



Fish Tales

Volume 6 Issue 3

*Surviving the Dreaded
Power Outage*

Going Wild with Bettas

DIY Pleco Caves

FOTAS 2016 Recap!

*A Visit to the Michigan
Cichlid Association*



Bettas in the Classroom

*Characodon, a Goodeid
that always surprises!*

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On the Cover:

Aulonocara walteri

Photo by Jim Valenzuela

Design and Layout

Gerald Griffin



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FOTAS Fish Tales Editor:

Gerald Griffin herpchat@yahoo.com

Fish Tales Submission Guidelines

Articles:

Please submit all articles in electronic form. We can accept most popular software formats and fonts. Email to herpchat@yahoo.com. Photos and graphics are encouraged with your articles! Please remember to include the photo/graphic credits. Graphics and photo files may be submitted in any format, however uncompressed TIFF, JPEG or vector format is preferred, at the highest resolution/file size possible. If you need help with graphics files or your file is too large to email, please contact me for alternative submission info.

Art Submission:

Graphics and photo files may be submitted in any format. However, uncompressed TIFF, JPEG or vector formats are preferred. Please submit the highest resolution possible.

Next deadline.....

January 15th 2017

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Federation of Texas Aquarium Societies President's Message

Another FOTAS convention has come and gone. I hope that everyone that attended the 64th annual convention of our society had as much fun as I did. The Hill Country Cichlid Club did a fantastic job of putting on an enjoyable show for all. The live fish show was a lot of fun with two great cichlid keepers, Luis Gilberto Monsivais and Bebo Elnene Archi taking home a lot of gold and prize money. The photo contest was well received with over 100 entries! Of course it couldn't be a convention hosted by the HCCC unless there was shenanigans and mayhem. This, of course, was better known as the Funny Money Game Show and Auction. The hippie theme made the craziness even crazier! It was fantastic to see some people that made a long trip to attend including Denny and Gail Rogers representing the Northwest Arkansas Aquarium Society. Congratulations to Jim Valenzuela who was awarded the Marvin England Award (this year presented to the attendee driving the longest distance to attend FOTAS in a pick up) and Marc Schnell who was awarded the Dr. Keith Arnold Award.

At the annual FOTAS board meeting Saturday morning we welcomed a new FOTAS club, the Houston Cichlid Club! They, in conjunction with the Houston Aquarium Society, will be hosting FOTAS 65 in Houston next fall. I would also like to welcome to the executive committee Chris Lewis from the San Antonio Aquatic Plant Club. Chris is the new treasurer

while we would all like to thank out going Treasurer Ralph De Board for his service to our organization.

I would once again like to urge all members to participate in the HAP, BAP and CARES program FOTAS administers. Perhaps the biggest contribution you can make as a FOTAS member is to write for this fine publication! Without an active membership, FOTAS would not be relevant. Last year was fantastic for our society and we can all build on 2017 to make it even better. Have a great holiday and see you in the New Year!

Greg



A Visit to the Michigan

Cichlid Association

**Article and Photos
by Greg Steeves**

I consider myself very fortunate to have the hobby that I do. Not only has the realm of aquatics strengthened my awareness of the natural world around me, but it has led me to establish friendships that shall last my lifetime. Another bi-product of my aquarium hobby (more specifically cichlid keeping) occurred 15 years ago when I assisted in establishing the Hill Country Cichlid Club. The HCCC has really been a game changer in my life. Not only did it allow people that share my hobby, the camaraderie of my club mates has been a great part of my existence. Out of desperation, early on, I was asked to give a presentation to club members on the fish I keep. That started a turn of events which has allowed me to visit many parts of the country, extending the hobby further. Recently I had the honor of speaking on haplochromine cichlid for the Michigan Cichlid Association.

The MCA has been around for a long time. The club is stacked with extraordinarily accomplished cichlid breeders. Although I knew several through reputation and the occasional email or instant message, I hadn't met them until the American Cichlid Associations annual convention this past summer hosted by the

Greater Cincinnati Aquarium Society. It was a pleasure to meet such humble, down to earth aquarists, and I was excited that I had been asked to present at their club later in the year.

I spoke mostly to Blair Henze about my trip. He took care of everything! He told me that he would be picking me up at the airport and would be happy to take me wherever I might want to go. As it worked out, all flights were on time and I made it to Detroit Metro Airport almost on time! Blair met me out front and asked me if there was anything in particular that I wanted to do. Working a very hard week previously, and then getting up at 2:00 AM for an early flight up north, I asked if he would be offended if we grabbed a bite to eat and then let me go back to the hotel for a power snooze before the meeting. He said he understood and off we went to an excellent deli called Wheat & Rye. Here we both had huge sandwiches that were delicious! I highly recommend this place for anyone near DTW airport.

After a power snooze, Blair once again came by to pick me up and take me to the MCA meeting. They have



their meetings in a really cool spot. The building houses a tavern type bar with excellent food (see a pattern here?). There is a large room off to one side with a separate entrance where the meetings are held. As Blair was getting things set up, I introduced and reacquainted myself with several people as they came in. I was happy to see Josh Cunningham again after speaking with him briefly at the ACA convention. Josh and Blair are both salt of the earth type people that I really like. As the room capacity increased, two more people I knew walked through the entrance. I was happy to see fellow canucks Jay Gannon and Mike Newton. They are MCA members and drove from Canada, across the border, to see me.

I did my presentation that was followed by some great discussion and questions (mostly about my pond not my presentation). Everyone settled in for the monthly Breeders Award Points auction. Here, breeders get points for the fish they breed. Part of the awarding of points is that they have to present at least six young to be auctioned off in support of the club. There were some great fish there that I really had to fight hard to lay off of. In particular was a bag of good sized *Pseudocrenilabrus multicolor victoriae*. I had wanted to keep these dwarf African cichlids again for a while. I thought better of it considering that my fishroom is torn apart at the moment while reconstruction ensues.

Despite some intense pressure in the form of taunting from auctioneer Josh Cunningham, I was able to exert extreme control. After the meeting and a large plate full of fish and chips, Josh took me back to my hotel. I had a late afternoon flight out the next day so I asked if I could impose upon him to visiting his fishroom before I left. Josh agreed and off I went to get a good night's sleep.

I got up, went downstairs and had breakfast. Josh picked me up shortly after and off we went see his fishroom. We drove through a very nice suburban neighborhood, turning into the driveway of an attractive two story house. As the garage door opened it revealed a large stack of empty fish crates. I knew we were at the right place!

Almost immediately inside the entrance and around the corner was an aquarium in the range of 60 gallons (just guessing) containing an active group of *Enantiopus* sp. "kilesa", a beautiful sand sifter from Lake Tanganyika. Next were two matching aquariums of the 75 gallon range containing *Tropheus* species. Josh maintains 12 separate species and variants of *Tropheus*. The first tank had a beautiful colony of *Tropheus moorii* "purple Mufubu" and the other was a group of *Tropheus* sp. "black Caramba".

Next was downstairs to his fishroom. On the wall of the stairwell, Josh has his many awards from his fish keeping ventures. As I got to the bottom of the stairs and had my first look around, even in that brief moment I could see why he had so many awards.

Josh's main foray is the cichlids from Lake Tanganyika however he does keep oddball Lake Malawi and Lake Victoria species. His configuration allows for fairly large tanks and multiple racks consisting of smaller tanks that are teeming with fry. It is obvious that his main interests are *Tropheus*, sand sifters and *Cyprichromis*. Many aquariums have two species usually consisting of a *Xenotilapia* and *Cyprichromis*. Some of the larger species such as *Pterochromis*, a larger but peaceful cichlid such as *Limnotilapia dardennii* is used as a dither. I was able to see a couple Lake Victoria cichlids, *Ptyochromis* sp. "salmon" and *Enterochromis paropus*. Several uncommon Lake Malawi species are kept such as *Dimidiochromis kiwinge*. Of the oddballs residing Josh's fishroom is the Lake Tanganyika mud tunneler *Triglachromis otostigma*. I was drawn to the different



Cyprichromis leptesoma katete

species and variants of *Cyprichromis* in his collection. Some I hadn't seen in years such as *Cyprichromis leptesoma* from Kitumba while others, as *Cyprichromis microlepidotus* "Kiriza black", I had never seen in person.

All in all I had a wonderful time. We wrapped things up with a large feeding of Chinese food and then off to the airport. I took a roundabout way home going from Detroit to Charlotte to San Antonio but all the way there, I was preoccupied with thinking back on the great weekend I had just experienced with an excellent visit with the Michigan Cichlid Association, a fantastic

morning with Blair, Seeing Jay and Mike, then topping it off with a visit to an extraordinary fishroom and collection. I hope I get the opportunity to visit the Michigan Cichlid Association again soon!

