FOTAS

Fish Tales

Volume 7 Issue 1

In this issue:

On the Cover:

***Nautilius pompillus* - Chambered Nautilus - Monterrey Bay Aquarium**
- Photo by Gerald Griffin

Design and Layout
Gerald Griffin

Volume 7 Issue 1

The FOTAS Fish Tales is a quarterly publication of the Federation of Texas Aquarium Societies, a non-profit organization. The views and opinions contained within are not necessarily those of the editors and/or the officers and members of the Federation of Texas Aquarium Societies.

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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.

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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……
June 30th 2017

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Federation of Texas Aquarium Societies

President's Message

Can you believe that this year marks the 65th anniversary of FOTAS? The first convention was held in 1953, the year after the Federation of Texas Aquarium Societies was formed. We have held a convention each year since and this year, the 64th annual convention will be co-hosted by the Houston Aquarium Society and out newest organization, the Houston Cichlid Club. Talk about an initiation! Dates and venue have not been announced but I expect this will be posted fairly soon.

As a reminder, our editor is always on the hunt for new articles to publish in this magazine. The Federation of American Aquarium Societies (FAAS) presents awards annually for writing and publishing. Last year was our first kick at the can and we did smokin' well! I think that the next issue will be your last chance to have articles considered for this year's award so get writing!

FOTAS CARES is growing with many entries but all so far have been from the Hill Country Cichlid Club. Have a look at the CARES Priority List. You might be shocked to see some of the fish you keep are endangered and in need of protection.

Speaking of the Hill Country Cichlid Club, have hosted a single day event celebrating their 15th anniversary on May 20th in Schertz TX. They had a live fish show, swap and awards banquet. It was a lot of fun.

I'm sure there are many fish events planned for FOTAS clubs this year but the local societies have to get better about passing this information along to Gerald. He can't spread the word and publish it if he doesn't know about it.

There is plenty happening in the fish world and specifically our FOTAS family. For cichlid people like me, the big show, the American Cichlid Associations annual convention, will take place in July. Also in July, the Texas Area Killifish Organization will host its yearly show in Houston. Houston is also the site of this year's Federation of Texas Aquarium Societies 64th annual convention. It's being jointly hosted by the Houston Aquarium Society (the oldest club in the FOTAS family) and the Houston Cichlid Club (the newest). It's being held at the Hilton in Clear Lake TX. This together with the various club's auctions, swaps and meetings, FOTAS is a buzz with activity.

In May, Chris Lewis and I drove to Bryan Texas to meet Dr. Keith Arnold. We took care of the rest of the banking and financial red tape that had to be done. It's official, the new treasurer is in control of FOTAS finances. A big thank you to Dr. Arnold for the decades of perseverance he put into keeping FOTAS afloat. Now it is up to the present board to ensure that this fine tradition continues.

The next FOTAS meeting will take place at the convention in Clear Lake Saturday October 21st. If you would like to run for office or have some issues or ideas you would like to present, this is the time. Until next issue, enjoy the summer and everything our aquatic world has to offer.

That's about all until next issue. If you have any questions, ideas or concerns, feel free to contact me at gasteeves@gmail.com.

- Greg

FOTAS CARES!

First Quarter Report

The people behind the scenes at the CARES program have been very busy! CARES has a new website www.caresforfish.org which has the most updated CARES Priority List and lots of great information to explore. The most exciting thing is that you now register your CARES species through the website and it is super easy! Remember to list your organization as FOTAS followed by your local society (FOTAS TCA). The CARES staff is always there to lend a hand should you have any problems or questions.

We had quite a bit of activity since last update. Charles Credeur registered *Aulonocara* sp. "Lwanda" and has them producing fry! He also submitted his group of *Pundamilia nyererei* from Python Island. Great job Charles. These may be few and far between in Lake Malawi but they are thriving in Louisiana. A big FOTAS CARES welcome to Victor Bettencourt, a HCCC member from Arizona who has registered two species already with many more to come. Victor has registered two Lake Victoria cichlids (I like him already) *Paralabidochromis* sp. "fire" and *Ptyochromis* sp. "salmon".

Jim Valenzuela also entered two more CARES fish that he's been working with. *Neochromis omnicaeruleus* Makobe II and *Cyrtocara moorii* have both been doing well with fry to prove it! Greg Steeves, AKA me, also got into the swing of things registering three new species, *Astatotilapia tweddlei, Harpagochromis vonlinnei,* and *Yssichromis pyrrhocephalus.* All are a few months away from breeding but what a thrill to be able to work with new CARES species. Another big welcome to the FOTAS CARES program goes out to Dave Schumacher who registered several species of personal fish most of us would love to try someday. I know if Dave gets them going we will be able to! Dave registered *Enterochromis coprologus, Harpagochromis vonlinnei* and *Danakilia* sp. 'shukoray'

Again, welcome to FOTAS CARES Dave and Victor and remember, we can't save them all but we can all save one!

What is the Point?

Editorial from the Editor

Everywhere I go I get the same story. People do not contribute to club magazines like they used to. In consulting with dozens of editors of various Fish Publications across the continent the same basic issues pop up. First off it comes down to people feel that they do not have enough time to actually put together an article. I get that in today's world that the demands of work are far greater than they used to be. However anyone and I do mean anyone could record some information and at least work up a simple article. I don't think anyone is actually that busy. The second thing I hear a lot is "I don't think I could write an article that was worth printing." My response is simple, first off you don't know unless you try and two is that we can work with almost anything submitted and can help with the wording.

Now I jump on my Soap Box. FOTAS is an organization of about a dozen fish clubs. In our meetings we discuss how each member club should contribute just two articles a year to Fish Tales. The result is that only a few clubs do and the majority of the work is handled by just two people. We have about a half dozen that contribute an article a year. That is not a lot of commitment. Also let's face the facts! Fish Tales is an Award Winning Magazine! Yes you heard or read that right, Award Winning! Fish Tales will go on and win more awards this year as well. Is it not worth some notoriety to actually win an award for your writing and contribution to the Aquarium Hobby?

I would hope that if you are a serious Aquarist that you are in it for a particular reason or passion. Is your passion CARES Fish? Is it some other area of Conservation? Is it for the social aspects? Or do you just like fish? Share your passion with the world! You will probably find an audience of others just like you! So enough said about why you should contribute. There is always room in every issue for what you might want to say!

Last year there were only three issues due to lack of content. So send those articles in! Maybe you can win an award and share your passion with the world!

Observations on Cichlids

Article and Photos
By Jack Jeansonne

It's funny how when you think you have things figured out, you find out you need a whole new set of questions answered. That's the nature of science, and frankly, that is what we are doing: collecting information and reacting to it. Hopefully we also learn from our frequent mistakes.

I'm allowed one aquarium at home. The largest I have been able to get away with is a standard 55G. When I first got the tank, I immediately wanted to do the big flashy cichlids I hadn't done before. I'd kept lots of cichlids in the past, but now I wanted peacocks and haps, big and bright. My aquarium always got compliments from friends, and I enjoyed that, so my tanks were arranged to impress. The decor was as natural and as artistic as I could arrange, based on my resources. Fortunately, limestone is readily and abundantly available here in Austin.

I also wanted my fish to breed. Over several years, I realized that a 55G is still too small to do it right, and I also found that I wasn't in favor of packing the cichlids in too tight to avoid aggressive behavior. I preferred natural behaviors that are allowed by the fishes' freedom of movement and relative privacy from other fish.

That's a hard lesson to finally get. It took me a lot of time to accept that the fishes' wishes really do supercede mine. If, that is, they were to behave comfortably. So, finally, I decided to redo my home all-male 55G aquarium.

There were lots of fish I'd always admired and even kept at one point, but for once, I mentally put my foot down and finally chose which fish would make a really great aquarium for me.

As I slowly removed (sold) fish one at a time, the remaining ones' behavior changed. The tank held three adult cichlids: a *Cop*. azureus, an *Aul. stuartgranti* (Maleri reef), and an *Oto. lithobates*. All wore full breeding colors, but the peacock had grown to 8+ inches and now was bullying every other fish into corners and caves. I realized it was due to the small number of fish in the tank. The peacock had become tank boss. I hadn't experienced how much room an eight-inch fish would require until then. There were also four bristlenose plecos, one white *Altolamprologus calvus* (Chaitika), and one three-inch *Aul. baenschi* male (which was completely brown due to harassment by the larger Aulonocara). I knew I had to remove the fish from the tank, but they were all so colorful and healthy that I dragged my feet.

Of course, it took me awhile to commit to do it. There was an awful lot of learning to do. I'd been a cichlid lover for a long time, and had tried various tank setups and fish combinations, but had never followed the veterans' advice to build a species tank.

Truth is, the thing that took longest was deciding what my requirements had to be. I finally boiled it down to a few needs: the fish had to have interesting behaviors

(other than the typical cichlid aggression), be of a size that could be happy in my moderately-sized tank, and it had to appeal to my personal gestalt preferences. The last consideration has always brought me back to Lake Tanganyika's cichlids.

I eventually decided my tank would be *Altolamprologus calvus.* Heck, I already had a Chaitika white, which I really liked, so I'd add more.

I purchased two white calvus and four inkfin calvus juveniles from a well-known dealer. Each was roughly an inch long. Based on the size of the white calvus in my tank, about 3.5 inches long, I judged it to probably be male. My long-term hope and plan was that one of the new whites would be female, and I would get a pair out of the inkfins as well. Yep, two breeding pairs. It could happen if all went correctly! Eventually I'd have to remove the extra unpaired fish. So, into the tank my 6 new baby calvus went.

You can almost always do more research. At least, in my case you can. A few days after they were added, I was hit with the realization that maybe, just maybe, mixing the two color locales of calvus together was a bad idea. For a couple of months, I was able to actually tell them apart. I reasoned that once they grew sizeable, it would be easy. Sure, they would color right up just like the Malawi species I had so much experience with. Oh, jeez.

Well, the calvus did fine for awhile. I did find that they hated large water changes. After a 20% water change, they would sink to the bottom and breathe heavily. All the other fish were acting normally, so I didn't think too much of it (Now my theory is that it's a temperature change thing). Even though all were eating well and interacting, and actively hiding, one little calvus took water changes particularly hard. A month after it was added, one of the calvus disappeared. I think it was an inkfin calvus. I'm almost positive. One huge problem with decorating naturally is that it's impossible to catch fish or remove anything without completely tearing down your tank and rebuilding. In any case, missing fish in my tank often will 'disappear.' I'm guessing that the *Ancistrus* took care of the body.

The trouble with research is that you keep learning more. Every time I picked a fish, cross-referenced its diet and tank size requirements, as well as color and other personal considerations, ruled out this and that, and added one or two at a time to a possible list, I'd learn about another fish that I just had to keep. This went on for months. I was kinda proud of myself for not succumbing to impulse purchases. I had slowly reduced my tank inhabitants to just a few fish. However, friends that had always admired the aquarium when they came over had stopped commenting. It basically looked like I had only one or two fish in an otherwise rocky tank. It was worse in that the big orange peacock kept the open areas clear.

So, of course, before I had even gotten to the stage I was trying to set, I decided that I wanted to add something to the future calvus tank. I can't remember when or why I was struck by the idea that I wanted a shell dwelling species, but once the idea struck, it stuck firmly. I guess I was forsaking my species tank for a biotope one. Big surprise, that I still haven't learned my lesson.

