take note of the plants as several are popular pond plants in the trade and may show up at club meetings or auctions. Instead of these invasive species, there are many excellent native species and non-invasive exotic species that will work very well in your aquarium or pond.

We’ll try to keep these lists up to date on the MASI website. The current Missouri list can be found under the Auction tab on our webpage.

Remember, it’s YOUR responsibility to follow the law. We’ll do what we can to inform everyone.

BANNED SPECIES LIST UPDATES FOR 2014

Fish, Mollusks and Crustaceans

- Snakeheads (including, but not limited to, all fishes of the genera *Channa* and *Parachanna*, and others of the family Channidae)
- Fish or viable eggs of the walking catfish, Clariidae family
- Mollusks, veligers or viable eggs of zebra mussels, genus *Dreissena*
- Crustaceans or viable eggs of mitten crabs, genus *Eriocheir*
- River ruffe (*Gymnocephalus cernuus*)
- Silver carp (*Hypophthalmichthys molitrix*)
- Bighead carp (*Hypophthalmichthys nobilis*)
- Black carp (*Mylopharyngodon piceus*)
- Gobies (round, tubenose) (*Neogobius melanostomus*, *Proterorhinus marmoratus*)
- Rusty crayfish (*Orconectes rusticus*). Possession of living rusty crayfish is prohibited for all except the holders of an approved aquaculture permit with a letter of authorization to import/possess this species.
- Rudd (*Scardinius erythrophthalmus*)



- Mosquito fern (*Azolla pinnata*)
- Flowering rush (*Butomus umbellatus*)
- Caulerpa or Mediterranean killer algae (*Caulerpa taxifolia*)
- Brazilian elodea, Brazilian waterweed, *Anacharis* or *Egeria* (*Egeria densa*)
- Anchored water hyacinth (*Eichhornia azurea*)
- Hydrilla or water thyme (*Hydrilla verticillata*)
- European frogbit or common frogbit (*Hydrocharis morsus-ranae*)
- Miramar weed, Indiana swampweed or hygro (*Hygrophilia polysperma*)
- Chinese waterspinach or swamp morning-glory (*Ipomoea aquatica*)
- Yellow flag iris or tall yellow iris (*Iris pseudacorus*)
- Oxygen weed or African elodea (*Lagarosiphon major*)
- Asian marshweed or ambulia (*Limnophila sessiliflora*)
- Monochoria, arrowleaf, or false pickerelweed (*Monochoria hastata*)
- Heartshape or false pickerelweed (*Monochoria vaginalis*)
- Parrot feather or parrot feather watermilfoil (*Myriophyllum aquaticum*)

Plants

- Eurasian watermilfoil (*Myriophyllum spicatum*)
- Yellow floating heart (*Nymphoides peltata*)
- Brittle naiad or brittle water nymph (*Najas minor*)
- Duck lettuce (*Ottelia alismoides*)
- Curlyleaf pondweed (*Potamogeton crispus*)
- Arrowhead (*Sagittaria sagittifolia*)
- Giant salvinia (*Salvinia auriculata*)
- Giant salvinia (*Salvinia biloba*)
- Giant salvinia (*Salvinia herzogii*)
- Giant salvinia (*Salvinia molesta*)
- Exotic bur-reed (*Sparganium erectum*)
- Water chestnut (*Trapa natans*)

FISHES AS DISHES

PATRICK A. TOSIE, SR.

Tilapia Masala

Ingredients:

1 cup basmati rice, rinsed
 1 tablespoon fresh lime juice, plus lime wedges for serving
 Kosher salt
 ½ cup frozen peas
 ¾ cup plain yogurt
 1 small clove garlic, chopped
 1 - 1 inch piece ginger, peeled and chopped
 ¼ teaspoon ground cumin
 ¼ teaspoon cayenne pepper
 4 - 6 ounce tilapia fillets
 2 tablespoons unsalted butter, melted
 1 tablespoon chopped fresh cilantro or mint



Directions:

Bring the rice, 1 1/3 cups water and 1/4 teaspoon salt to a simmer in a saucepan over medium-high heat. Reduce the heat to low, cover and cook 15 minutes. Remove from the heat and add the peas; cover and set aside.