The Michigan Cichlid Association is hosting ACA 2017. The convention website and facebook page is not live yet but visit <http://michigancichlid.com/> for updated details.



Enterochromis paropus

Placidochromis phenochilus



Neolamprologus obscurus



Limnotilapia dardennii







Tropheus sp black Bulu Point



Xenotilapia papilio mpimbwe

DIY Pleco Caves!

**Article and Photos by
Mike and Lisa Hufsteler**

Lisa enjoys making honey-do lists and rearranging tanks. Mike enjoys tinkering and feeding the fish. Their fish enjoy re-arranging tanks and afternoon snacks. All of them reside in the Texas Hill Country.

Plecos love caves and we love plecos, so we make DiY caves to save money. The material list is short; you'll need some clay pot saucers and a tube of silicone caulk. We recommend buying the bulk wrapped clay saucers from hobby stores instead of the individually marked ones from garden centers. They are cheaper, easier to cut and don't have those annoying bar code stickers. We used the following tools: pencil, circle template, 100 grit wet/dry sand paper, rotary grinder, and a tile saw.

Step 1: Mark opening

Tips

- You can use a piece of paper, a quarter, or anything handy for laying out the opening size. We used a circle template.
- While it's tempting to free hand the opening, remember that lousy haircut from childhood.
- Lots of fish love caves, so you can also make smaller or taller openings.

Step 2: Cut opening

Tips

- Pre-soaking the saucers reduces dust.
- While we use a tile saw, you can also try any diamond cutter blade.

Step 3: Grind

Tips

- You should round over any sharp edges, which could cut your fish.
- We use a diamond coated burr bit in a rotary grinder.

Step 4: Flatten (optional)

Tips

- Saucers can be warped. Flattening improves the glue joint.
- Place a sheet of 100 grit wet/dry sand paper on a flat surface. Rub the saucer to flatten.

Step 5: Chalk

Tips

- Allow the saucers to dry before applying chalk. We wait one day.
- A small bead of chalk works best.
- Avoid the mold resistant silicones



Step 6: Glue

Tip

- The better you align the openings, the less grinding you have to do later.

Step 7: Trim excess chalk

Tip

- Once the chalk dries, trim off any excess.
- Because we placed only a small bead of chalk, there was very little excess to trim off.

Step 8: Final clean up

Tip

- You might need to grind the opening for optimum alignment.
- We rinse off any remaining dust prior to placing in tank.



Zebra Pleco added to CITES List!

**Article by
Clay Trachtman**

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international treaty between governments aimed at protecting species at risk from international trade. The treaty has 3 appendices. Appendix I lists species that are the most endangered. Appendix II lists species that are not necessarily now threatened with extinction but that may become so unless trade is closely controlled. Appendix III is a list of species included at the request of a Party that already regulates trade in the species and that needs the cooperation of other countries to prevent unsustainable or illegal exploitation (<https://cites.org/eng/app/index.php>).

On October 5, 2016, the governments of Columbia and Brazil announced that they were adding several species of aquarium fish to Appendix III of the CITES list effective January 3, 2017. From Columbia, the following fresh water stingrays were added to the Appendix:

- Potamotrygon constellata*
- Potamotrygon magdalenae*
- Potamotrygon motoro*
- Potamotrygon orbignyi*
- Potamotrygon schroederi*
- Potamotrygon scobina*
- Potamotrygon yepzei*
- Paratrygon aiereba*

Brazil was not as specific as they added all freshwater stingrays of the genus *Potamotrygon*. In addition, they also added the Zebra Plecostomus (*Hypancistrus zebra*).

What does this mean to you? Well, if you are a direct importer of fish from outside of the United States, it means that you will have to have the appropriate CITES documentation from the country of origin when the fish enter the United States. However, if you already own these fish or are breeding them, you may ship these fish within the United States without any CITES documentation. If you want to ship the fish outside of the United States, you will need a CITES certificate of origin from the U.S. Fish and Wildlife Service.

For more information, the following links are very useful:

- U.S. Fish and Wildlife Service: Understanding CITES Appendix III (<https://www.fws.gov/international/pdf/factsheet-cites-appendix-iii-2016.pdf>)
- Actual Announcement of the Additions to Appendix III (<https://cites.org/sites/default/files/notif/E-Notif-2016-056.pdf>)

Bettas in the Classroom

Gerald
Griffin



Back in 2012 we attended the IBC Convention in Florida and during the Executive Board Meeting Joe Becerra was talking about how the Betta Hobby was in trouble due to a number of long time hobbyists leaving the hobby and not enough new blood entering the hobby. At that point Kayla and I proposed a new program called Bettas in the Classroom geared to Public School Students. After Convention was over Kayla and I sat down with Dr. Lucas for dinner and he wanted to know more about the program. I was most touched by his reaction as he shed some tears and said this is what needs to happen, getting the youth involved. We loved receiving his blessing for the project. By the time 2013 came around I spent time studying state standards in a number of states and generated my first module. After review the module did not quite meet a number of state standards above third grade. Parts of it were too complicated for low level but not advanced enough for upper elementary.

In 2014 we tried a test roll out in the classroom of one of my friends LeeAnne Jimenez and we had some mixed results. We then discussed how this could be implemented and the decision was to tie it into a STEM – STEAM project. In 2016 over the summer

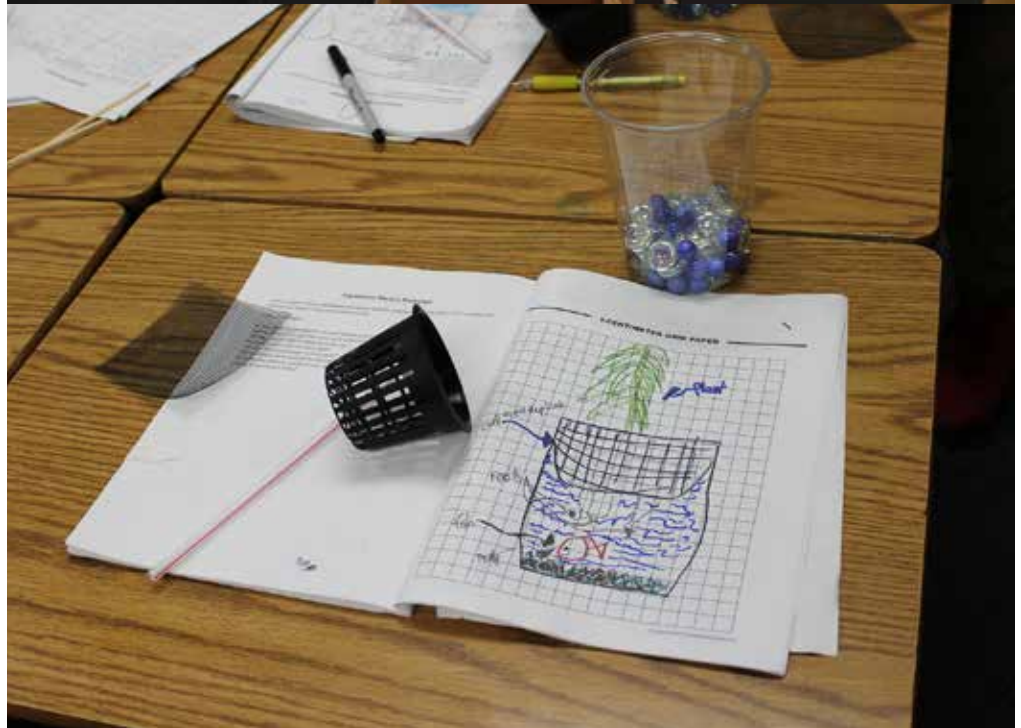
Tulsa Public Schools new STEAM Coordinator Julie Hasford contacted Kayla and I to discuss a new partnership. Julie was looking for a fish that could be used in a hydroponics module that she had developed. Considering the size of the containers we decided that Bettas would be the perfect choice but we had a lot of concerns to go through first.

As a prelude to receiving the Bettas the students attended Camp Loughridge to learn about water quality, the nitrogen cycle, filtration, and designing micro ecosystems. The students also learned about the effects of agricultural pollution on waterways and visited an Aquaponics Farm just west of Tulsa. At the farm they explored the factors that make up an ecosystem with both the biotic and abiotic learning the fragility of systems and viewed how unbalanced systems can be created with excess fertilizers. The students then took this knowledge back into the classroom and designed their own micro ecosystems.