There are lots of shellies to pick from, and I've kept *N. occelatus* as well as *Telmatochromis bifrenatus* and *T. vittatus* in the past, but there weren't many that appealed to me as a long-term fish. I wanted a small species that tend to stay in the shell rather than using rock caves. I also demanded it be an appealing species that showed some sorts of unique behaviors. I liked the thought of a colonial group, too. Multies (*N. mutifasciatus*) were an obvious choice, but I wasn't sold on

them for a couple of reasons. One was that I don't really want to get to the point where I have to give them away in bunches due to their prolific nature. After months of research, my final shelly choices were *N. similis* and *N. signatus*, and neither were readily located.

I put the word out with a few folks, but it was more months before the similis became available. The same dealer I got the calvus from was able to locate just a few similis. I have yet to put eyes on signatus in the flesh. I also bought another tiny inkfin calvus to replace the one I'd lost. As soon as I got my hands on the similis I learned of a 'new' *Lepidiolamp.* species, the '*meeli* Kipili' that I absolutely loved. Alas, it didn't meet my stringent criteria for my big project.

I've always wanted my aquariums to be more interactive, and the only way I can really think of to make that happen is to be deeply involved in tank decor. I change the rock arrangements way more than necessary, but I enjoy it a lot. At least twice a year, my tank gets a makeover. So, yeah, I decided to set up the tiny similis (not much more than fry when I got them) in a 20L in my classroom, and to keep them company, I pulled three young calvus out of the 55. That's when things kind of got away from me. To catch the calvus I had to remove the rocks in the 55G. Until that time I had been able to identify the calvus by their in-tank locations. Now, when all hides were missing and the fish were milling about, I could no longer tell which was which. I did my best to I.D. the inkfins and removed the three fish that I believed to be the correct ones, leaving two in the 55G. I'm still second-guessing myself. At this point, I'm thinking that one remaining was white and the other was inkfin. It was too hard to tell and I was going by size. The whites, when purchased, had been a tad larger than the inkfins.

I put the 20G in my 5th grade classroom, and I micromanaged it. Sand substrate, a limestone rock pile on one end, a few clay caves, and on the other end, a shell bed consisting of around twenty-five various shells. Biweekly water changes were a quickly-established norm. The little similis did great from day one, but the calvus went directly into the rocks and disappeared. Interestingly, two of the calvus quickly found their way into the large muffin shells in the shell bed that I'd provided for the similis. I didn't realize that calvus enjoyed shells as well. The smaller fish weren't happy about it, but it didn't prove to be too large an issue for them.

The calvus remained in hiding for months. Occasionally I would get a glimpse of one. They were eating, but probably not very well. I started to drop pellets directly in front of their hideouts so they could eat, almost without having to move.

There are also guppies in the aquarium. They occasionally provide live fry for the cichlids to snack on.

Unfortunately, the three calvus in the 20L never did adapt to the smaller scrutinized environment. A month later, one died suddenly and was "disappeared" by the baby ancistrus that had joined them. Another died six weeks after that, seeming to choke on and off for days.

As time passed, the similis grew noticeably. A couple of months along, I noticed some color changes and displaying happening. It was still too hard to tell the genders of the similis, but I began to suspect I had 2 males and 3 females.

In November I added a long-time favorite to the 20L. Three Sumbu *N. mustax*. I'd kept a group of these in the past, and had always liked them a lot. They are pretty hard to find, so when they came available, I bought three.

In January, I saw one similis fry, but several days after that, it was gone.
The logical culprit is the calvus, but I haven't seen them out of their immediate areas. Maybe the small *N. mustax* have been hunting through the shell bed...or maybe the similis are eating their own. Could even be the little albino pleco. Or all of the above.

02/09/13
After much consideration, I think I've decided to sell

the large white calvus and redo my home aquarium sooner than planned. I meant to change over at the beginning of the summer, but if the last fish go from home, I can do it soon. All of the similis, calvus, and mustax will come home with me and I'm putting kribs in the classroom tank. I'm debating auctioning off the other white calvus as well, keeping only the 3 remaining inkfins.

I guess I need to decide what gets to breed in the tank. Looks like the similis are the obvious choice. Unfortunately the mustax and calvus will be after the fry, so I'll need to provide lots of hideout shells. At this point I have 60+ shells to use for my 5 similis. Some are rather small, which will not allow access by larger fish, although the suction applied by a calvus mouth may be enough to get fry out of shells. Mustax may be able to reach inside. I've heard, though, that parenting similis will be able to handle themselves.

The female similis are right at an inch, and all three are displaying often, but the males, though darkening at the females and at each other, as well as head-down displaying, there seems to be no apparent spawning going on. The females try to entice males into their prepared shells, but the males themselves seem to lose interest when they near the shells.

My changeover plans:
1, Clean filters
2, remove rocks Sat night
3, catch fish Sun AM for auction
4, Mon. Have enough buckets at home to remove tank water and an aerator for the few remaining fish. Put ceramic caves into bucket with fish
5, remove as much gravel from sand as possible
6, remove water
7, slide stand away from wall
8, prep and paint the back of aquarium black
9, put in new stand
10, slide tank onto new stand
11, replace rocks and water, arrange shell bed
12, replace fish
13, bring new fish in from school
14, replace school 20L with Kribs, add ceramic caves

2/14/13
One similis fry located again. It appears to be a new one, as it is pretty tiny. the female is doing a good job protecting it now, and it is warier than the other was.

A fish club friend bought the *A. baenschi* and all four red-tailed shellers this weekend. I'm down to 2 white calvus and what I think is 1 inkfin calvus at this point.

Here is what my brain keeps doing: My plans are wobbling back and forth in my head - should I sell off both white calvus and buy a pair of black calvus white pearls or keep all the small calvus and let them do their thing, or sell off both whites and only keep my three remaining inkfins and hope for a pair or the previous and add three MORE tiny inkfins hoping for an eventual pair.

Of course, having a pair does not mean the young will survive. Heck they will probably eat their own after the young leave the parents. Maybe I'm best off selling the two whites and staying with the three remaining healthy inkfins and just watching and liking them for what they are, not their potential breeding benefits.

Those thoughts ping-pong and I still don't have my answer. 'Course I just love getting new fish, so I always want to add more.

2/22
The single similis fry hasn't been seen for two days. The mom is holed up in a shell and the male keeps checking on her, or at least swimming very close to the shell and apparently looking in. She didn't come out this morning when I fed them, so something is different. Lately the similis have been hungry and good eaters. The males, though both about 1.5 inches have been very relaxed around each other - no fin-nipping, not even much displaying, only darkening when they near each other.

Less than a week until my big change-over.

At the auction this weekend, I expect to pick up a few young kribs and maybe some young angelfish, both for the two school aquariums. I'm having a small dilemma about where to keep the kribs for several days until my 20L is free. Also, I'm hoping that the 2 adult angels don't mercilessly hound the young ones. My thoughts are currently that the community tank is large enough with hiding places and tons of dither fish for them to do OK.

Oops, nope! Saw the fry this afternoon! Still hanging out and being well-protected by mom.

Yesterday I cleaned my second HOB filter in tank water and sifted most of the limestone gravel out of the sand. It made the tank a cloudy mess, but it looks ready now. I drew up the sketch of my plans a week ago. The tank is almost bare and the three calvus are very uncomfortable, poor guys. A bare tank is really pretty unattractive. I'm wishing I could get started right now.

Two days ago I brought eight 5G buckets home from school and rinsed them out. I had them at school set up in a courtyard with differing amounts of water and differing amounts of light to see which ones attracted the most types of aquatic larvae. Ha! Didn't work out too well, but I did get a bunch of mosquito larvae for the similis. They're now cleaned and ready to fill with tank water and one remaining fish. They should hold most of the water until I can pull out the tank, paint the back, and push it back into place on its new stand. This is a pretty big project, even though it's only a 55G. I hate to think of the eventual day that we move. I bet many keepers with multiple tanks will plan on never moving simply due to the extreme hardship.

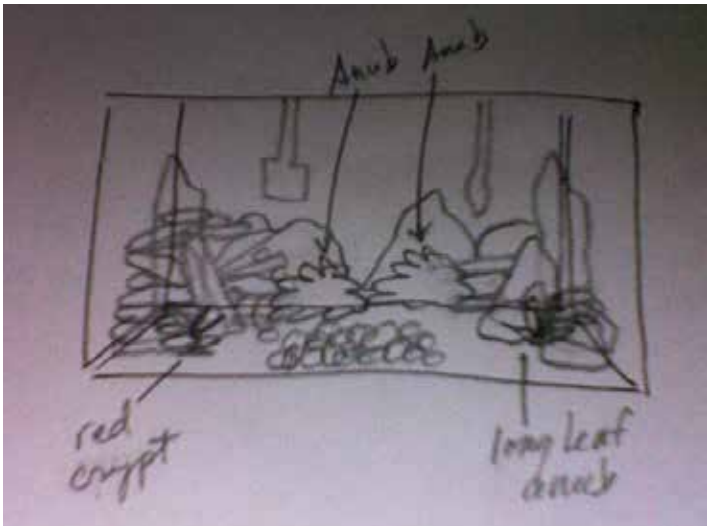
2/25
Whew!
Just finished four hours of draining, catching, and lifting heavy objects.
The auction went very well for me yesterday. Both calvus went to the same fellow and he was pretty happy. So I'm down to the one inkfin and two *Ancistrus* in my 55G. I got home today at around 5PM and got straight to work draining the tank into the buckets.

I caught the fish, gathered up the plants and my two new zebra nerites, and placed them all in a bucket with an airstone. I wish I had a small heater to drop in there as well, but I don't. I had to work as fast as possible.

Since I kept the water, though it was really no acclimating except for the temperature when they were returned to the tank.

When it was empty, I gently pulled the tank out from the wall and painted the back black with acrylic paint. After I started I had to run to the store and get more paint, and I also had to pause to eat dinner while the first coat dried. Even so, I was finished painting pretty quickly. It was harder sliding the set-up back into it's space on the wall. Next was to replaced the water without completely clouding the water. I put a large plate on the tank bottom and poured the water onto it, which did reduce the stirring quite a bit. This wasn't an easy task alone, but of course, I love getting interactive with my tanks.

After the water was mostly replaced, I hauled about 50 pounds of rocks in from the garage and arranged the rocks according to the pre-plan I drew up.



It didn't work out exactly, but not bad. There are lots of places for the rock-dwellers to hide and a ton of shells for the similis. I was smiling when I finally started putting the escargot shells in, and my wife had to ask why. So much fun!

Finally I rehung the filters and heater, put the glass tops and lights on, and took a look. It needed a little finishing, so I added some of my smaller shells and rocks for decor and sat back to watch.

Oops! the fish!

I hauled the bucket with fish and plants and first replanted my *Anubias* and crypt, placed the Java fern, and acclimated the fish to the temperature. When I released the catfish, they bolted to the tank floor and disappeared, and the calvus majestically glided into the rocks. Its an hour later, I'm clean and relaxing in front of the tank and see none of them.