Puree 1/2 cup yogurt, the garlic, ginger, lime juice, cumin, cayenne and 3/4 teaspoon salt in a food processor. Transfer all but 3 tablespoons of the mixture to a large bowl. Pierce the fish a few times with a fork and season with salt; add to the bowl and toss. Marinate 15 minutes.

Preheat the broiler. Place the fish on a broiler pan; top with the marinade and butter. Broil until opaque, 6 to 8 minutes. Mix the remaining 1/4 cup yogurt, the cilantro, and salt to taste with the yogurt mixture. Serve the fish and rice with the yogurt sauce and lime wedges.

Total Time: 40 minutes (Preparation: 15 minutes, Cook: 25 minutes) Yields 4 servings

AUCTION UPDATE

By Mike Hellweg

Boy, the Holiday Season flew by! First was Thanksgiving/Hanukah. Before you knew it, Christmas and New Years were over and then everything ground to a halt under the grip of the Polar Vortex. The 2014 Annual Winter Auction is almost upon us. The last several auctions at our new venue have been excellent for both the buyers and for the sellers. For this next auction, if you are a new seller, please see our Vice President Gary Lange's excellent article on packing items to make them look good to prospective buyers that is posted on our Forum in the auction section. But please remember that auctions are not all about selling stuff.

Auctions are a social event. Come and spend a little time with your fellow members and have some fun. Grab a lunch with a few MASI folks at TGI Fridays in the hotel. Don't forget to bid! We have plenty of sellers bringing plenty of fantastic items. What we always need most are BUYERS! Even if you only have one tank, there are lots of great items at the auctions – magazines, foods, plants, books, equipment, and more! And of course, there is the raffle – a chance to win a new tank!

We can always use helping hands – from check in at 9:00 to the final sweep of the room at the end to make sure nothing's been left behind and all the time in-between.

Don't forget we take all major credit/debit cards via Square.

And for now, 'nuff said—Mike (auction@missouriaquariumsociety.com)

Points Update by Ed Millinger

This is an update on points earned, both show and service. Service points appear first and show second. Refer to my article in this issue (From The Fish Room) that will explain where to find info on earning points. You must have earned at least two points to appear on this list. Some have been left off because I cannot read their writing on the sign in sheet. Please print when signing in at the meetings.

Thanks, Ed Millinger



Larry Allbright	22	Ron Huck	20	Randy Shell	10
Dave Bell	16	Jerry Jost	2	Pam Simmons	2
Klaus Bertich	2	Carl Kling	2	Robbie Simmons	17
John Block	2	Amber Koch	6	Larry Siegel	12
Connie Bremer	15	Cory Koch	23	Susan Siegel	2
Scott Bush	16	Gary Lange	9	Mike Slater	17
Bob Buckles	2	Andre Lewis	2	Rose Sonderman	6
Tom Corradini	17	Pat Lewis	2	Mike Steffans	2
Kathy Deutsch	18	Dan Ludden	2	Randy Steele	15
Steve Deutsch	19	Bruce Mayhew	2	Debbie Sultan	26
Steve Edie	26	Leroy McCreary	11	Mark Theby	19
Mark England	18	Tony McMillian	3	Pat Tosie	35 Show 7
Marlon Felman	23	Wayne Miller	3	Dennis Tullman	2
Josh Guthridge	2	Jim Miller	2 Show 38	Jim Ulett	2
Charles Harrison	15	Ed Millinger	32	John Van Asch	21
Sue Harrison	11	Mike Misuraca	2	Derek Walker	9
Jack Heller	16	Chris Mohrle	2	Holly Wise	24
Mike Hellweg	37	Jim Mueller	3	Kevin Wise	12
Angela Hellweg	3	Dwayne Peters	17	Norb Wright	2
Mike Henthorn	2	Todd Powers	2	Kurt Zahringer	5
John Higgins	2	Dave Rush	7		
John Hittler	10	Nick Scarlatis	17		