As the planning was taking place it was decided that this project should be rolled out in 7 Elementary Schools in Tulsa Public Schools. The Schools chosen were Carnegie, Celia Clinton, Lanier, Lee, Remington,

The STEM project meets the Next Generation Science Standards as well as the PEAR Dimensions of Success. Because of the magnitude of the Program I needed a lot of help making all of this work on my end. When I brought the idea to Sandy Moore of Segrest Farms she was ecstatic with the idea. As we got closer to actually making this work a policy change stood in our way so we met with Shelby Bush at the Great Aquatic Experience to finalize negotiations on getting the Bettas for the project. The IBC partnered with Scott Tracy of Aquarium Oddballs in Tulsa to bring in the Bettas so that we could distribute them to the classrooms.

Before the students were allowed to take the Bettas home they had to learn how to care for them. All of the teachers involved were given all of the information they needed via pamphlet that is a modified version of the one that California Betta Society uses. I also gave a crash course in Betta Care so the students would have the basic ideas of what was involved in keeping a Betta. Each student was also issued the pamphlet as well as a year's supply of Prime and Betta Pellets. Also enclosed was emergency contact information in case of something goes wrong with the keeping of the Betta. Upon distribution of the Bettas we had a question answer session so that all of the students would know how to properly care for their Bettas. The current plan is that in the Spring Kayla and I would hold





a special Betta show where the students who wanted to participate could bring their Bettas to our “Show” and Kayla and I will judge them and award certificates for the winners who maintained the best Bettas.

This partnership with Tulsa Public Schools, the Tulsa Regional STEM Alliance, Camp Loughridge Outdoor Classroom, the Tulsa Botanic Garden, the Teaching Institute for Excellence in STEM, American Airlines, the Kaiser Family Foundation, the Charles and Lynn Schusterman Family Foundation and the International Betta Congress looks to be very promising. This is the first of a number of articles that will follow as we track the Bettas in the Classroom project. We know that along the way we will have to make changes to our program and there are probably a number of issues that were not addressed yet, however we do believe this is a very good start and if we prove to be successful we will be able to replicate this program in a number of other states and possibly other countries.





FOTAS CARES! Third Quarter Report



FOTAS CARES Report November 2016

As the year trudges on I am still waiting for FOTAS member to register their CARES fish. I know there are a lot of people that keep fish on the CARES Priority list so come on gang, get them registered. It easy to do and has been covered in pervious FOTAS CARES installments. Just send your questions or information to me at fotascare@gmail.com.

There has been a nomenclature revision to the Lake Malawi genus *Pseudotropheus*. This will affect two cares species. The former *Pseudotropheus saulosi* and *Pseudotropheus demasoni* are now *Chindongo saulosi* and *Chindongo demasoni*. This is now updated in the two groups registered, both by Greg Steeves.

Charles Credeur entered his first CARES group with fish formerly registered to Greg Steeves. This is *Neochromis greenwoodi* from Mwanza Bay in Lake Victoria.

Jim Valenzuela continues to have great luck with several of his CARES species, most notably, *Alcolapia alcalicus*. I know he is dedicating a great amount of his hobby time to doing his best to produce and spread these to others. Jim also seeded Greg Steeves with a colony of *Pungu maclareni* bred from his Barombi mbo group. Jim also entered his group of *Chindongo demasoni*.

Greg Steeves entered a new CARES species variant the beautiful *Paralabidochromis chilotes* from Ruti Island Lake Victoria. No fry yet but a females has held!

That's all for this report. Remember, get your CARES fish submitted!

Greg



Chindongo saulosi



Paralabidochromis chilotes Ruti Island



Neochromis greenwoodi
Mwanza

FOTAS 2016 Recap



Article by Kyle Osterholt
Photos by Jim Valenzuela
and Luis Gilberto Monsivais

The FOTAS convention for 2016 was hosted by the Hill Country Cichlid Club on the weekend of October 21-23rd in the city of Schertz, Texas. I was honored that Greg Steeves had asked me to do a presentation for the event on the topic of breeding fish. I went back and forth about exactly what to cover but ultimately decided on a basic introduction to fish breeding combined with some of my experiences and a little about my fish room. I was somewhat nervous about the outcome being this was my first major convention. I had done a few talks for our local club and had been asked to do a talk for the NorthWest Arkansas Aquarium Society a few years ago.

Friday, Monica and I loaded up the car and headed South. I had intended to stop in and see Dave's Rare Aquarium Fish before heading to the convention but traffic had other ideas. We made it to our hotel in time to unload what we didn't need and head over to the Schertz Community Center North for the convention. We arrived to find several people in progress of setting up the fish show. HCCC opted to setup tables and air system for a "Bring your own tank" show which went very well in my opinion. I am not an avid show person but went ahead and brought 2 of my fish for entries, *Paralabidochromis* sp. "Fire" and *Mbipia lutea* 'Makobe island'. There was a good selection of entries from

shrimp on up to large catfish, Frontosa and large New World Cichlids and everything in-between. I didn't get an exact entry count but it was somewhere in the 25-35 range I'm guessing.

At 7pm, we all sat down for our first presentation by Susan Robinson speaking about Angelfish Breeding which I found very informative and from the questions being asked, I believe it sparked a lot of interest among attendants. Following the presentation, several people stayed around to chit-chat and a few others showed up late to enter their show fish before closing up for the night.

Saturday morning, we started off with the FOTAS board meeting at 8:30 where we discussed the current standings of the association, future goals, next year's convention and elected the next year's board. Election results are: President- Greg Steeves, VP- Kyle Osterholt, Treasurer- Chris Lewis and Secretary- Lisa Hufsetler. The 2017 convention will be hosted jointly by the Houston Aquarium Society and new member club Houston Cichlid Club. Delegates attended and club dues were paid by HCCC, HAS, TCA, OKAA, SAAPC and HCC.

The board meeting ran fairly long but we weren't too

worried since I was the first speaker of the day! I started the day off at about 10am with a presentation I titled "Breeding 101". Being a brand new talk I had just finished, I wasn't exactly sure how long it would be and it ran a little long but not too many people fell asleep, lol. We broke for lunch and allowed the judges to make their decisions on the show entries.

After lunch, Dave Schumacher gave his presentation on his endeavors in how he came to be in the tropical fish business, his purchase of Armke's and building Dave's Rare Aquarium Fish. I found this very interesting and will likely employ some of the ideas from building his shop if I am ever able to build a true fish room like I want.

About 3pm, Dr. Michael Kidd gave a presentation on building his facility at the Texas A&M International University in Laredo, Texas and some of the studies they have been working on with genetics of Cichlids. A LOT of this was over my head but still tremendously fascinating some of the things they have discovered and I look forward to seeing what comes in the future!

After the last speaker, we were asked to tear down our fish show tanks. A handful of people began removing their fish, tanks and draining water and we had the entire show tore down and dispersed in record time. It's always great when people pitch in to help!

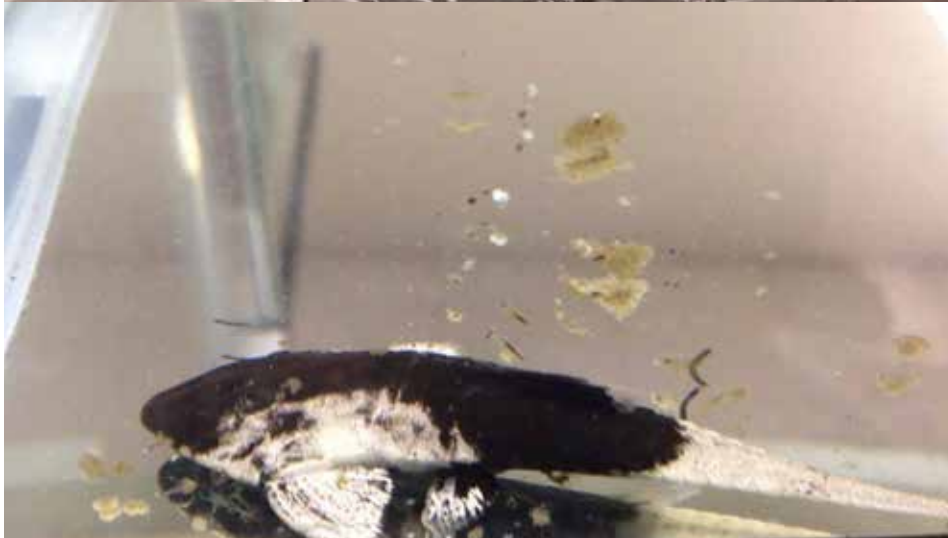
At 7pm, we reconvened for the awards banquet, special auctions,



trivia contest and “funny money auction” that has become a tradition at FOTAS conventions. We were also urged to dress as “Hip-pies” which we got a lot of interesting looks traveling from the hotel to the community center, lol. HCCC supplied pizza and salads for food and grossly overestimated how many we needed and had tons of food leftover. The Awards were given for the show as well as several special awards. A special auction was held for the Braz Walker fund and the Keith Arnold fund. Everyone was supplied with an envelope of “funny money” and then a trivia contest was held where everyone was able to win additional money to be used in the upcoming auction. The “funny money auction” was held to auction off donated items by numerous vendors such as Zoo Med, Corallife, Current, Cichlid Press, Amazonas, TFH, Dave’s Rare Aquarium Fish, Charles Jones and likely a few others I am forgetting. Hundreds of dollars worth of items and fish were auctioned off and you could only use the fake money. It is hilarious how difficult it is for people to get used to bidding with the fake money!