I'm looking forward to tomorrow when I bring the crew home from school. Another big chore. :)

2/27
Done. Finished last night.
The process: After school, one of my students and I

filled seven bags with water and began removing fish and shells. The similis were easy- they hide in a shell so you pick up the shell (careful not to spill water out) and lower it into the bag. The remaining shells were placed in a bucket with water to cover them. The two inkfin calvus were easy to net, but to catch the mustax I had to remove all of the billowy Java moss.

When I got home, I floated the bags for a good half hour. I knew the water parameters were both very healthy, so the temp had to be acclimated. My wife and I were not thrilled about the shell detritus when I placed in the left foreground, so I pulled most of them out.

None of the fish seemed affected other than the stress of capture and transport.

The *N. similis* were the first out to explore. I did the see the little fry in its mother's shell as well, but within an hour or so, the inkfin that has been in the 55G was hovering in the shell bed and the baby was either hiding or gone. Bummer.

I'm pretty happy with the overall results. Still plan on some minor changes, but I'm going to relax and enjoy it for awhile.

2/27 again
The two largest inkfin calvus appear to have paired off and are showing signs of breeding behavior. Neither is showing color - both are fairly grey and unstriped, but the smaller one (1.75 in) is diving into a large snail shell and the larger (2.5 in) is hovering on the lip as if he's spraying milt into it. Perhaps its pre-breeding practice, as they are pretty small. The smallest one (1.5 im) is watching from under a rock shelf.

The calvus are now over the center of the shell bed, intimidating the similis a bit. It appears that the young 'female' is searching for an appropriate breeding site. The smaller fish don't really stay down, but they have been pushed aside for now. They are carefully watching the larger fish while trying to do their own thing.

At the same time, all of the similis are showing interesting behaviors toward one another. The females are displaying to each other as much as the males are. Tonight is the first time I've seen the two male similis go after one another, using teeth. No torn fins or scales lost yet, but they are still shelling 6 inches from one another right now. Soon, one of them may have to move.

Other behaviors Observed in 20 G grow-out tank :

Neolamprologus similis-
shimmy- head lowered slightly, they will shake their bodies to communicate with each other. Females often do it to get the males' attention. Males will do it to show off to females and/or males.

Flashing- females will scrape faces against sand or rocks to seemingly attract male attention. Not attributed to usual flashing behavior of scraping or scratching irritated skin.
Color change- when emotional(agitated, nervous, excited) males and females will get darker, the silver stripes standing out in vivid contrast.
S-curved body, gills flared aggression - towards larger calvus.
Head angled down - body position m/f when checking on shells/young (possibly claiming territory).

Other behaviors observed in 55G and 20G tank.

Altolamprologus calvus-
- calvus are a fish that can turn its head slightly.
"Stealth mode" -hanging head down and slowly rocking back and forward like a leaf.
Mimicry as camouflage.
Scale flaring - towards an aggressor, head lowered.
Bowing body toward the other fish's face.

3/31
One of the female similis has gone travelling. She moved about 50 centimeters across the shell bed to set up a home shell at the far side of the bed. It's good to see the similis are not afraid of expanding their territory. The female has taken possession of a shell less than 15 cm from the calvus.

The calvus, on the other hand, have began roaming across the shell bed, apparently looking for similis fry between feedings. Speaking of, the lone similis fry is still alive, and staying hidden between the shells. It occasionally will venture to the top of its mother's 3/3

The female similis attempt to entice males to enter the shells by shimmying, darkening, and darting in and out of the shells, but them nip at the males when the males tentatively follow. Part of the breeding routine or are they still trying to work it out?

The female calvus has taken up a fairly regular habitation of the large muffin shell, while the male hovers nearby. I've moved the muffin shell an inch or two farther from the shell bed, but I'd rather it was even further.

I was thinking about adding some *Cyprichromis* (blue neon), but should I keep myself reined in? There is often almost no movement in the aquarium. I guess *Cyps* would interrupt the freshly established routines, though. Must control myself! Maybe a few of the classroom guppies that have been with them for six months? Or add nothing? I'm still thinking.

March 5

I hadn't seen one of the similis females all day yesterday and I was a little worried. I found her this morning holed up in a difficult-to-reach shell. I can only assume that as she's not actively displaying like she has been for days, she's either injured or nursing a clutch. Hopefully the latter.

Similarly, I haven't seen the female calvus for two days, but the male is "protecting" the large muffin shell diligently. I say protecting, but I haven't seen him actually do anything but hover and perch nearby or in the entranceway, but he does not enter. The pair is pretty small to actively breed, though. I'll be pretty surprised. I hope if there are fry they can find a successful hiding place. The mustax are quick predators.

The calvus are unfortunately not coloring up, but staying pretty grayed out. I want to see them blacken and stay that way. Maybe it comes with age, or maybe it's due to the limestone rocks and not dark ones.

I made several clay caves at school with the kiln and safe glaze. they came out OK and one is in the 55g. I'm thinking of adding another as I'd love to see the calvus using them as intended. the others are at school in hopes that the kribs use those.
I'm still thinking of adding more active fish, and as more guppies are coming in at school in the next few days, I'll probably pull 5 or so long-kept females and the 'best' male to bring home to the 55G. I don't want to use any incoming guppies no matter how colorful as they will possibly carry unwanted disease. They're pretty much just feeder guppies.

3/8/2013

Just listened to Under the Sea Radio Show's interview with Ted Judy

Ted Judy: After listening to your Under the Sea Radio Show talk, which I really enjoyed, I have additional discourse. I'm one of the 98% of people that you said

have one tank at home, fish breed in and say, "cool" but don't care. Remember that not all fit into that exact mode. I have a great aquarium and care a lot and think it's REALLY cool, but I don't have space, money, or my wife's good graces to set up more to be a ' fish breeder.' Just nitpicking, for what that's worth.

I enjoyed your talk a lot, and appreciate your take on breeding ethics and practices. My thoughts went to line-breeding for color, morphs, etc. In that vein it sounds like you are much more concerned with qualities that don't necessarily fit into the 'looks' category. Wild-caughts, by necessity, don't always fit into the slot that most consumers are after. Just wondering how you reconcile your approach with the demands that are out there.

The little female calvus is staying inside the muffin shell. She backs out occasionally but only enough to see. Her face stays inside. I don't think she's taking food. When the male comes to the shell, she darts in deep.

The similis are digging. I haven't seen them in action, but there are definite signs of sedimental shift. I can't imagine any of the other fish digging, and the female just behind the shell bed looks very self-satisfied.

The last little inkfin calvus has staked out an area patrolling the right rear of the tank. He (I consider it male) is very shy and stays under cover, but for the most part, I know where he is. He peeks out more often than not.

3/9

My wife asked me last night to add some fish that would actually swim around in the upper ⅓ of the tank so that people who didn't have a discerning eye like me would know that there was something in the aquarium.

That was very nice to hear.

So - guppies or cyps? probably comes down to free or expensive. *Cyps* would need to be the very smallest.

On the other hand, I could add some sort of tetra or barb that can handle hard, alkaline water. Time for more research.

3/13

With all of these very shy cichlids, it's been hard to get them to eat. I hope the food isn't going to waste, but the similis aren't going more than a couple of inches from their shells to find food. Also, if food falls into the shells, I fear it's rotting, so I'm feeding very lightly. I need make sure the similis are eating enough to produce and protect fry. The ancistrus are getting fat.

Today was the first time I saw a similis actually attack and hit the largest calvus. The calvus didn't even seem to notice. In any case, I moved the muffin shell farther away from the shell bed. It freaked the female out, but she's come out to look around and feed a few hours later.

So the male was nearby, looking for pellets that were drifting down. He and the female both noticed a pellet that fell a few inches from the muffin shell. She was very obviously interested, but fearful. The male drifted past the pellet and in front of her, blocking the view of her body from me and the front of the aquarium. As he did, she darted out, grabbed the food, and darted back in. Did I really see this? Are they working together, and is he allowing her to eat, though he's hungry too?

My calvus are growing pretty fast. My recipe for fast calvus growth: very little competition and a large tank, allowing room to maneuver, as well as varied diet and multiple small feedings daily. My calvus enjoy tiny NLS pellets the most.

I've been giving more thought to adding dither fish, and my choices have broadened to several more species, including a few tetras that can handle the alkalin-

ity.

Here's what I want: smallish fish that school and stay in the top ½ of the tank. They also need to be fairly peaceful and have color points, and can handle the same water parameters as I'm already using. My aquarium has no floating vegetation, so these dithers should be able to hang out in open water.

I like the choice of livebearers best. They will produce young, which can provide the occasional snack for the cichlids. However, they don't school and they tend to poke and prod constantly, and will eat cichlid fry if they get a chance.

A few tetras could work: black phantoms, blues, and roses. All prefer plants, though, and they might hide all the time behind and among the rocks which are in the bottom half of the tank.

3/14

It's hard to tell whether the female similis are exhibiting provocative breeding behavior or defensive/aggressive behavior. They display and then bite at the males who hover nearby. The males, on the other hand, seem interested, but also nip at the females. They all show a real love/hate relationship.

3/19

The calvus pair is showing definite signs of breeding behavior. I think they are far too small and young, but the male completely entered the shell with her briefly tonight.

The male is approximately 5.5 cm and the female a wee 4 cm. Both are still very pale, but the decor is pretty light. Cool! Just saw the male calvus digging and spitting sand!

The *N. mustax* Sumbu are a little more overt now. The brightest yellow one is constantly making his rounds. The others just sit tight in the rocks.

I bumped up the temp a bit from 74 and did a 25% water change today. Let's see what happens with fresher, warmer water. *N. similis* male #2 is digging a lot. He's hit the glass bottom, fortunately behind the shell bed, and it's not noticeable. He finally drove the male calvus off today with a savage nip at the tail. He also is leaving the shells to explore in the plants all the way to the rear of the tank. One of the females has been excitedly attempting to seduce a male, but Male #1, the near one, is not completely interested yet. The same female has been leaving the shells to forage briefly, but only a few inches away.

The tiny juvenile similis is still alive and becoming braver, as I've finally seen it often. Mom (female #1) is still very protective and chases both males off all the time.

I'm asking around for a new line of similis to mix in with this one. A pair or 1.2 would be a nice addition.

New ideas all the time on dither fish. Currently I'm thinking a group of Indian Glassfish, undyed. Second on the list is Celebes Rainbows, with a whole bunch of third place species. It could simply depend on availability at the local shop.

It seems to be growing very slowly, even though the flake food sifts between the shells and should be easy picking for it. Interesting, though, that it's mother is still 'mothering' after all this time, and through a tank change. She is darkly colored, and has been for weeks, which may coincide with breeding/brooding.

I have overruled almost every dither fish for one reason or another. Price, feeding issues, tank level preference have all made a difference. Rainbows, livebearers, and danios visit all levels of the tank, which would put the similis on the constant defensive, and further jeopardize any potential fry. Glassfish require live food, which I am not prepared to provide. Several possible species are simply out of my price range, as I would prefer a school of around 10. That leaves a few tetra species that can handle, but not thrive, in high alkaline water. My LFS has Lemon, bloodfin, and von Rio Tetras that seem really doable.

4/15

I've scrapped the idea of adding dither fish for the time being. I never really loved the idea, and though the wife has still pestered me a little, my explanation seemed to mollify her.