Jan/Feb HAP Report by Mike Hellweg

Ed Millinger	320 points						
	Microsorium	sp.	narrow leaf	Narrow Leaf Java fern	V	10	
Evan Wright	205 points						
	Bolbitis	heudelotii		African Water Fern	V	10	
	Ceratophyllum	demersum		Hornwort	V	5	
	Cyperus	helperi			V	10	
	Glossastigma	elatinoides			V	15	
	Najas	guadalupensis		Southern Niyad Grass	V	5	
	Rotala	indica			V	15	
Holly Paoni Wise Kevin Wise	210 points						
	Cryptocoryne	walkeri	lutea		V	15	
	Lomariopsis	lineata		Susswassertang	V	5	
	Riccia	fluitans		Crystalwort	V	10	
	Rotala	indica			V	15	
	Rotala	rotundifolia			V	15	
	Sagittaria	subulata	pusilla	Dwarf Sag	V	5	
	Vallisneria	rubra		Red Val	V	5	MASI First!
Janina Mera	45 points						
	Bacopa	monnieri		Baby's Tears	V	10	
	Hygrophila	corymbosa			V	5	
	Rotala	rotundifolia			V	15	
	Echinodorus	amazonicus		Amazon Sword	V	15	
John D Bloch	60 points						
	Rotala	sp.	macrandra		V	15	
	Staurogyne	repens			V	20	
Mike Hellweg	3350 Points						
	Fissidens	fontanus			V	20	
	Rotala	mexicana	Bangladesh		V	15	MASI First!
Nick Scarlatis	120 points						
	Anubias	barteri			V	15	
	Hygrophila	difformis		Water Wisteria	V	5	
Pat Tosie	345 points						
	Bolbitis	heudelotii		African Water Fern	V	10	
	Cladophora	aegagropila		Moss Ball	V	5	

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

January Breeders Award Program by Steve Edie

Member	Species	Common	Pts	Total
Mike Hellweg	Aphyosemion gabunense gabunense		15	5759
	Betta burdigala @	Dwarf Betta	40	5799
	Characodon sp. "Guadalupe Aguilera" #		0	5799
	Zoogoneticus tequila #@	Red Crescent Goodeid	15	5814
Jerry Jost	Nomorhamphus towoetii	Black Halfbeak	10	2022
Cory Koch	Astatoreochromis alluaudi **		20	3072
	Benitochromis nigrodorsalis "Moliwe" #@		15	3087
	Characodon sp. "Puente Pino Suarez" *		20	3107
	Tropheus moorii "Ilanga, Kasaba Bay" *@		35	3142
Bruce Mayhew	Haplochromis sp. "Blue Fire Fin"		10	325
	Tramitichromis intermedius		15	340
Wayne Miller	Astatotilapia latifasciatus *@	Zebra Obliquidens	25	25
	Cyrtocara moorii	Blue Dolphin	10	35
	Hemichromis bimaculatus	Red Jewel	5	40
	Labidochromis caeruleus	Yellow Lab	10	50
	Metriaclima zebra	OB Zebra	10	60
	Pseudotropheus sp. "Acei"		10	70
Ed Millinger	Geophagus brachybranchus *	Black Throat Geo	20	755
Holly Paoni & Kevin Wise	Corydoras aeneus ^	Green Cory	2	131
	Girardinus microdactylus		5	136
	Girardinus microdactylus rivasi		5	141
	Poecilia reticulata ^	Japan Lyretail Coral Red Guppy	1	142
	Xiphophorus sp. "Domestic Platy" ^	Hi-Fin Bleeding Heart Platy	1	143
Nick Scarlatis	Astatotilapia latifasciatus *@	Zebra Obliquidens	25	575
	Pelvicachromis pulcher	Kribensis	5	580
	Tramitichromis intermedius		15	595
Derek Walker	Cryptoheros nanoluteus @		20	3060
Andy White	Pseudacanthius sp. "L-065" **	Blizzard Cactus Cat	30	100
	Hypancistrus sp. "L-174" *		20	120
	Sturisoma aureum	Royal Farlowella	20	140

* = First MASI species spawn (5 point bonus)