Sunday was the large auction held at the Schertz Community Center Central and doors opened at 9am. I had re-bagged most of my fish before and after the awards banquet. We arrived at the center to find HCCC running full speed already. A great group that has enough people to delegate different tasks and things move very smoothly. A group of us had ordered T-shirts ahead of time that stated “FOTAS” “I’m downsizing” with a picture of Jim Valenzuela and then snuck out to change





shirts and trickled back into the crowd. It took a few minutes for Jim to notice and he was definitely tickled. For those who don't know, Jim is always saying he is downsizing and selling lots of things but always seems to buy as much as he's selling, lol. He was honored we thought of him and we even had a shirt made for him. The auction commenced after our fun and it looked like it was going to be a doozy. The auction started at 11am and didn't look like it was going to be finished until late evening. Fortunately the auctioneers began speeding things up and we ended up getting finished much earlier than I thought.

Huge thanks to the HCCC, all the people who helped in any capacity, the vendors who donated items, people who entered the show, speakers, attendees and anyone who sold or purchased anything in the auction. This is always a great convention and as soon as it's over, I count the days till the next year!

See everyone in Houston 2017!!!



An Introduction to Apistos

Apistogramma borellii Male

Article by David Soares
Photos by Dr. Uwe Römer

When I first started keeping 'Apistos' (South American dwarf cichlids of the genus *Apistogramma*) I didn't know anything about them. When I managed to get a hold of some, I would throw them in a tank with some water and wait around for something to happen. Needless to say, nothing ever did. I went through a lot of fish in those days. I wasn't killing them in great numbers, but I was not producing any either. I had a great pair of *Apistogramma nijsseni* that would spawn on a regular basis, once every 10 days or so and I never saw any free-swimming fry throughout the whole time I had them.

As a result of this I decided that I needed to know a little bit more about these fish. So I started bugging people on the telephone, and reading everything I could about the fish and the water conditions they live in. At the very beginning I learned some things that enabled me to keep them longer and to spawn them. I also found that some of what I learned was adequate, but not good enough.

Tanks- there is a lot of material in aquarium literature about tank size and how it relates to the fish. In most of the literature you will find that large tanks are recommended for large fish and small tanks for smaller fish. I remember one line that stated that *Apistogramma* are

perfect apartment dwellers because you can keep them in small tanks. Well, this is true, to a certain extent. You can keep them in small tanks, and they will live and breed in there. What you won't see, however, is *Apistogramma* as they really are in nature.

Uwe Römer has found, in studying *Apistogramma* populations in the wild, that these little fish sometimes live in a fairly crowded environment. Perhaps as many as a thousand fish in an area of nine square meters, with leaf litter up to one meter thick on the bottom. You cannot duplicate these conditions in a small aquarium, but you can in a large one. I keep my fish in tanks from 30 gallons to 150 gallons. Large tanks provide many advantages. They are easier to maintain, it is easier to maintain the proper pH and hardness, it is easier to control the effects of ammonia and nitrites, and you will see the fish act in a way that more closely resembles their behaviour in the wild. I have as many as 135 *Apistogramma juruensis* living in a 20-gallon aquarium. At present, I have around 700 *Apistogramma cacatuoides* in a 150-gallon tank.

Of course, to have this many fish in a tank it must have the correct environment. I achieve this in one of two ways. My aquariums have either lots of wood, rocks, and plants, or wood rocks and leaf-litter.

Follow the usual precautions with the wood and rocks - make sure they are clean (sterile is best). With the rocks, don't use any types that will alter the chemistry of the water (i.e. limestone). The plants I use are pygmy chain swords and Indian fern, but any plant that you do well with is fine. For spawning caves, I use the little 1 1/2"-2" plastic planting pots that are available at most nurseries. They are cheaper than other kinds, and you can get some that are green, which kind of blends in with the environ-

ment. As often as not, though, the fish will spawn on a rock or a log. Put the caves in though, the fish still like them.

The most important component of an *Apistogramma* tank is the water. There are three things about the water that have to be right: hardness, pH, and cleanliness. I am fortunate when it comes to the water I get from the tap. It is snowmelt, right off the Cascade mountain range in Oregon. It is almost, but not quite good enough to keep *Apistogramma* in without any conditioning at all (100 ppm hardness and a pH of 6.5). Because in some cases it is not quite good enough I still run it through an R.O. (reverse osmosis) filter. Ion exchange is OK, but I don't like recharging them or having to get new resins when they're used up. Besides, with my tap water, I have yet to wear out the membrane in my R.O. filter!

Although I know some very competent *Apistogramma* keepers who use straight R.O. water for their fish, I mix mine with tap water to get a hardness of 10ppm. The next thing I do is treat the water with Sodium Bisulphate to bring the pH of my water down to 4.5. I also use peat in my filters, and leaves (either oak or beech) to bring the pH down. However, I have found that these two natural methods won't get the pH as low as I like it, so I supplement with the chemical alteration. I like to end up with a pH of 5.0 to 5.5 for most of my fish. The fish in the *Apistogramma pertensis* / *Apistogramma iniridae*-complex seem to like it lower, around 4.5 pH.

Water cleanliness means three things: filtration, water changes and feeding. I have used a





Apistogramma bitaeniata Male

few different kinds of filters, all biological. The one I have finally settled on is one that I build into the tanks myself. The sponges that you buy commercially usually don't have enough surface area to keep an Apisto tank clean, or they require too much maintenance if you have a lot of tanks. The filters I use are glass partitions that separate one part of the tank from the rest and turn into a trickle filter. For the medium, I use form and red lava rock, which "grows" in my driveway. I mix peat with the bottom half layer of rock. With water changes done once every week to nine days, with the R.O.

water I have conditioned, the tanks stay nice and clean.

The feeding part of the equation is simple. I feed only baby brine shrimp twice a day, and only as much as they can eat in five minutes or so. I know some *Apistogramma* keepers who practically count the number of shrimp they put in the tank, but it is really very important because uneaten shrimp breaks down quickly and *Apistogramma* are very susceptible to bacterial infections.

Now that you have some idea as to the keeping of Apistos, here are a few questions I get asked a lot - "Which ones?" and "How many?". Some Apistos seem to be a bit more forgiving than others. *Apistogramma cacatuoides*, *Apistogramma steindachneri*, *Apistogramma macmasteri* and *Apistogramma* sp. „Schwarzsäum" could all be considered good fish for starting out. However, if given the right conditions, most *Apistogramma* will take nicely to the aquarium situation.



Apistogramma bitaeniata Female
in breeding dress

Apistogramma are great fish to keep with other fish like smaller Killies, Characines or Catfish. While territorial, they do not go to any extremes in defending their territory. One thing should be kept in mind, however, is that *Apistogramma* are divided into complexes within the genus (read Cichlid Atlas 2 for details!), for example the *Apistogramma regani*-complex, *Apistogramma macmasteri*-complex, *Apistogramma agassizii*-complex etc. These complexes include fish, which are or seem to be closely related. In the *Apistogramma agassizii* complex for example there are

Apistogramma agassizii, *Apistogramma bitaeniata*, *Apistogramma elizabethae*, *Apistogramma geophyra*, *Apistogramma mendezi*, and *Apistogramma paucisquamis*. In the *Apistogramma cacatuoides*-complex, there are *Apistogramma cacatuoides*, *Apistogramma juruensis*, *Apistogramma luelingi* and so on... While most males within the complexes are still comparatively easy to determine, it may give you a big headache to figure out the females. If you mix fish within the same complex in a community tank, you may never get the females sorted again. And under such “forced conditions” - as scientist would call this type of tank setup - you could get some fireworks or some hybridisation (to be avoided at all costs). Other than that, no problem.



Apistogramma alacrina Male

Apistogramma are great little fish to keep and with a little care, and providing them with the right conditions, you can have a lot of fun with them. Give them a try and good luck!!!!!!



Apistogramma alacrina Female in breeding dress



Surviving the Dreaded Power Outage!

**Article and Photos
by Gerald Griffin**

There is no doubt that living in the Midwest particularly Oklahoma that you will be subjected to power outages from time to time. However the last major ice storm could become a more frequent event if what some global climatologists are predicting. During the last ice storm many people lost all of their tank inhabitants and had to start over from scratch. So how do you protect yourself from losing the inhabitants of your tank provided you suffer a power loss for an extended period of time?