The tiny similis fry is still here and starting to emerge more frequently, often coming to the top of the shell bed to peck at food items. It has passed a centimeter in length, though still showing no pattern or color, except for slightly orange-tinged fins. It's still so small and wary that it's hard to examine for more than a few seconds, but its mother is still guarding it with diligence.

It appears that none of the females have fry at the moment. Perhaps when a female is guarding offspring, she is reluctant to start a new brood, though the little mom is starting to show signs of enticement to the males. Actually, all three are, but the males, though interested, are not committed to completing the activity. They always (when observed) stop at the shell entrances and then swim off again.

The blue-green algae (or whatever it's called) is beginning to cover all the shells. I can't decide how detrimental that may be to the fish, if at all.

The two nerite snails have died. I found one, and the stench was appalling. I hope the other is not somehow poisoning the fish, but all seem well. I guess more frequent water changes are in order. However, the city's tap water pH is ridiculously high - over 9 every time I've tested it for the past three weeks.

4/22

Male similis #1 (originally slightly hunchbacked) has been digging diligently outside the shell bed. I'm not sure if this is simply display behavior or in anticipation of making a move, but he has begun quickly 'snowplowing' along the sand with open mouth while spraying sand behind him. His efforts are aimed at clearing underneath a small bit of driftwood with an attached Java fern.

The little mom, though still filled with concern for her growing single fry, has begun openly courting both males. Her color is very dark.

Both males have begun pushing their territorial control wider into the rest of the tank, and are routinely chasing off the nearby mustax. However, at feeding time, all bets are off, and the mustax come into the shell area to gobble sinking food items.

I have been experimenting with feeding to see if it might affect breeding behavior. I have lessened the amounts I feed at once, but increased the number of small feedings. I had tried changing more and then less water at a time, but nothing so far has caused a brood to happen. All the tiny females are ready, I think, but they can't complete the job. They remain a little too nippy and aggressive with the males, who in turn, nip back.

The males are very protective of the colony, though, and actively monitor and come to the defense of females and their shells.

All the shells are being covered with a greenish/blue-green coloration. I'm not sure I like it. Could it be an effect of the high calcium content in the water? Is it oxidation of copper in the shells themselves? (almost

definitely not, but that's the exact color)

4/24

New Babies!

I saw at least two baby similis at the same time. They are very active, coming up to seek food at the top of the shells. They are way too small to be so daring, but Mom #2 and Male #2 are nearby. I immediately fed the tank when I go home today, and they were easy to see. Not holding yolk, but still pretty small. However, they are far more active than the other growing youngster, so I have high hopes for them. Okay, now we're up to eight (or possibly more) similis!

I'd been thinking for a while about adding more similis, and as they seem fairly difficult to find in Central Texas, I was going to add more from the same bloodline Now, after seeing definite mating results, I believe I should wait until I find fish from a new bloodline - either wild-caught or (preferably) F1s.

When I sit farther away from the tank, the male similis venture out all the way across the bottom now. They keep the mustax away from the shell bed entirely, except for feeding time. The mustax have become purely rock-dwellers, whether they like it or not.

The calvus have pretty much done the same, and when they do venture out across the shells, it's in a defensive posture, as if they assume the similis are going to hit them. I bet the calvus still try to hunt the fry, though. The flow from the filters pushes the little ones around easily, and I watched them get swept an inch or more away from their shells before they darted back inside. The little parents seemed unconcerned about this activity, though.

4/28

They don't have two new babies, but three. It's pretty exciting. At the same time, I'd still love to add new blood. I haven't been able to find any unrelated similis in the past week or so, though I really haven't looked too hard. They'll have to be shipped, looks like. Nobody nearby to deal with.

As all the fish grow, the Altos and mustax remain reclusive, but have become bolder at feeding times. The similis seem able to drive all others away at will. Very sharp teeth?

I have altered the feeding regime again. Several times a day (actually whenever I think of it), but very small amounts each time. The fish are responding well.

4/28 again

Success! Another brood located under mom #1. I've only seen one coming up, but I assume there are one or two others.

I've also found another in the other brood - now there are four with mom #2.

5/3

It seems that the females with young stay darker than those without.

The original first baby has left its mom. It has been staying in the shadow of its father, the alpha male. However, it is only one 'territory' (10cm) away from its mother.

I call the three mustax 'the big one, the little one, and the yellow one'. As they are all supposedly from the Sumbu locale, they are yellowish, but one in particular is much brighter yellow. The other two have very lemon-colored fins, but beige bodies. The big one has a darker mask and white cheek patches. He's my current fave, among the three. They act much like *N. leleupi*, skulking and darting out to feed. They are not easy to

observe, as they are extremely shy and rather be under cover, peeking out.

5/6

Today is the first time I've seen the two male similis really going after one another. Their battle ranges all across the tank. Their colors while fighting are gorgeous: chocolate brown with vivid silvery bars.

It appears they are fighting over a particular patch of sand; a pile, excavated by the last female to have fry. She has been working hard at it for weeks, and it seems to have become prime territory. Both males have actually helped dig at times. Ironically their fighting has blown some of it back into the pit they've dug. Maybe they are fighting over the female.

As they battle, the mustax and calvus, their curiosity aroused, are moving in to watch and to hunt for fry. The little females are really having to work to keep the shell area clear of predators. I didn't realize how much the males helped chase off the other fish.

The lip-locks are violent tugs-of-war, and are only broken by mighty lunges that must be damaging both both fish's mouth parts. Similar to bulldogs, once they lock on, it's challenging for them to release. One grabbed an *Anubias* leaf by accident and held onto it for over a minute while the other contestant watched, confused (but the watching fish did not attack!). Biting one another on the head and face are common as I watch. The females are not too shy to rush in and take a swipe at the locked males.

It is possible that one of the similis males will be finally driven off. They have lived in close proximity for many months. Maybe this will be a catalyst for the winner to sire several clutches. Up till now, each male has had one female bear his young. Maybe the brawl is over the final female; the tie-breaker, as it were.

Writing this post (5:50 AM, just after I turned the lights on) has taken about 30 minutes, while alternately typing and observing. They are still fighting as I speak. It appears that one has gotten the upper hand, though I won't make the call until it's certain. There are many places in the tank for an ousted male to go, and with more growing fry, there remains a chance for the ousted male to establish a community in the outskirts. If this happens, I'll need to add more shells.

5/6 again

Interesting. Mom #1 seems to have lost her baby to Mom #3. Babies are definitely moving a little, though they are tiny, and unless Mom #3 has been hiding babies for weeks, she's suddenly caring for a large baby that isn't her own, and Mom #1 is agitated. If so, this is pretty amazing group care. Adoption. Or is it abduction?

Afternoon, and the tensions have eased between the similis males.

5/9
At least seven fry counted in the care of female similis #2.

I added my 6 platies to the tank today that my daughter's fish bore five months ago. The parents were a pair of pretty red tiger twin bars and a variegated female (bright orange with a green sheen). A couple of the surviving fry are really pretty. I raised them in a tiny 2G in my classroom, and they are nearly adult sized. I feel that placing them in the tank is not the best deci-

decision, but all of the Tanganyikans have responded well. They are already a bit more relaxed about being seen. The platies are doing their job - staying up high and not bothering anyone. Of course, when they come lower, they are immediately charged.

There was an interesting altercation this evening. The large male calvus came out and up in the water column to eat. This was, in itself, a surprise, but when he descended, he found himself all the way across the shell bed, and was assaulted by the similis. The Alto. retreated to a cave in the rear of the tank where he looked out with only his face exposed. One similis male was very disturbed by the calvus' proximity. and proceeded to repeatedly dart in just in front of the calvus, striking the sand instead of the calvus' formidable jaws, thereby 'splashing' a wave of sand into the calvus' face. The calvus had to spit sand from its mouth every time. As tempers cooled, the calvus beat a hasty retreat back to its preferred lair.

I also added ten or so new shells that belonged to my wife. They are all small but heavy sea shells with round mouths. The similis investigated quickly.

Each time another fish has the temerity to swim down near the shell bed, the similis go for it. This is when the opportunistic smallest mustax inevitably investigates. He follows either the other mustax, or calvus, or platy into the mix, hoping to make good as the other fish provides a distraction. Thus far, he has had no good come of it, but he bides his time. He's a crafty little fish. When the other mustax are otherwise occupied, he will dart in and nip at them. Most of the time, however, he is the scapegoat for the two larger mustax's aggressions.

5/11

At this point, I have observed eleven separate fry, not including the larger half-grown initial baby from Mom #1.

The newly introduced platies are doing well, and have learned to keep their distance from the similis. The other Tangs have not yet been observed to show aggression to the platies.

The platies are suddenly doing the weird 'swim up and down the glass at a frenetic pace' thing. Having come from a 2G to a 55G, you'd expect them to have enough room. My guess is that they'll settle in a day or so. I suppose they are wishing for a way to come down to the bottom occasionally and are being denied. If they would go into/behind the rocks, there is ample bottom space, but apparently that's not part of their m.o.

5/21

Since adding the platies, I also added two juvenile swordtails. These additions have caused much more activity in the mustax and calvus. They aren't necessarily hunting similis fry, but they are definitely causing the parents more concerns.

The fry seem to be doing just fine, still. I keep counting more than I previously thought. I'm wondering whether the similis females might be laying one or two eggs at a time, and the males on regular 'fertilization runs.'

5/23

The platies and swordtails are doing well. Maybe too well, as they pig down as much food as they are able, allowing as little as possible to hit the bottom. Their stomachs seem to stretch indefinitely. I've had to feed a little more than usual of late so that the bottom dwellers get enough food.

Similis only eat a tiny amount at a time. They like many small feedings rather than one large one, so I have learned and adapted. When I am at home, I feed a tiny pinch every hour or two, generally whenever I think of it. The key seems to be getting enough food in to pass the dither fish, but not so much that pieces settle on the substrate.

The smallest calvus has lately been approaching the pair. The larger male has been driving the small one off regularly.

I've been wondering what my plans are when the similis fry grow large enough to fight each other and the adults. How will I get them out and move them on? I really look forward to seeing a large colony hovering over the shell bed, but envision eventual problems. I'm also wondering about rehoming at least one calvus. I didn't start this tank expecting or caring about calvus fry, but it looks like that may wind up being an issue as well.

As for the mustax, they all still really don't tolerate one another, so they may all three be male. The small one is usually on the run, so he may be the first to go. However, all the fish are still pretty small, so the time I foresee is likely still a ways off. Maybe by winter break it will be time to scoop some out.

6/10

I've been away for almost two weeks. I returned yesterday to notice how quickly livebearers grow. It appears that I will need another home for the swordtails really soon, and possibly a platy or two.

The similis continue to produce babies, and they currently have approximately twenty fry of varying ages and sizes among the shells. The parents, while still defending the area, are doing so with less vigor. Maybe the other fish have stopped trying to eat the fry, or could it be that the adult similis feel there are enough fry to absorb the loss of one or two.

The largest, original baby is as large now as the parents were a year ago when I first purchased them. She (based on the growth speed and size) is just starting to develop stripes.

The longer I watch my male calvus, the more I think that he is a Chaitika white. He practically glows when he takes on his full light coloration, and when he is dark, he is simply muddy gray. On the other hand, the smallest calvus, the inkfin, keeps a strong contrasting pattern of solid black stripes and large "pearls" when dark and a paler, similar pattern when it is in a lighter mode. The female generally has the same coloration as the large mal, but tends to darken easily. Strangely, she keeps darker stripes on her most posterior and caudal regions. She was purchased as an inkfin, so I guess in time the large white male will have to go in order for the calvus to breed true, though he is really attractive. I am not really interested so much in catching the calvus fry so that the parents won't eat them, so I'm in no hurry.