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

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

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

= Species previously submitted = 0 points, except for C.A.R.E.S. = base point bonus

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

Sources:

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

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

February Breeders Award Program by Steve Edie

Member	Species	Common	Pts	Total
Mike Hellweg	Microdevario gatesi **	Gate's Mini Devario	20	5834
Cory Koch	Ameba Splendens #@		15	3157
	Astatotilapia aeneocolor #@		10	3167
	Otopharynx lithobates "Zimbabwe Rock" *		15	3182
	Poecilia reticulata "Rio Abre" *	Tanaka Blonde Rio Abre Guppy	10	3192
Debbie Sultan &	Aulonocranus dewindti		15	155
Tom Coradini	Copadichromis azureus		10	165
	Xystichromis sp. "Kyoga Flameback" *@		25	190
Rick Tinklenberg	Benitochromis nigrodorsalis #@		15	2470
	Chapalichthys encaustus #@	Barred Goodeid	15	2485
	Corydoras weitzmani		10	2495
	Pelvicachromis signatus "Kolente" *		20	2515
	Xiphophorus milleri "Catemaco, Mexico" *@	Catemaco Platy	25	2540
Pat Tosie	Paralabidochromis sp. "Fire Red Uganda"		10	4330
	Melanochromis chipokae @		20	4350
John Van Asch	Tilapia bythobates @		30	285
Evan Wright	Girardinus falcatus	Yellow Belly Top Minnow	5	90
	Tilapia bythobates @		30	120
Kurt Zahringer	Betta patoti *	Tiger Betta	20	530

* = First MASI species spawn (5 point bonus)

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

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

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

= Species previously submitted = 0 points, except for C.A.R.E.S. = base point bonus

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

Sources:

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

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

Classifieds

Buy/Sell	Member	Item	Bid/Asked	Contact
Sell	Jim Miller	Bloodworms and brine shrimp. Brine Shrimp eggs 16 oz. can.		314-638-1134
Sell	Charles Harrison	Thiosulfate crystals (Chlorine Remover) - half pound	\$3.00	
		OTO double strength Chlorine/Chloroamine test kits - 4 ounce	\$12.50	(314) 894-9761
		Flubendazole, 10% powder 25 grams	\$20.00	charles@inkmkr.com
		Lavamisole HCl Powder - 5 grams treats 100 gallons	\$10.00	
		Methylene Blue 5% solution (4 ounces)	\$12.75	
		Acriflavine Concentrate (4%) solution, 2 ounces	\$12.70	
Buy	Mike	Small Styro shipping boxes - 12 x 12 x 12 or a little bit smaller. If your company uses them and throws them away, save them! Bring to the meeting or I'll come pick them up	Free	636-240-2443

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

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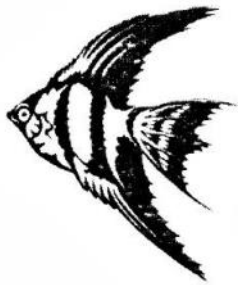
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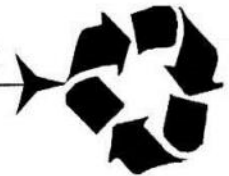
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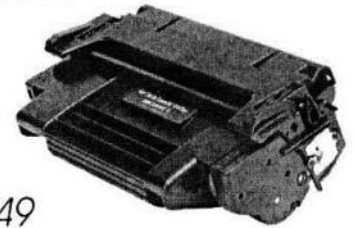


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April 4- 6

AWARDS

Each class 1st, 2nd, 3rd.

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BANQUET KEYNOTE SPEAKER

- Dr. Loiselle will also be the keynote speaker at our annual awards banquet Saturday night. His talk is titled "Aquarists and Conservation".

FEATURED SPEAKERS

- Rachel O'Leary "Nano Aquaria: the Ins, Outs and In Betweens",
- Gary Lange "KISS Methods For Growing & Keeping Aquatic Plants For Your Tropical Fish"
- Liz Marchio "Forest Fishes of the Peruvian Amazon"
- Dr. Paul Loiselle "Cichlid Power in Small Packages".