The first step is to know what happens to your tank when the power goes out. The most important step is the plumbing because of the potential for structural damage. Most fish tanks are not plumbed so that this is not an issue. However if your tank or tanks are plumbed then you need to see what is going to happen with the water when the power is out. This is easy to simulate since you can just turn off the power and see what happens with the water. If the water does not leak out of the tank and its plumbing then you are in good shape. If it does because of a sump or something similar then it might be a good idea to put a flow regulator on it that only allows water to flow in one direction. These can be obtained at Lowe's or Home Depot for little cost and placed in line with the plumbing.

Short Term Power Outages are those that last for a few hours. These can be caused by localized power outage (caused by the tanks power being interrupted such as

a power bar being accidentally turned off or by tripping a breaker) or general where the power is out in part or all of the community.

Localized power outages caused by the power being accidentally turned off are easy enough to fix, an alarm can be plugged in that sounds when the power is interrupted is the easiest fix. Those caused by breakers can be harder to locate. One issue is stray voltage. Stray voltage can cause electrical equipment to malfunction causing a tripped breaker. If the breaker is tripped one must examine all of the equipment carefully. The main culprits are cracks in the heaters, bad impellers in pumps, or pumps that are seized up. All equipment should be grounded in three prong outlets. For large tanks it would be best to have at least two outlets dedicated to the tank's equipment.

For short term power outages there will not likely be any problems. Most power outages occur during hot or cold weather however the tank should be at a stable temperature and its oxygen levels should be fine during this type of outage. Do not try to regulate the temperature during these events as it could cause more harm than the outage itself.

Long term power outages are system outages that last for several hours or more. Depending on several factors will determine what precautions if any can be taken to help the tank and its inhabitants along during

the crisis.

First let's look at what happens. When the power goes out the circulation in the tank stops. Filter pads go from aerobic activity to anaerobic activity. It would be best to pull these out of the filters and store them in tank water. Do not run the filters in the tank that has had its power off for several hours without cleaning the filter pads. During the anaerobic activity the bacteria produce hydrogen sulfide (rotted egg smell) and methane which are both toxic to fish.

Oxygen depletion is one of the worst things that happen during power outages. Causes include a heavy fish load, temperature increase, planted tanks and increasing fish activity caused by feeding. The type of tank will determine what steps need to be taken to minimize damage.

Tanks with little plants are the easiest to safeguard. For these tanks it would be best to increase the water flow and watch for extremes in temperature. A battery powered air pump with covering the tank should do the best. Most fish can take temperatures from 60 to 90 Fahrenheit without too many problems as long as the change is gradual. The covering of the tank will help regulate temperature some but will also darken the tank which will move the fish to a lower activity level thus conserving oxygen. In tanks with a heavy fish load such as many African Cichlid tanks you should increase the circulation as much as possible or move some fish to tubs of water to decrease the bio-load of the tank.

Planted tanks can cause problems during dark cycles as the plants consume oxygen and give off carbon dioxide which not only cause oxygen distress to fish but it could also change the pH of the water which could lead to shock to the fish. Planted tanks definitely need to have the water circulated so a battery air pump would be a necessity. If the tank has Carbon Dioxide injected into the tank this should be turned off until after the power outage is over. Planted tanks should not be covered so that the plants can receive some light. If there is no light source such as a window near the tank then cover the tank and circulate the water with a battery powered air pump.

Reef Tanks are the worst to deal with during power outages because the fragile nature of its inhabitants.

Additional water circulation is a must and depending on the monetary value of the tank might be a good idea to invest in a generator to keep the tanks equipment running. Priority in equipment should be circulation first followed by heaters if cold and depending on the lights; low power usage lights would also be good.

When the power does come back on prime filter units and get them running without the filter pads for a few minutes and then add the cleaned filter pads. Let the temperature of the tanks reach a safe temperature gradually. The quicker the temperature change the greater the chance of the fish contracting some illness which in this cause would most likely be ich. When the temperature reaches safe range remove any dead fish. Fish that are swimming erratically should be left in the tank and monitored in case they do die. Many distressed fish can recover and live normally.

With a little forethought and a little planning having one's fish tanks during a power outage do not have to be a total loss. Investing in a power generator or battery operated air pumps could save a lot of headaches down the road.



These Battery powered air pumps are a great addition for any emergencies that could happen.

Going Wild with Bettas

By Gerald Griffin

Photo by Manyork Zhou

So many times I get asked what do I need to do to work with wild betta species? This question is commonly asking about care in captivity especially with several new species becoming available in the pet market. Since this question is asked so often an article about general husbandry would be in order. Remember that many species are found in so many different environments from Salt marshes of Mahachai to the Blackwater Peat Swamps of Selangor to the hard alkaline waters of Krabi. So how important is it that I match those conditions for these wild species? Well in a word it's not. The vast majority of species do fine in neutral water that is clean. I am breaking each complex down and going to cover the general conditions for each complex. There may be some

exceptions in each complex but for the most part the general rules will apply. This is not intended to cover all species specifically but offer general patterns of husbandry that should allow one to keep any of the species available now and some that will be available in the future. If you wish further information I would recommend buying The Betta Handbook by Dr. Goldstein, it is well worth money and is filled with lots of invaluable information.

General Information:

With many wild betta species their wild instincts are intact and captivity can be very stressful. To minimize stress tanks should be painted or covered in paper so that they will not see movements outside their tank. In a typical painting scheme

the bottom and one side and the back is typically painted so that the tank have a visible surface on one end and the front. If all of the tanks are painted in the same manor they can be used on racks without the fish being able to see the fish in the other tank which can cause stress. The bottom should be painted or papered also so the fish realize there is a bottom. All wild bettas are jumpers and their tanks must be totally covered to prevent them from jumping out. Do not underestimate their jumping ability, if there is a gap or a crack they can find it. If using outside hang on back filters I recommend using cross stitch plastic mesh siliconed into any gaps the filter creates with the tank hood. Many species do well with heavily planted tanks with flower pot caves and PVC pipe

sections or elbows. Most people report the male swallowing the brood around day three. It has been surmised that that is when the eggs hatch and turn into the wiggling stage and the slightest disturbance startles the male and causes him to swallow. For best results after spawning pull the female and do not disturb the male.

Bubblenesters:

Splendens complex: This is the most common complex kept in captivity. Species include *imbellis*, *smaragdina*, *splendens*, *stiktos*, and *mahachaiensis*. All of these species prefer slightly soft, slightly acidic water with the exception of sp. Mahachai which likes hard alkaline water with some salt added. This complex will do well in almost any water condition. The best set up for these species would be a species tank with numerous hiding places that is well planted. The plants can be real or artificial as the fish do not seem to care. Some specimens can be very shy and some wild caught specimens will be ambush hunters that only feed when they feel secure and will come out of their hiding



Betta patoti (Unimaculata Complex). Photo by Andrew Mills.

places to eat food. The majority of these individuals will need live food until they adjust to captive conditions. As to breeding pairs work best. The pair should be placed in a ten gallon tank with half the water level. A half styrofoam cup should be floated for the male to build a nest under. All species breed in the typical splendens fashion with the exception of *mahachaiensis*. Mahachai females will clamp their pelvic fins to hold the eggs so they don't drop and the male will pick the eggs out of her fins. The other exception is that males will build

a satellite nest and after spawning will transfer the eggs from one nest to the other.

Coccina complex: The red fighter complex has the most varied species in any complex. Three species have been confirmed mouthbrooding while the vast majority are submerged bubblenesters. These species are *brownorum*, *burdigala*, *coccina*, *livida*, *miniopinna*, *persephone*, *rutilans*, *tussya*, sp. Pangkalanbun, and sp. Sukadana. These species typically come from the peat swamps where the pH is from 3.9 to 6.5. Many species are imported with various parasites which are not typical of their wild environments but are from the holding tanks they are placed in. Since many of these species have never encountered these parasites they can be quite deadly to them. All of these species can be kept in neutral water that is slightly soft without any problems and for tank maintenance this is the best way so you can have a biological filter. The vast majority of these species easily adapt to dry prepared foods but some may require a transition from live to frozen to dry food. These



Betta simplex (Picta Complex). Photo by Brian Dickson.



Betta albimarginata (Albimarginata Complex). Photo by Natasha Patten.

species are best maintained in species tanks with numerous hiding places and is heavily planted. In the wild these fish come from sterile environments with little plant material other than a few cryptocornes and overhanging vegetation where they feed primarily on insects that fall into the swamp such as ants and flying insects. Many of these species will spawn in pairs but sometimes need to see a rogue male to get the male into the breeding/territorial mode he needs to be in for spawning. Sometimes a gallon of distilled water with blackwater extract will stimulate the male to spawn. Males will often seek out dark submerged spawning sites such as large leafed cryptocornes. To give the pair spawning sites one inch diameter black PVC pipe cut in 2 inch lengths or black film canisters has been used with great success and males seem to prefer them over large leafed plants. Fry should be started on vinegar eels and switched over to baby brine in a week. Fry are slow growing reaching adult size in a year.