6/19

The second section of this blog came out today in the HCCC Lateral Line. I can't say that I feel that I've made anything clearer at this point, nor have I made any noticeable contributions, except that one of the reasons I started this blog was that there is almost nothing available on the internet specifically concerning similis. That goes for most fish, I guess. When I was initially interested, the tidbits that were available just weren't enough. So perhaps this blog will provide just a little more reading material for the interested similis owner. In any case, the minor lesson that I think I've learned is that if you give them room and time, nature will take care of itself - at least in many of the less-demanding species.

As to the aquarium, things have been status-quo for weeks now. I removed all the dither fish but for the five small platies.

The two larger mustax are on a campaign to relegate the third one to the top, hiding behind tubes.

The calvus have finally lost most of their shy behavior and are roaming almost freely through the lower third of the tank. The pair is still showing breeding signs, but as yet have not produced any young I've seen, and as the female has wandered across the tank, I'm guessing there's nothing there yet. And they are still fairly small to be completely serious about it.

I started this blog was that there is almost nothing available on the internet specifically concerning similis. That goes for most fish, I guess. When I was initially interested, the tidbits that were available just weren't enough. So perhaps this blog will provide just a little more reading material for the interested similis owner. In any case, the minor lesson that I think I've learned is that if you give them room and time, nature will take care of itself - at least in many of the less-demanding species.

The male similis are probably a full 1.5 in., or almost 4 cm. The females are noticeably smaller. I look forward to the day what the males are a full two inches. With so many young, I was thinking that I may have to completely cover the substrate with shells. In any case, as they grow, I could probably add thirty more and see use in all of them. Right now the similis have spread across almost the entire shell bed, only leaving the area just around the calvus shell clear of fry.

6/22

The two largest mustax are a pair. They have holed up in the clay cave I made and the male is displaying heavily to the bright yellow female. I admit that I originally didn't care if the mustax mated, and actually I was hoping they wouldn't, due to several possible complications: increased aggression, my changing interest on saving the fry, etc. However, I'm loving it. I kept *L. mustax* when I was in college, but they were a different color morph, and didn't ever do all that well, being in a very mixed 40G tank. I feel that this set-up might work out! How cool!

6/29

My first female similis has turned very dark - her brown stripes are almost black. I'm not sure what that means, but she doesn't look sick and is still acting as grumpy as ever.

There doesn't seem to be as many similis fry as there were a couple of weeks ago. However, I haven't seen any of the larger fish specifically hunting, so I suppose that with the increased aggression, due to the nearby breeding mustax, the fry are hunkering down and hiding more. Several of the larger ones seem to have claimed a shell of their own already.

7/4

Something has been bothering me for awhile about the rockpile arrangement on the right. For some reason, the fish haven't used it as I envisioned. I suppose I planned it for eventual fry to inhabit, but the overall look just wasn't working. Here's the way it looked this morning.

Now, after redoing the rockpile on the right, it doesn't look quite as natural, but I feel it's more functional, and the calvus seem to like it as well. I also wanted to use a few new colored rocks I'd found.

Now that I made this change, the calvus seem more content to stay "at home" and the similis males have moved up into the water column. Until now, they hovered up to 5cm above the shells, but now they are 10 cm or more above the substrate.

The male calvus has also decided that the large muffin shell all the way across the tank is another good spot to hang out, so he has taken to running the gauntlet of similis to slip inside it. This is in the vicinity of the smallest inkfin. Maybe the large one is either trying to intimidate it or court it in the second large shell.

7/9

By my best count, between 12 - 15 similis fry have survived to a size that will be able to avoid future predation from the calvus and mustax.

The yellow mustax have been chasing the yellow (amelanistic aka albino) *Ancistrus* quite a lot. The smallest mustax has moved into the reshaped rock pile on the right and has been virtually ignored since the larger two have taken to the cave.

7/25

Nothing much has been happening in the tank. I have been able to count at least 15 similis fry and noticed another new one today. The oldest fry is now rearranging sand and the similis colony has moved into the stage where the sand is being spit from one shell territory to another in a succession of three or four fish. Often one will spit sand onto a larger pile only to watch it shift and spill softly down right back where it came from. It looks like they'd be happiest in a shell pile three or four shells deep, or more, and no sand anywhere except maybe forming a deep pit around all the shells. Babies are popping in and out all over the place. I added a few more shells not long ago to a total of more than 80 shells.

The mustax have had partial communication breakdown at this point and are only attempting to brood eggs sporadically.

The calvus are still in their shell, seemingly hoping for a miracle of eggs, but they have excavated the sand from underneath so that the shell has completely changed position and placement. The male calvus has gained some size and is currently 3" in length. The female has grown less speedily and is only 2" long. The third calvus is experiencing a good deal of angst, rarely making an appearance and exhibiting washed-out coloration. When he does show up, he often drifts close to the other calvus' shell, hoping to share quality time with the female.

8/6

The two male similis are getting close to full-size. They are each over 4cm. I found a few new tiny fry, so the population, though burgeoning, is not yet saturated. It will be interesting to see if the fish will continue to produce as the first rounds of fry get sizeable. Will they self-regulate the colony size? Will the colony overpopulate? If it does, will outcasts occupy rock niches, or be driven up the tank walls?

The mustax have again become a pair, and the female is occupying the ceramic cave. The male hovers very close by.

I was wondering today whether this blog was worth continuing.

I've pretty much been repeating the same things for months, but I realized that before I got these fish, I would have enjoyed reading more about them than was available, and some expected behaviors are coming to light in a more fully fleshed-out way.
I wouldn't be at all surprised if only an extremely limited number of keepers were interested. However, I have no idea. One thing about newsletters is that there is no feedback.

8/18

It's time to start thinking of the similis in a different way. I've had them for a year now, and I still think of them as five fish.

However, now that there are twenty-five to thirty similis in the colony, I am seeing new behaviors. The term colony has been used by many, including me, erroneously many times. For instance, keeping ten calvus or ocellatus or leleupi in one aquarium does not make them a colony. The *Neolamprologus brichardi* complex form colonies. *Neolamp. multifasciatus* and *similis* do as well. Colonies are groups in which the individuals operate in a fashion in which each benefits others.

Several weeks ago I observed the eldest similis juvenile assist an adult female in pressuring a *Neo. mustax* to leave the shell bed. Just a week ago I was watching one tiny fry that had wandered far away from the group. It was as if one kindergartener has wandered 100 yards away from his classmates. A medium-sized juvenile noticed it and stayed above it, watching and seemingly guarding it. This activity was observed repeatedly. Even so, the event always happened in the same place, so I assumed it was simply where the fry had decided to stay and coincidentally, the older sibling was holding territory in the same area. I didn't think it was true colonial activity until I noticed the change in the adult female behavior.

Until now, adult females would remain directly above young fry for months. They would only drift away

briefly to feed or chase off intruders. Now, with mid-sized juveniles as "helpers," the females are less wary and are several inches away routinely. The juveniles are acting as "nannies" much like has been observed repeatedly in the colonial brichardi complex.
When I walk past or get too near, the colony darts into shells, but the adult females always dart directly onto their latest batch of fry, covering and shielding them. The tiny fry appear to take care of their own feeding and are willing to dart several inches from the group to grab floating food, but they return quickly and remain in a loose group, based around one shell for several months, until they are large enough to fend for themselves in the shell bed. Mothers are still guarding the older, juveniles as well, as are the larger males.
At this point the males have decided their territories and have not been seen battling for quite some time. The dominant male controls roughly 80% of the shell bed, while the subdominant male still sires young on the extreme left.

8/25
Yesterday I located a mustax fry. I was surprised since the female has moved out of the cave. However, the male still occupies it, and maybe is still guarding the one youngster. Could there be more? And what happened to the others (there must have been more eggs than one)?

9/8

Another mustax fry located. The similis are really fun to watch function as a colony. they all move as one when a sudden scare occurs. They all dart down toward the shells as a group, and rise together as well. My similis colony blogs are winding down. It's been a bit over a year since I received my original five fish, and the process has been recorded here as well as I could. There may be a few more posts, but the final few will likely be views of the entire colony.

Today I get five *Neolamprologus signatus*, another shell-dwelling cichlid from Lake Tanganyika. Once they are installed and happy, my blog will shift focus over to their tank.

Later, most likely toward the end of 2013 or early 2014, the school will begin an endangered fish aquarium, and they will be featured and monitored in the blog as well.

9/12

The mustax are at it again. Breeding cave action. The two tiny juveniles are still nearby among the leaves and rocks.

The similis have spread out to a point where the cave the mustax use is really bordering the shell bed. They're separated by a single *Anubius* leaf. If I removed that leaf, there would be either a serious, damaging brawl or the mustax would lose the cave.

At this point the calvus have been relegated to the extreme sides of the tank. It appears that they, too, are not able to defend themselves successfully for extended amounts of time against the small but spirited similis army. Perhaps when the calvus gain more substantial size they can push back.

In an unrelated vein, I started a new blog online based on the newest shellie tank I started. You can access this site at: http://jjeanson.wordpress.com/

9/26

https://www.youtube.com/watch?v=r2I0YT4lvTM
The above link takes you to a short video of the similis colony at work. I believe that there is a brief episode where they easily drive off the large, dominant *N. mustax.*

1/22/14

The similis colonists have begun to spread into the rocks and plants. All the larger cichlids are now fringe and recess dwellers.

At feeding time, all the fish come to hover over the center of the shell bed to catch food, but quickly the other fish leave rather than face the pugnacious army of similis. I would guess that there are approximately 50 similis. Some smaller ones are sharing shells, as the preferred shells are becoming rare.

An item of interest is that there is very little in-species aggression in the colony. The original two males are still the largest, but as the young reach adult size, it is still not apparent that any are male, or that any are challenging others for dominance. Even the shells do not seen contested, as many of the young are apparent-

ly happy to occupy rock crevices or areas in the foliage. There are even shells that appear as-yet unoccupied.

This is the beginning of behaviors that I really questioned a year ago: "What happens when…?" When the similis run out of room, when they approach the other Lamprologines' territories, when a bunch of males are in the same small area...

The calvus are growing so slowly of late that I wonder if they will ever push back into the similis territory. It's possible that they have caught several similis fry, but if so, the losses have gone unnoticed.

06/07/14

Today I sold off 19 similis and tore apart the aquarium for a complete re-scape. There are still close to thirty similis of various sizes, including the large male who is roughly two inches long. He is impressive. The new decor is pretty cool, featuring mainly dark lava rock, in hopes of bringing out the calvus color.

08/25/2015
More than a year has passed since I last posted. The shells are now in various states of decomposition due to the blue-green algae that has infected the aquarium. At one point several months ago, I sold another large group of similis at auction. The remaining fish still number over ten, but I cannot say how many juveniles are extant, as I have seen exactly zero since the last sell-off. Could depleting the population actually have mental (dare I suggest emotional) effects on the population? Are they able to care? I wonder if any of the original five fish are still with me.