Bellica Complex: Rarely kept in captivity these are the big bubble-

nesters which can get to almost five inches in length but most never get more than four inches. Two species are recognized, *bellica* and *simorum* and their husbandry is identical. Males tend to be larger and have a spike caudal fin, females will have rounded abdomens. Because of their large size the breeding tank should be a twenty gallon or larger. These bubble-nesters make larger bubbles and should have surface plants such as water sprite to support the nests. Water conditions should be soft and pH should be around neutral. To induce spawn



Betta simorum (Bellica Complex). Photo by April Ransom.

ing high temperatures are sometimes required, high 80s to 90 degrees. Do not exceed 90 degrees F for any wild betta.

Mouthbrooders:

Picta Complex: These mouthbrooders are the most common kept in captivity and consist of *picta*, *simplex*, *falx*, *taeniata* and Goldstein places *edithae* in this group. The majority of these species rarely exceed two inches in length, *taeniata* will reach just over three inches and *edithae* can reach four inches. These species are quite adaptable to the aquarium except for *taeniata* which can be problematic. All of these species will eat prepared foods but relish live foods and live and frozen foods help condition them for spawning. The spawning tank should be a ten gallon aquarium around 76 degrees F. The tank should have some caves so that either fish could retreat if needed and plants are also helpful. The courtship can last a few days with the male displaying for the female. When the female is ready she will signal the male by nipping at his caudal fin and the two will em-



A good example of a planted tank set up for wild Betta species. Photo by Jessica Gibson.

brace at the bottom of the tank. Many embraces may take place before eggs are produced. Once the eggs are produced the female will pick up the eggs in her mouth and spit them out and take them up until the male takes them from her. Once the male has all of the eggs from the embrace the pair will embrace again. Spawning can take a day to complete. *Taeniata* can produce 300 eggs in a spawning. Although incubation can be from 9 to 12 days most species incubate for 10 days except for *edithae* which incubates for 7 to 10 days. Females should be removed after spawning as their egg cycle is seven days and a female could reinitiate spawning forcing the male to swallow or prematurely releasing the fry. These species are quite tolerant of pH and hardness but do require clean water conditions. *Taeniata* are prone to sickness when water conditions are not kept clean.

Pugnax Complex: These are also commonly kept in the aquarium and grow quite a bit larger than the *picta* complex with some species reaching 5 inches in length. This

complex includes *pugnax*, *pulchra*, *breviobesus*, *enisae*, *schalleri*, *fusca*, *lehi*, *raja*, *pallida*, *prima*, *stigmosa*, and *cracens*. These species are typically a brown in coloration with green or gold iridescence. Males typically have a spike tail and long anal and pelvic fins. For spawning pairs should be placed in twenty gallon aquariums that are heavily planted with flower pots or PVC sections or elbows for retreat. Typically the male will display for the female like the *picta* complex and the female signals readiness by bit-ing on the males caudal fin. In some species non receptive males will be killed by females and females can be quite territorial chasing off or killing intruders. The species in this complex typically incubate the fry for 14 days but can go as long as 21 days depending on water temperature. Usually a pair will ignore the fry after they emerge if kept in a well planted tank. Fry are large enough to take baby brine shrimp and grow at moderate rate taking about a year to reach full size.

Waseri Complex: These are the

big "yellow" bettas which are quite stocky, some species attain a length of five inches most stay a bit smaller. The species include *waseri*, *tomi*, *spilotogena*, *pi*, *renata*, *hipposideros*, and *chloropharynx*. All of the species are identified by their face markings and by location. Many of these species come from blackwater habitats that are less than 5.5 pH. Most of the species do well in almost any water condition however for spawning soft water is needed and sometimes a lower pH spike from blackwater extract added to a gallon of distilled water will initiate spawning. These species require area more than volume so thirty gallon tanks are best used for these fish. These fish are quite tolerant of each other and seldom have the aggressive displays that so many of the other species have. Spawning produces between 100 to 200 eggs and the released fry are large and take baby brine shrimp immediately.

Akarensis Complex: These are large bettas up to about six inches in length with green or gold iridescence. Species include *akarensis*, *balunga*, *chini*, *aurigans*, *obscura*, *ibanorum*, and *pinguis*. They are identified by the stripes on their faces and by location. These are medium sized bettas between three to five inches in length. Some species come from blackwater environments and others from more neutral waters. Feeding does not pose a problem as they adapt quite readily to prepared foods however to bring any fish into spawning condition live foods are best. The females of the species initiate spawning by nudging the male's caudal fin. Males hold for 12 to 15 days with 14 days being the typical. These species often produce

broods of 100 or more which are able to take baby brine shrimp immediately with the exception of chini which produce 40 to 50. The breeding tank should be soft water and neutral to acidic. Water quality is important for these species so good filtration is very important. Members of this complex have been noted spawning in mid water but typically spawn in caves. As with other species their tanks should be covered or painted and surface plants used to subdue the light coming into the tank.

Unimaculata Complex: Species include *unimaculata*, *patoti*, *pallifina*, *ocellata*, *gladiator*, and *macrostoma*. These are large slender wild bettas not exceeding six inches in length. These slender fish have a very pronounced jumping ability. In the wild these species come from swifter moving waters that vary in pH from alkaline to blackwater environments. These fish are quite adaptable to the aquarium and like the waseri complex can develop a pet like relationship with the owner. This complex appears to be very inquisitive and can be very aggressive. *Betta gladiator* was said to not tolerate any others in its territory hence its species name but those reports were highly exadurated. In this complex the female has definitely been noted as defending the male and the territory during and after the spawning. In captivity these fish are quite adaptable and will tolerate almost any water condition with one exception. *Betta macrostoma* is very sensitive during acclimation. To acclimate macrostoma use the saltwater method of using a baster and placing one ounce of water in it bag every fifteen minutes for about four hours. After that they can be released



Betta hendra (Coccina Complex) tending nest. Photo by Cori McWay.

and will tolerate virtually any water condition. However the water must be well filtered and kept very clean. These fish should be definitely kept in pairs and not in communal settings. These fish also need caves and heavily planted tanks to feel secure. Spawning is in the typical mouthbrooder fashion and the males brood for around 10 days. They are very sensitive when brooding so a totally covered tank is the best option and periodically checking on the male as to not spook him. The fry can reach adulthood in 6 months to a year.

Albimarginata Complex: Currently species include *albimarginata* and *channoides* however there are many populations with distinct differences so they could be classified as separate species before long. As a general rule if you have location data for a species do not mix it with the same species without location unless no choice is available. These fish come from blackwater environments but are not required for captivity. *Albimarginata* can be kept in almost any environment but do best in soft acidic water. *Channoides* require some iron in its water

for its health. Dry foods are not recommended. These species are not gluttonous eaters but are more of a foraging eater. For best health live foods that they can casually feed on is best. Examples would be grindal worms and daphnia. These species are high in demand because of their brilliant coloration which the males tend to keep in the aquarium even when not spawning however during spawning the already bright colors intensify beyond belief. They do best with a lot of aquatic vegetation and flower pots for hiding spaces. The pair will spawn at the bottom of the tank and spawning can take half a day. These species incubate under two weeks. Goldstein recommends moving a male to a livebearer trap at day 7.

Foerschi Complex: These fish come from blackwater environments and can be fragile in captivity. They do best in soft acidic water but will reproduce in non blackwater conditions. Tank size can be from ten gallon to twenty gallon, the larger the tank the better and tanks should be well filtered and these fish prefer leaf litter as or on the

substrate. Species include *foerschi*, *strohi*, *mandor* and *rubra*. All of these species are available in the hobby occasionally. Incubation is around 14 days and broods typically are around 40 which can take baby brine shrimp immediately. Hopefully this is enough information to get one started. Before purchasing any species one should do their homework but with a number of the new species coming in, there is no literature. By following these simple guidelines one should be successful in maintaining any of the species. If there are specific questions you contact me via the SMP website.

Gerald Griffin

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IBC-SMP Website, <http://www.ibcbettas.org/smp/>



Betta smaragdina (Splendens Complex) tending nest. Photo by Natasha Patten.



Betta burdigala (Coccina Complex) posing. Photo by Ronald Marcos.



Betta macrostoma (Unimaculata Complex), still considered the holy grail of Betta Collectors. Photo by Ronald Marcos.



Betta hendra (Coccina Complex) is one of the recently described species. Photo by Ronald Marcos.