The similis still occupy the shells, but many of the males have outgrown the shell bed as a territory. The females, being smaller, each have claimed a small portion of the shell bed and will not tolerate each other's presence closer than two or three inches.

The males will often rise in groups of five or six and display to each other as they ascend in the water, but most of the time, they keep their distance of several to many inches and seem to glare at one another.

The individuals have all increased in size, and I'd venture to say the largest and oldest are easily 2.5 inches. They have recently and inexorably pushed out from the shell bed into neighboring rocks and crannies, and now bully and harass all the other fish. They have disrupted the *A. calvus*' breeding attempts, as well as the occasional meet-ups of the pair of *L. mustax.*

01/03/2017

I sold almost all my remaining similis in groups early in 2016. However, there were three tiny stragglers left behind in my aquarium, so I placed them in a 30L to raise them. All the shells were removed from the large aquarium and it was completely redecorated for larger cichlids.

After several months, I realized that I had missed a couple of baby similis, and they continued to live in the large aquarium among the rocks for about 6 months. When I finally pulled the remaining two similis out of the aquarium, and placed them into the 30L with the other three, the two did not take to the shells at all. Still, six months later, they have not learned to dwell inside shells, though there are plenty to choose from. They are living alongside the other similis, but occupy a mid-level water column position as opposed to hovering near the bottom. They choose to hide in plants or behind rocks/decor rather than racing for the nearest shell.

I found this interesting, as it shows that shell-dwelling may be a learned habit rather than my presupposition that shell-dwelling is an instinct for these fish.

My five remaining similis currently reside directly behind my chair in my classroom in a 30L display tank, decorated with shells, a few rocks, and low-light plants.

I will admit that I feel that I've only learned a little what there is to learn about this really interesting species, and that I feel they are worth keeping an entire colony in any large tank. I still have questions, but they are not really answerable in this relatively small, shallow tank size. I'd love to observe them in the wild.

Hopefully, this has been somewhat helpful and/or educational for the cichlid enthusiasts out there. I would love to hear any feedback.

Thanks for reading.

You've Been Slimed! Attacked by Blue-Green Algae

Article by Evelyn Eagan
Photo by Mike Noren

At one time or another all aquarists have to deal with the blue green slime known as cyanobacteria. I have had it more than once and it is not pretty! This looks like a blue-green algae that spreads all over your plants and decorations and has a distinct unpleasant odor. It is easily gotten rid of if you know and understand what it is and how to deal with it. But if you don't know you can end up with a mess and possibly dead fish and plants. I'm sure more than one new aquarist has given up the hobby because they don't know how to get rid of it and gave up. Antibiotics can be a quicker and easier quicker way of getting rid of this slimy mess, but the downside is you can really throw the balance of your tank way out of whack and really hurt your fish in the process if you don't know what you are doing. Also every use of antibiotic increases the chance of making the bacteria resistant. So only use antibiotics as a last resort and have some patience and try this method first. It does work.

Let me start off by saying that cyanobacteria is in fact not an algae, but a bacteria. A mistake a lot of people make, myself included, is the first time they encounter cyanobacteria they reach for an algaecide to treat it and are surprised when it doesn't work. Cyanobacteria also known as blue-green algae is comprised of a large group of organisms, some being green, some blue-green and some are red. This bacteria is found everywhere in nature, land, water, and air. It is one of the oldest living things on the planet dating back 3.5 billion years ago. Why has it survived so long? It makes use of light discarded by higher plant life. Cyanobacteria absorbs light between 550-700nm, which is roughly the same as plants and green algae. It is one of the reasons it thrives in our planted aquariums and is so hard to get rid of. It exists in a wide range of temperatures and is tolerant of some extreme environments such as hot springs, saline lakes and even in the middle of the desert. It subsists on organic waste including dissolved phosphates and nitrates but it is not dependent on nitrates or ammonia since they use molecular fixation (it makes its own nitrogen). What do all these things have in common? They exist in our artificial environments called aquariums. Cyanobacteria is not initially dangerous to the inhabitants of our freshwater or marine aquariums but is unsightly and can cover every surface in a matter of days. Left untreated it will gradually kill your plants and possibly your fish.

So where does it come from? Unfortunately, there is no way to be sure. It comes in on a new plant or decoration that wasn't properly cleaned or it just could have been there all along. The more important question is why did it proliferate and how to get rid of it. There is often no single cause that leads to a bloom. It is usually due to a combination of improper lighting, and abundance of freely available nutrients and a stagnant low oxygen environment that hastens the bacterial growth. Tanks that get cyanobacteria often have good water quality, low ammonia, nitrite, and nitrates levels and

otherwise unremarkable. One of the first times I had it, I couldn't understand why I couldn't get rid of it. I thought I was doing everything right, regular water changes not overfeeding, not overcrowding, all my water quality readings were normal. Eventually I discovered my under gravel filter had trapped organic waste and even though I vacuumed the gravel, the suction was not strong enough to pull up all of the decayed debris and over time it built up (I couldn't see it) and the nitrates increased even with water changes was not going down. When I got rid of the under-gravel filter the problem went away. This is not to say you should do the same, just make sure you are cleaning all of the debris from underneath.

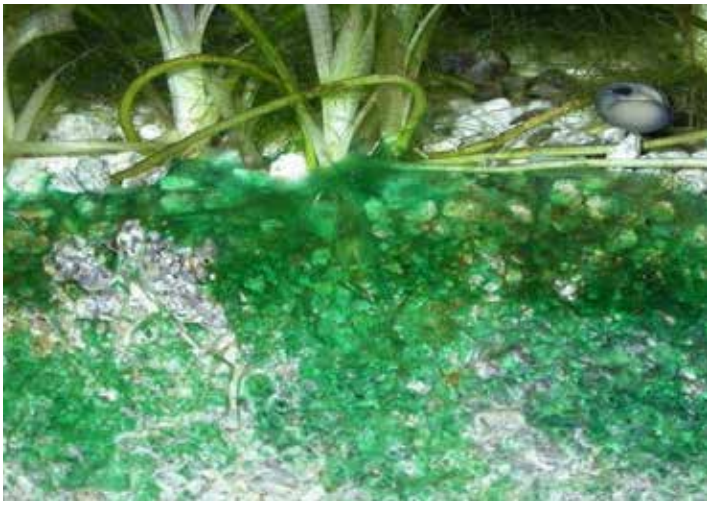
It is not impossible to completely remove cyanobacteria if you follow several steps:
1. Limit or change out the lighting
2. Modify the feeding schedule and amount of food
3. Physically clean the gravel
4. Lower the tank temperature
5. Increase the aeration

The above combinations will eliminate the appearance of the bacteria but there will still be small pockets that may survive. You just have to maintain an environment that won't allow it to re-bloom.

First address the lighting. If you are using fluorescent bulbs change them. They lose their strength after six months. Use balanced light bulbs 6400K to 14,000K or actinic 50,000K—this will immediately reduce the amount of light from infesting bacteria. If not already, put them on a timer. No more than 10 hours a day and change the bulbs every 9-12 months. The next thing is to reduce the nutrient availability. The primary food source for cyanobacteria are dissolved organic compounds or DOCs, which consist of phosphate and nitrate. Overabundance of these materials can often be traced back to overfeeding or failure to remove dead plants or lack of water changes. To reduce DOCs perform a 30% water change and significantly reduce feeding. Feed about 1/3 the normal amount to keep the fish happy and have no leftovers for bacteria to feed on. Then do 10% water changes every other day for the remainder of the week to bring phosphate and nitrate to acceptable levels. Once the tank is back to normal, the feeding schedule should be adjusted to reduce the amount of food decay and regular water changes should be done.

After the first day of new lighting and reduced nutrients, the bacteria should start to break down. Start removing large clumps and sheets of bacteria with a small net. Remember to sterilize the net when finished in a solution of 15-25% bleach to avoid reintroducing bacteria into tank at a later date. Once the large clumps have been removed, increase aeration. Cyanobacteria thrives in still, poorly oxygenated water. Adding a bubbler or turning up the power heads should work. Next, lower the tank temperature below 76 degrees if you have a freshwater setup. This is not advisable for a marine tank as this will cause unnecessary stress to the fish and corals.

Using the above suggestions of altering the lighting, reduced feeding, manual cleaning, water changes and aeration should make your cyanobacteria problem history. That being said, there are some things to watch for. The cyanobacteria were consuming nitrates while in the aquarium, so with it removed you may get a spike in nitrates while the beneficial bacteria work to replace the cyanobacteria. These nitrate spikes are expected and should be minimal if you have been diligent in the water change schedule mentioned above. You may need to do additional water changes every other day for up to two weeks to bring levels down to the safe range of 10 ppm. Then all you have to do is maintain the environment.



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Bettas Return to Canada Part II

Gerald Griffin

The second show of Betta Breeders Canada coincided with the 60th anniversary of the London Aquaria Society and was held at Fanshawe College in London, Ontario. This created an interesting arrangement as to what could and could not be done but also created some problems which I will cover at the end. Needless to say this would turn into a very memorable event.

The Betta Show actually started on the second day with my presenting Betta Judging Seminars for our two new apprentice judges Ashley Rezka and Peter DeSouza. After the seminars we went into the Judging. Kayla and I covered the fine points and then let our apprentices get into the actual meat of judging. Our apprentices as well as other members of Betta Breeders Canada had received a run down on judging during their first Betta show so they had a good idea what to expect except this time they were actually judging for real. They both did really well and Haydn Pounder jumped right in using his expertise with Guppies and also did a remarkable job as well.

After the Show there was a local Betta Auction and the Awards Presentation. In the commons area for the dinner was the snacks and with a bit of humor the snacks were put in fish bowls with nets for their removal to your napkins or plate. During the banquet dinner was the CAOAC Convention awards and after the Banquet was Karaoke night. The Anniversary cake was cute and quite delicious!

Karaoke night was entertaining as several friends as well as Kayla took to the stage to do renditions of various songs. One of the most memorable performances was my friend Ken McKeighen rocking out to Metallica and Mark Denaro and Kayla signing Summer Nights. After enough alcohol they eventually got me up to sing.

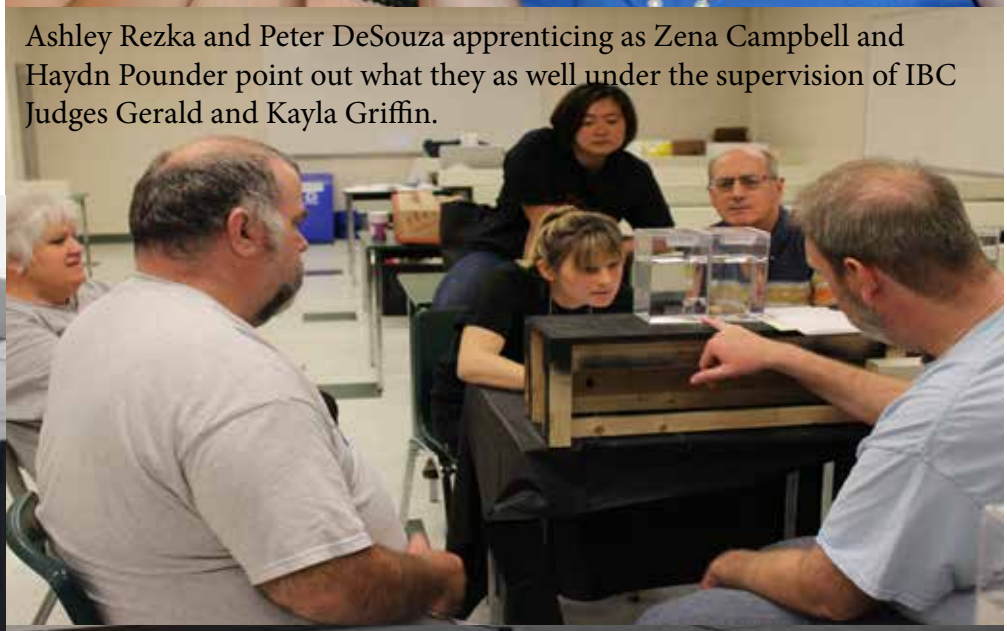
The next day was the all species auction and with that time for Kayla and I go back home. The trip to Detroit was uneventful however once we got to the airport we had the worst experience of our lives. I do not know what the real story was but I could not pass screening. Every time I tried to go through the chemical detection it went off. They searched my baggage over a dozen times and it would cause the detector to go off and they never found anything. The only thing we could figure was that what was triggering was anything that touched the desk in our dorm room. With that we are guessing that the students in the dorm before we got

there were doing drugs on the desk.

We were stuck trying to get through screening for an hour and a half and with 5 minutes before our flight I lost my temper with TSA and they released us to catch our flight. We barely made it! However despite the crap with the TSA we did have a fun weekend.

We will shortly return back to Canada for their first International Show and after Convention Canada will have its first Certified IBC Judge in a very long time. We are looking forward to when Canada will be having a number of IBC Shows.

Kayla Griffin and Leslie Dick making words with the snacks.



Ashley Rezka and Peter DeSouza apprenticing as Zena Campbell and Haydn Pounder point out what they as well under the supervision of IBC Judges Gerald and Kayla Griffin.

Ken McKeighen rocking out to Metallica at the Karaoke

Kayla Griffin singing at the Karaoke part of the Banquet Dinner.

Ashley Rezka and Haydn Pounder pointing Bettas under the Authors eye.

Ashley Rezka, Catherine Salmon and Peter DeSouza collecing their awards.

Mark Denaro and Kayla Griffin singing a duet at the Karaoke at the Banquet Dinner.

Aquatic Experience Chicago!

Gerald Griffin

When I was first contacted about attending the Aquatic Experience in Chicago I had no idea what to think. We (Kayla and myself) would be representing the IBC at this event. We then decided to discuss the event at our local meeting of the Oklahoma Aquarium Association and another couple indicated that they wanted to go but never had the opportunity to go. What cinched the event for me was seeing so many of our Aquatic Hobby friends were planning on attending which we never get to see enough of. So we made plans and since we had to bring a lot of stuff, that and we really had no idea what to expect we needed lots of stuff. If you have never seen Kayla pack stuff it has been called "car tetris". So our "Betta Mobile" was packed where there was no space and we met up with our couple friend Andy and Michelle Rackley and headed off to Chicago with a totally packed car. For the most part the trip was uneventful until we hit 6am Chicago traffic. After several 4 letter words and nearly getting killed we arrived at our hotel. We then checked in and had a brief nap before we went in to set up our booth.

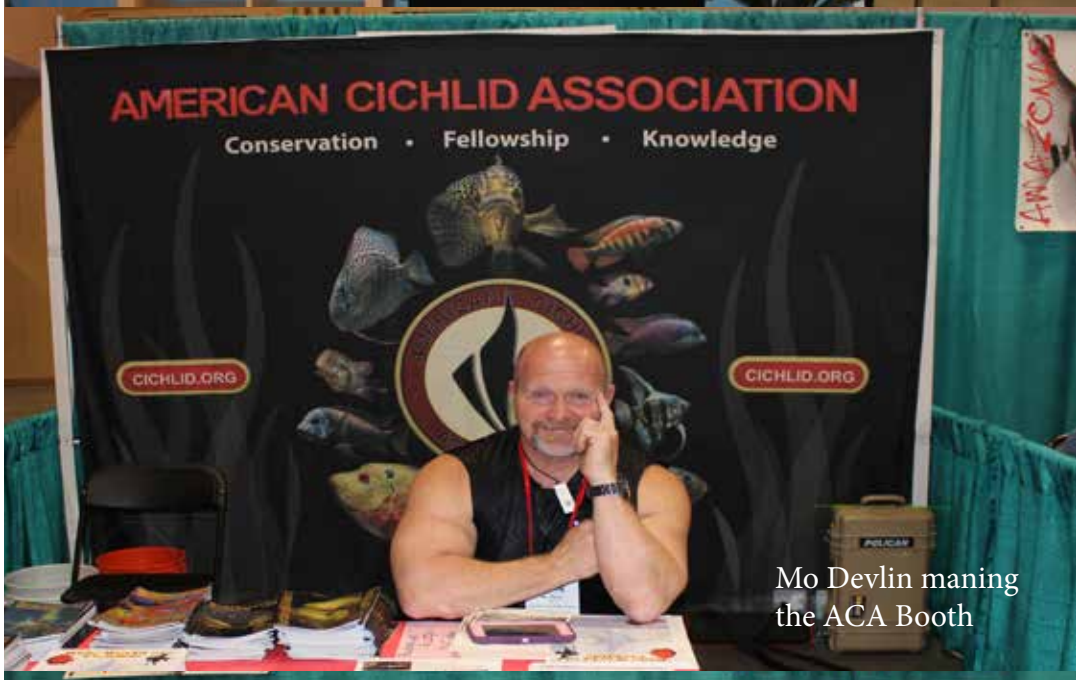
Coming into the Show Floor we were hit with a display for Piranha. I always love finding people with similar senses of humor as mine! Also nice was seeing the informational displays that were set for the attendees. One of the things that made this experience so great were the number of Contests and there was a Cichlid show going on with this event! What caught Kayla's eye right off the bat was the Aquascaping Contest. What caught my eye was the Shrimp Contest. Those that know me know I keep a lot of different aquatic creatures not limited to types of fish so I have my share of shrimp and crayfish as well as axolotls which I tend to use as classroom displays.

Right off the bat some of the people I bump into are Mo Devlin (for those that do not know Mo is one of the best Aquatic Photographers I know and the stamp on his pics are AquaMoJo). Mo was there manning the American Cichlid Association booth. For those in the United States that have an interest in Cichlids I would definitely recommend joining. Right across from us was the International Fancy Guppy Association which is the Guppy equivalent of the IBC. I also belong to that organization as well. By the ACA booth we run into friends David and Janine Banks of Amazonas Magazine. If you have not ever seen Amazonas magazine you absolutely have to! They are the premier

magazine with so many cool articles from the best of the best in the Aquarium Hobby field. Several months ago I had the honor of writing a couple of articles from them in their Betta issue! Amazonas has also been gracious enough to give us free advertising of our events in half page adds. It is one of my absolute favorite Aquarium Magazines!

Being an avid hobbyist one of the other things that got my attention was Project Piaba and they had a live demonstration on designing blackwater tanks. Sam Rutka and Mike Tuccinardi were covering design basics and giving a discussion on the Piaba Project. If you are not familiar with the project they are an organization that promotes sustainable practices of collecting Aquarium Fish. Their slogan is "Buy a Fish, Save a Tree!" Their work is with the Rio Negro which is a blackwater environment hence their demonstration on making a blackwater tank. This is important as more than 100 species of imported Tropical Fish actually come from the Rio Negro. More information can be found at ProjectPiaba.org.

Another unusual event was a "Kid's Aquarium Contest which was a stock tank that young Aquarists could decorate and load



Mo Devlin maning the ACA Booth

Dave and Janine Banks maning the Amazonas Booth

AGA Tankscaping Contest

informational displays, vendor displays, games for the kids, a touch tank and the Sea Lion Splash which was more of a tourist attraction. So if you happen to be in the Chicago Area and want to see the biggest Aquarium Trade Show in the US then stop on in to the Aquatic Experience. Kayla and I are planning on being at the next one since we have our booth reserved!


The Kids Tank Decorating Contest


Sam Rutka finishing the Piaba Blackwater Build

Shrimp Contest!

Project Piaba Blackwater Tank Build

AGA Tankscaping Contest

A visit to Dick Moore's Fishroom

Greg Steeves

Last summer my friend Leslie Dick contacted me to ask if I would be interested in speaking at the annual North East Counsel of Aquarium Societies annual convention. This is a rather prestigious event and I had the good fortune of speaking at it several years earlier. Lee Ann and I made that trip and had a lot of fun. The NEC is a blanket organization that includes in the area or 20 aquarium clubs all located in the northeast area of the country. This format is similar to the Federation of Texas Aquarium Societies in our region. I agreed to attend and immediately began looking forward to seeing my friends located in this area. One long time friend, a man that I have known for a over 20 years, is a fellow Lake Victoria cichlids enthusiast named Dick Moore. I had been given an open invitation years ago to visit his fish room and intended to see if the offer was still valid.

Dick and I had talked back and forth for years, exchanging information, cichlids and inevitably, establishing a friendship centered around fish. We had been roomies at ACA's before and shared some situations that make for funny stories but that's for another day! To give you an idea of the type of person this man is, at the American Cichlid Association's show in Cincinnati the previous summer, Dick showed up with a surprise for me. He handed me a bag of fish, I picked it up and looked at the little creatures. Half of the fish were a beautiful piebald pattern while the others were fairly solid colored. Theses were *Paralabidochromis chilotes* from Ruth Island in Lake Victoria. This was a Holy Grail fish for me and I had just been gifted a beautiful group of young! I was not even aware they were in the hobby as I had only seen photos of it from the lake where it is native. Dick had obtained it and surprised me with a group. That is the kind of person he is.

After a day of travelling, I arrived at my hotel, got checked in, then and settled, then headed down to the lobby to see who else had arrived. I found my New England Cichlid Association buddies hard at work assembling aquariums and racking for the cichlid show. Now this is a great group of whacky characters. My friend Dick is also involved in this group. As I was leaving the show room I ran into my buddy. It was months since I last saw him but we immediately picked up where we left off. He asked if I would have time to visit his fish room at some point. He lives a little over an hour away just across the New York state line. I had intentionally booked a late flight on Sunday afternoon with hopes of visiting. After some small talk, we decided to see if we could get away on Sunday.

After a wonderful convention, Sunday is auction time. I made a quick run through the auction room and found Dick. Going to his house would not only be a tick off my bucket list, but would also keep me from buying anything at the auction. I had a full suitcase and did not want to travel with fish. We climbed into the car and off we went. Heading south on I-84, we drove through quaint little towns and granite faced hills until reaching the city of Danbury. Now here is where my directions stop. It would be like giving up the location of the bat cave. Dick has a very nice spread on a gorgeous piece of property. When the garage door opened, there were stacks of fish crates and empty, large aquariums standing on their sides. Moving forward down the stairs to the basement, a door opened and waalaa, I was here, Victoria cichlid Mecca.