Characodon, a Goodeid that always surprises!

**Article and Photos
by Marco Arroyo**

Undoubtedly the genus *Characodon* is one of the most fascinating in the family of the Goodeids, for reasons of different nature that will be treated within the present document, this importance that they cover, generates in which it writes the need to observe in a constant way the habitat where they live, as well as the diverse populations of which the genre is composed, to achieve this it is necessary to move to its distribution zone which is in the State of Durango, in Mexico at the Northwest of the Mexican Republic.

My friend and companion of adventures, Mr. José Gonzáles, whom I thank for his attentions, enthusiasm and willingness to do field work, is the one that disinterestedly accompanies me to these excursions, well, in the middle of August In one of our constant trips, we decided to investigate possible new populations of fish of the genus *Characodon*, for this, Jose moved from the city of San Antonio, Texas to the city where I live in Monterrey is Nuevo Leon, Mexico, and once he arrived at my home we went to pick up some food and start the trip to the city of Durango.

We passed the state of Nuevo Leon, to continue with Coahuila and finally arrive at our destination in the

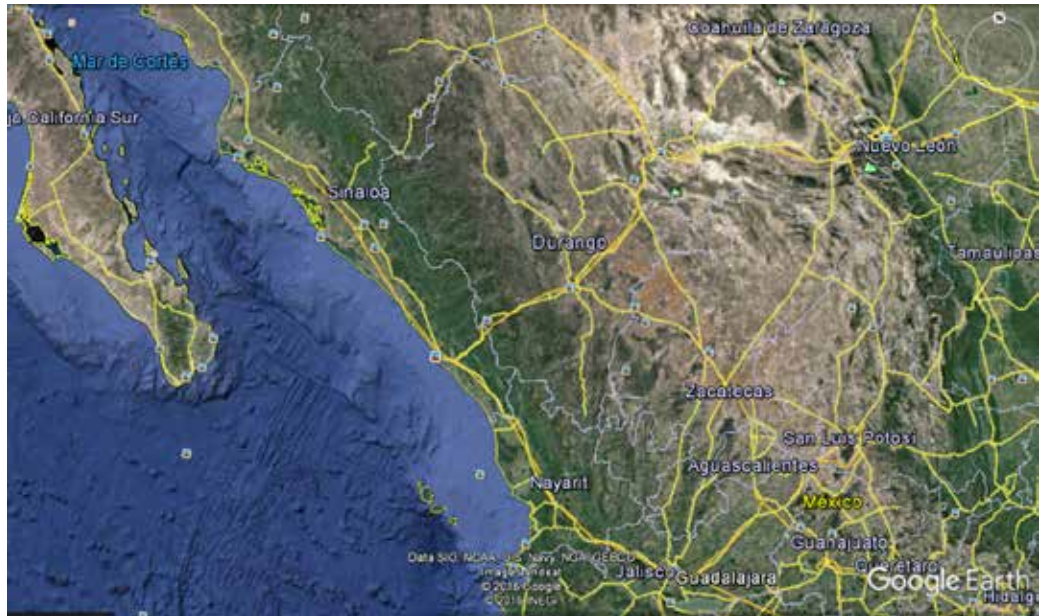
city of Durango, not without before visiting a population of *Characodon lateralis* in the zone known as 27 of November, only a few kilometers of the Capital, where we observed that the fish were relatively healthy and in good condition of numbers (situation the previous one that recently proved to be catastrophic since we only saw one fish), also we could observe another fishes that requires special conservation given the fragility of its environment, is a killie fish that bears the name of *Cyprinodon meeki*, and a series of fauna introduced as *Carassius auratus*, and *Procambarus clarkii*.

The following day, we set out to locate some isolated populations of what was the *Characodon* known as "Los Pinos". As it is in the public domain it is already extinct, we travel to the north of the state and after a pleasant trip, we arrive at the place, where sadly we observed that the situation was the same, the fish was not found, as well as no other fauna except for some turtles, however we investigated by adjacent bodies of water to see if we were lucky to find any population trapped, without having luck, so we made the decision to travel south and visit a possible new population of *Characodon*, who had heard from Michael Köck (curator of the public aquarium Haus des Meeres in Viena, Austria) in a chat with me that they had found some in

a place known as El Carmen, to me, this was a new place, and at the same time very exciting because it did not know what kind of species lived here and how it had reached that place.

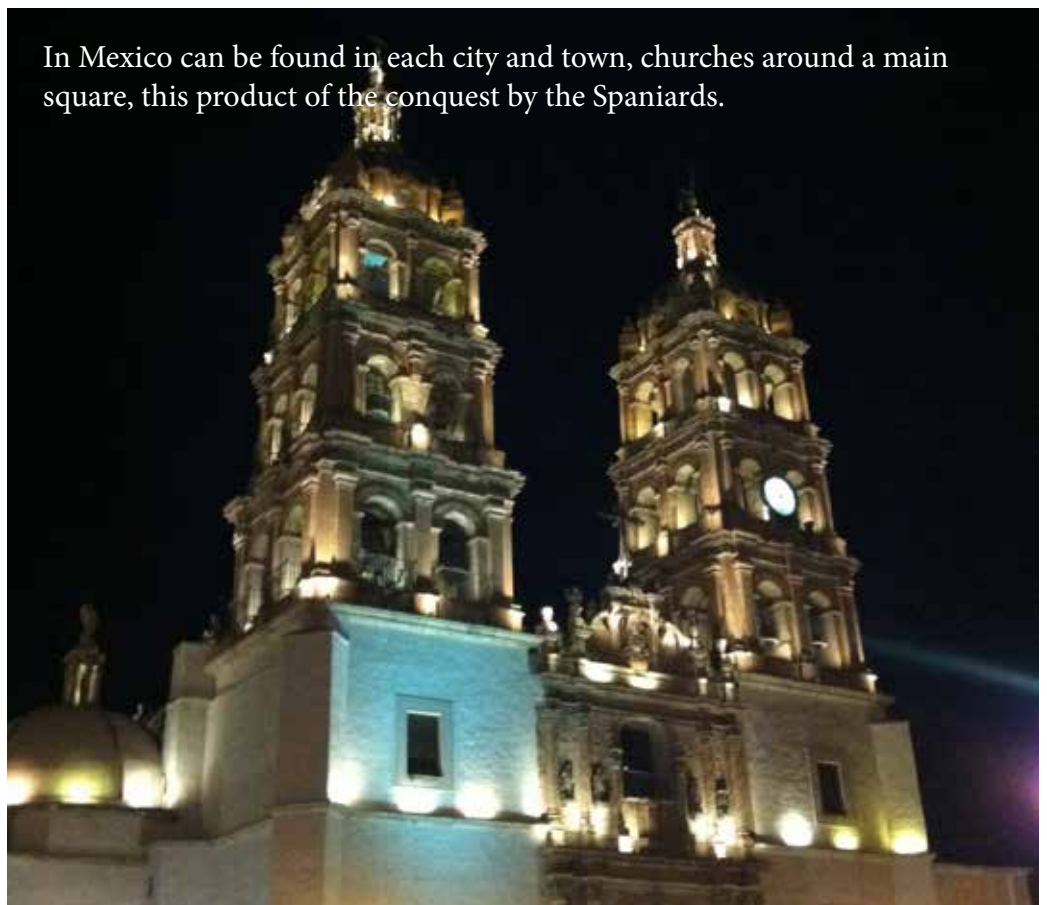
Well following the clues of Michael, we managed to find the location and we came to a small town where we interviewed a local who turned out to be the person with whom Michael had had contact and led him to an area where they inhabited small fish with red tails, after chatting for a while and mentioning anecdotes, he led us to a relatively large body of water, almost close to the village, where we proceeded to do the sampling, bringing us the surprise of finding tilapia (*Oreochromis* sp.). When we asked about the origin of these fish, they indicated that they had recently planted these fish for human consumption, and imagine the face that Jose and I had about hearing this, a population that is new, is suddenly depressed by the introduction of exotic, very common issue in Mexico and Latin America.

Faced with such a situation, and on seeing our face of despair, our guide commented that he had a few hectares of land where he sowed corn for his subsistence and that there were small pools of water where he claimed to have seen red-tailed fish, It was from there that he pumped water to irrigate his planta-



tions, offering to take us to visit the locality, which was difficult to access.

After several minutes of traveling by dirt roads, we entered the middle of the fields indicating us where to park in a place that divides one of the hectares and is marked by a fence of barbed wire. We got off the vehicle, and walked only about 30 meters, and we saw something that did not seem to contain any life, and to this day I keep asking a lot of things, because it was a small puddle of water of approximately one meter and a half of depth by a diameter of 5 meters of



In Mexico can be found in each city and town, churches around a main square, this product of the conquest by the Spaniards.