The first thing I did was to have àn overall look after the layout. Dick's fish room is "L" shaped and contains mostly large aquariums. As I was trying to soak in the over all picture, I was almost immediately distracted by some large extremely colorful fish that I was familiar with. I was looking at a large group of a


Dick Moore in his Fishroom


Dick Moore's Homemade Tanks


Dick's 30 Gallon Tanks

Community Cichlid Tank

Haplotaxodon trifasciatus

Julidochromis

beautiful paedophage, *Lipochromis parvidens*. I had kept this fish several times (in fact I had a small group back at home) but mine were no where near as beautiful as the ones I was looking at. These fish were outstanding. Looking down the three tiered rack of 6 foot aquariums, I found some very large, skittish fish. These were a Lake Victoria piscivore, *Harpagochromis* sp. "orange rock hunter". Again, this was a fish that I had tried before but mine were no where near as outstanding as his were. There was a large male that must have been the dominant fish. It was living up to its name. Below this was another group of larger fish. These looked somewhat familiar to me. I thought I was looking at *Pyxichromis orthostoma*, an ambush predator from the Kyoga Lake system just north of Lake Victoria. Dick explained to me that these were a fish from Jinja Uganda that were being called *Haplochromis* sp. "large mouth". It was an interesting fish and I would love to know more of its history.

There was so much to see and take in that I was being distracted by movement in each tank. I didn't want to miss anything. Just so many great fish species. The ones that stood out to me were his

Yssichromis species. Dick is maintaining three different beautiful "arrowheads". All the tanks along one wall are 30 gallon aquariums stacked sideways to make the most of the room he is working with. Almost every tank has at least one breeder box hanging from it full of fry. All of these are labeled with sticky notes indicating what species is inside. He had multiple boxes of *Yssichromis piceatus*. This species is extremely rare, most likely extinct in the wild. It took every ounce of fortitude I could muster up to not take any of these with me. On the way home, Dick offered to send me some once my fish room remodel was completed. A closer look at his large tanks and I was amazed to see they were homemade. These were made of plywood coated with epoxy and a large glass pane siliconed to the front. He had some of his homemade tanks in services since 1972!

The more I looked around, the lighter headed I got. There were so many incredible fish, so many gadgets, so many cool stories. I could have stayed there all day. Unfortunately, we had to get heading back to Connecticut; I had a flight to catch. I am extremely fortunate to have a true legend of the hobby as a friend. Master breeder Dick Moore has an amazing fish room pretty much exclusively devoted to the maintenance of CARES species. Thank you Dick for allowing me to visit your amazing collection of cichlids and I look forward to a return trip and part two.

Pyxichromis sp. Jinja

Paralabidochromis chilotes from Ruti Island Lake Victoria

Harpagochromis sp. Orange Rock

A Visit to the Monterey Bay Aquarium

Gerald Griffin

No trip to California is complete until you take a trip to the Monterey Bay Aquarium. The Aquarium is in the picturesque town of Monterey California. I have had the fortune of going twice. The first time was part of a consulting I did with the Aquarium on an exhibit and I provided fish as well as background information that was used in part of the short clawed river otter exhibit. The second time was part of the IBC Convention in San Jose California. Monterey Bay Aquarium was founded in 1984 and is located on the site of a former sardine cannery on Cannery Row in Monterey. If that sounds familiar some of Steinbeck's works feature Cannery Row in Monterey. Cannery Row which was written in 1945 is considered one of his best works and he eventually penned a sequel Sweet Thursday in 1954. If you travel across the town you can see a number of tribute markers noting some of the locations in his books. If upon entering the Aquarium it looks familiar you might have seen it in the movie Star Trek IV. With some special effects the Monterey Bay Aquarium was transformed into the Cetacean Institute in Sausalito.

The Aquarium itself has over 600 species on display at any given time and has an annual attendance of around 2 million visitors. The central display features a 28 foot high tank which holds approximately 333,000 gallons. This tank houses California Giant Kelp which is important to the ecosystem as it was directly tied to the collapse of the sardine fishing industry in California in the 1950s. This is something that I cover in my Biology classes as it demonstrates how important some species are. The Sea Otter is what is called a Keystone species. By definition a Keystone species is a species that has more value than would normally be observed. In the late 1800s and early 1900s the Sea Otters pelt was highly prized because of its water-proof abilities. So they were hunted near the brink of extinction. Sea Otters feed upon crustaceans, echinoderms and mollusks. One of their primary foods is the Sea Urchin. Sea Urchins eat Kelp Holdfasts and when the Otters started to disappear the Sea Urchin population exploded. As a result the Kelp holdfasts were destroyed and the kelp along with it. With the disappearance of the kelp the fishes either died out or moved on. Through conservation the Sea Otters are being returned and the Kelp forests are thriving again.

Another site to see at this Aquarium is a 1.2 million gallon Aquarium that houses Ocean Sunfish. That tank features one of the world's largest single paned windows. It is actually 5 pieces of acrylic that are bonded seamlessly. If you look closely at it you can actually see the lines between pieces. Looking up is a circular exhibit that houses a massive school of sardines which was the cornerstone of Monterey's major

industry, the Canneries.


Author in the Jellie Exhibit

The basic Aquarium itself like many on the coast pumps in seawater and changes out its marine tanks so the water is always fresh. The Aquarium pumps in about 2000 gallons a minute which is exchanged with about 100 exhibit tanks. During the day the water is filtered to increase the visibility and at night the filtering is switched off so that plankton can be brought in to feed those organisms that rely on them. Monterey Bay is one of the few Aquariums that can actually grow the Giant Kelp do to this exchange of sea water.

In talking with those attending the Aquarium one of their most popular exhibits are the "Jellies". Their jellyfish collection is one of the largest in the world and there is a myriad of species displayed. The Monterey Bay Aquarium also like most Aquariums rotates exhibits. One of their most famous accomplishments was keeping a Great White Shark in Captivity for 6 months. Until that time the longest record was 16 days. They had made other attempts at keeping Great Whites but this was their best opportunity as it was a young 4 footer. The Great White became aggressive killing tank mates and was eventually released back into the wild. The staff agreed that the Great White was not suited for captivity.

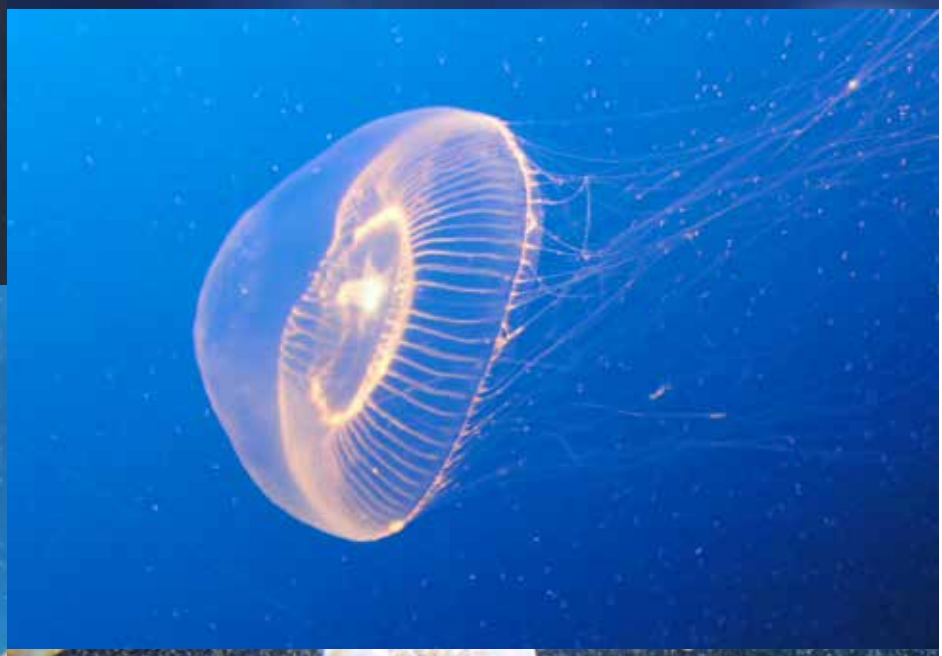
Monterey Bay Aquarium also has a good collection of Cephalopods which is part of the "Tenticles: The Astounding Lives of Octopuses, Squid and Cuttlefishes". Among those a number of cuttlefish species including one of the largest species of Cuttlefish. They also have a Giant Pacific Octopus display which is really interesting as some people have no idea how big they really get. The Aquarium also occasionally houses rare finds that MBARI find in the deep Ocean. MBARI is the Monterey Bay Aquarium Research Institute which researches the submarine Monterey Canyon. The Institute is world renowned in their research of deep-water oceanic life.

Although the admission price is $49.95 this is one of those few places I feel is actually worth the money. However do not go in thinking it will only be a few hours. One really needs to make this an all day adventure to get the most out of it. My advice would be to start in the morning and when lunch time approaches get your hand stamped and go enjoy some of the local eateries and then return to finish out the Aquarium.

After the Aquarium there are a number of restaurants that specialize in sea food and the delicacies that the Bay has to offer. Be forewarned, some of those restaurants are rather pricy and they also have a locals menu which you could ask for. This is by far the best Aquarium I have ever attended. Next Issue I will be reviewing the Oklahoma Aquarium.

MBARI Information Display showing the types of research conducted.

Jellies!



Tenticles!

Texas Area Killifish Organization

SHOW AND AUCTION

15 Classes

TAKO BELLE REVUE

21-23 July 2017 — in HOUSTON!

Four Presentations – Friday Evening/Saturday/Sunday Morning

Stephen Rabke - Peat Workshop – "The Degrees of Wetness"

Greg Steeves – Comal River Adventures

Roy Williams – Collecting Texas Killies

Art Leuterman – 'Roloffia'

The TAKO Belle Revue Show and Auction is scheduled for July 21-23 at the Thornwood Community Clubhouse, 15118 Turkey Creek Drive, Houston. Setup will begin at 6:00 AM on Saturday and the Killifish will be available for viewing to the public at 12:00 PM. On Sunday, the Auction will begin at 12:00 PM. Bidder Cards are free. However, advance registration is encouraged. Please email Art Leuterman with your name, address, cell and home phone number if you plan to bid at the auction. Art's email address is leutajjl@swbell.net.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THE INAUGURAL SELAS FISH SHOW

SUNDAY JULY 23, 2017

KNIGHTS OF COLUMBUS HALL

4021 TRENTON ST. • METAIRIE, LA • 70002






MULTIPLE CLASSES • CASH AWARDS

ALL FISH MUST BE REGISTERED PRIOR TO SHOW

(NO WALKUP CONTESTANTS)

SHOW FISH MUST ARRIVE

BETWEEN 11:00 AM AND 11:30 AM

GENERAL ADMITTANCE IS AT NOON

VISIT www.SELAS.us FOR RULES AND FORMS

ACA Convention – Cruisin' for Cichlids

July 13-16, 2017

Sheraton Detroit Novi Hotel

21111 Haggerty Rd

Novi, MI 48375

Phone: 248-349-4000

Register today at: http://acaconvention2017.com

Conservation highlights will include numerous speakers such as CARES Team Specialists Pam Chin and Juan Miguel Artigas Azas, the CARES Best In Show Award, the Guy Jordan Silent Auctions of conservation priority fish going on throughout the event, the celebrated Babes In The Cichlid Hobby Friday night auction, sure to have many CARES species, and the bounty of fish sales from individuals and Sunday's auction.

The members of the Michigan Cichlid Association have been working diligently to host the most exceptional convention ever for 2017!

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!