Carassius auratus an invasive species.



water totally cloudy. What was our surprise to find precisely what he mentioned to us, some red-tailed fish that by their morphometry corresponded at least to the genus *Characodon*. Obviously we jumped with joy to find this new population, but nevertheless we felt sadness of the possible disappearance of the same by the constant pumping of water and by the introduction of exotics. We decided to name this fish in a provisional way as *Characodon* sp. *carmeni*, however genetic studies are needed that can determine which group belongs, whether it is a *lateralis* or if it is to *audax*. Although I think it would not be very useful because before doing this, the entire genre should be reviewed, because in the author's opinion, there are a series of questions and errors that have been dragging along with the passage of time. As is the description of *Characodon lateralis*, indicates that the fish was collected in Central America, making very vague its locality and generating doubts as to whether the fish that was used as a holotype is

actually a *lateralis*, an *audax* or another population unknown.

One of the unknowns that to date follow me is how in the small body of water there is enough genetic variability to survive this fish over time. My theory is the following, being the area a volcanic place, the soil is generally composed of rocks of various sizes that are precisely of this origin, that is to say volcanic and that in its morphometry in turn they contain capricious forms, generally very porous and with cavities. In addition to this, exist around the pool where we find these fish, an indeterminate number of small pools, which makes me think that somehow these are interconnected underground. Therefore for such reasons the populations of these fish are relatively healthy in these areas, but this is just a theory that does not it has been proven.

Regardless of the above, I invite you to maintain populations of fishes of this genre, as they are in imminent risk of disappearing, and it is very worrisome to visit the populations and find that there are fewer fish, more exotic and more environmental pressure. Unfortunately in our country we are not allowed to keep these species as aquarists, but you in the United States can do something about it and save future generations.

Procambarus clarkii





Left: Underneath this railway bridge that is not already in use, pass a small stream where was the habitat of the *Characodon* sp los pinos.

Bottom: Female of *Characodon* sp carmeni.

Bottom Below: Pond where we found the *Characodon* sp carmeni.



Right: Some slight setbacks, and in the front of the car can be seen the scars of multiple trips.

Below: An area known as 27 of November which has been a site of numerous introductions of invasive species.





Aquatic

**SWAP
meet**

SUNDAY JANUARY 29TH, 2017.
SCHERTZ COMMUNITY CENTER
1400 SCHERTZ PARKWAY
SCHERTZ TEXAS, 78154

Live fish, Aquariums and equipment, Live plants, etc.

Admission only \$1.00 per person!

Tables available to sellers at \$15.00 each
and are available on a first come, first served basis.

To reserve a table contact
Greg Steeves at gasteeves@gmail.com

ALL ARE WELCOMED.

COME OUT AND SUPPORT THE HILL COUNTRY CICHLID CLUB



**JOIN SELAS AT THE NEXT
NEW ORLEANS SOCIAL!
FEATURING A LARGE
AUCTION.**

**FOOD AND DRINKS
WILL BE PROVIDED.**

JANUARY 29, 2017

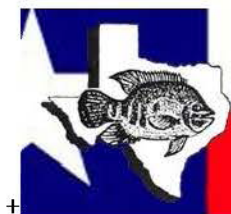
**KNIGHTS OF
COLUMBUS HALL**

4021 TRENTON ST.

METAIRIE, LA 70002

**DOORS OPEN
AT NOON.**





Federation of Texas Aquarium Societies

Federation of Texas Aquarium Societies
Board Meeting Minutes: October 22, 2016
8:40 a.m. Schertz, TX

Board Members Present:

Greg Steeves – FOTAS President
Kyle Osterholt - FOTAS Vice-president
Lisa Hufstetler – FOTAS Secretary

Others Present:

Chris Lewis
Charles Jones
Doug Austin
Marvin England
Monica Osterholt
Austin Prestridge

Proceedings:

Meeting called to order at 8:40 a.m. by President, Greg Steeves.

Old Business

1. Greg read meeting minutes from last year.
2. Marvin brought documentation from past FOTAS conferences. Greg & Marvin agreed we needed to preserve the information.
3. Marvin recommended awarding the altruism award. Lisa motioned, Doug 2nd, motioned passed.
4. Discussed possibly awarding Dr. Keith Arnold award which goes to an educator. Possible recipients were Michi Tobler and Hernan Lopez-Fernandez. In the next 6 months, attendees would consider other candidates. We will discuss suggestions for The Dr. Keith Arnold Award with Dr. Arnold.
5. FishTails
 - a. Doug and Greg mention Gerald Griffin has breathed new life into FishTails which is the FOTAS magazine. FishTails has received national exposure, winning several awards. Greg read an email from Gerald requesting more participation and club updates.
 - b. Chris asked about FishTails publication schedule and article deadlines. Although the magazine is published quarterly, none in attendance knew the schedule.
 - c. Open discussion on how Fishtails is distributed and accessed.
 - d. Chris asked about status of cash awards for articles. Greg mention Keith Arnold was concerned about the impact on funding for future scholarships, so we did not offer cash prizes for articles. Greg agreed he would inform Gerald he has a \$200 budget for articles this year. Gerald can decide how to utilize the \$200.

New Business

1. Financial
 - a. Greg summarized the financial report (see below).
 - b. Open discussion about changing to more accessible bank. Current bank does not have any San Antonio branches. Attendees listed several possibilities. {Note: After the meeting, Greg notified board via email that the current bank has San Antonio branches, But does not have Oklahoma coverage.}
 - c. Marvin recommended involving a younger member in the financials.
 - d. Greg noted FOTAS tax exempt expired. Marvin recommended it be regained to promote tax exempt donations.
 - e. Greg stated Keith Arnold is submitting the tax form this year.
 - f. Open discussion of hiring a CPA to file tax form.
 - g. The following member societies have paid dues as of October 22, 2016
 - i. Houston Aquarium Society, Oklahoma Aquarium Association, Hill Country Cichlid Club, Texas Killifish Organization, San Antonio Aquatic Plant Club, Houston Cichlid Club, Texas Cichlid Association
2. FOTAS 2017 Host
 - a. Houston clubs agreed to co-host 2017 FOTAS conference.
 - b. Greg motioned, Kyle 2nd, motioned carried
 - c. Charles Jones and Austin Prestridge summarized current plan
 - i. Similar economical location as 2016 convention location at Schertz civic center.
 - ii. Low cost for attendees
 - iii. Theme would be promoting an open discussion regarding hybrids. Both pro and con point of view would be supported.
 - iv. Considering world re-known speakers and popular local speakers

v. Considering having tank rentals and live fish show

3. Election and Appointment of officers

Greg suggested if anyone would like to run for office, including president, he would encourage them to do so. Greg stated new blood was usually a good thing. Greg relayed the conversation he had with Ralph (treasurer) the previous day. Ralph was willing to continue serving but he would not be opposed to relinquishing the position if an alternative candidate was interested. Discussion ensued as to the banking situation and urgency to have it straightened out ASAP. Chris Lewis (San Antonio Aquatic Plant Club) offered his willingness to rectify the financials. Doug Austin nominated Chris Lewis for treasurer, Motion seconded by Charles Jones. Chris voted in unanimously. Greg acknowledged Ralph's years of service; all attendees concurred. Charles Jones motioned to appoint the remaining board members for another year of service. Marvin 2nd. Motion carried unanimously.

Officers are as follows:

Greg Steeves, President
Kyle Osterholt, Vice-president
Chris Lewis, Treasurer
Lisa Hufstetler, Secretary

Meeting ended 10:30 am.

Minutes submitted by Secretary, Lisa Hufstetler

FOTAS 2016 FINANCIALS – Interim report

Balance on hand, January 1	
Savings	\$ 10,846.01
Checking	3,090.46
Total	\$ 13,936.47

Income	
Franklin-Temple Income Fund [9 months, \$35.43/month]	\$ 318.87
Savings account interest	4.62
Total Income	\$ 323.49

Expenses	\$ 0.00
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Balance on hand September 30	
Savings	\$ 11,197.70
Checking	3,090.46

Franklin-Temple Fund value, September 30	\$ 7,979.64
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Total assets	\$ 22,276.80
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- Interest rate 0.05%

Respectfully submitted,
s/b Keith Arnold
Treasurer Emeritus

Previous Issue of Fish Tales

What would you like to see in the next Fish Tales Magazine?

Contact the Editor if you have story ideas or would like to contribute to Fish Tales!



Fish Tales

Volume 6 Issue 2

*Examination of the Genus
Lipochromis*

*OBBA Hosts IBC
Convention 2016*

*Trials and Tribulations
of a long time Fish
Keeper*

*Northeast
Council of
Aquarium
Societies*



*American Cichlid
Association Convention
Report*