In Depth

March 2015

The Tropical Fish Club of Burlington

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Established February 1989

Tropical Fish Club of Burlington
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802-372-8716
www.tfcb.org

We meet on the second Thursday of each month, September through June, at 6:30 PM at the VFW Hall, 73 Pearl St, Essex Junction, VT.

Our membership consists of adults, children and adolescents. Many members are very experienced and have been keeping fish for years, and others are just getting started. People of all ages and experience levels are always welcome. Meet and learn from those who share your interests!

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President's message

By David Banks

Welcome to 2015! While last year was a very exciting year for the club as we celebrated out 25th anniversary all year long, I hope 2015 will continue to be as exciting. We started our year out with a quiet January meeting, several members were away, and the cold weather may have kept others at home. Our February meeting featured Jean-Pierre Camus speaking on Corydoras catfish, we are lucky to have such good hobbyist friends in Montreal.

This month, Ann Whitman will educate us on her knowledge of breeding angelfish. She did a quick mini program for us last year, and I believe it left all of us wanting to hear more!

We will again have speakers that will speak at TFCB as well as OVAS and MAS. This works very well since all three club meetings are typically on three nights in a row. It is a lot to ask of a speaker, and many are not able to dedicate that much time, so we are thankful when it is possible. It gives us a chance to split costs, and also gives our members the opportunity to see the speaker more than once. Pittsford is only 75 minutes from Burlington, and Montreal is only 90 minutes, it does make for a long night, but if you are ever interested in going please let me know.

There are lots of great events in northeast this year. Starting with the NEC 40th annual convention in CT March 20-22. TFCB is always well represented at this annual event and I expect this year will be no different. Then there are the national conventions for many specialty clubs that hold annual conventions all over the country. This year we have many in our area, the American Cichlid Assoc. convention will be held for the first time in New England 7/30-8/2 in Springfield Mass, just a little about 3 hours from Burlington. This is typically the largest freshwater convention in the country and should be on everyone's plan to attend if you have even the slightest interest in cichlids. The American Livebearer Assoc will hold its convention a little further away in Lancaster Country PA and the Aquatic Gardener's Assoc will hold their convention in Washington DC. MACNA, which is the largest hobby convention devoted entirely to the marine side of the hobby, will be held in Washington, DC this year. And of course the TFCB auction Oct 25th, while not quite on the same scale as these other events, is still a great time with lots of locally bred fish, new and used aquarium equipment, live plants and who knows what else! Turn the page for the Calendar of Events.

I want to take this opportunity to thank all past, present and future TFCB members, you are what make this club so enjoyable for all. I have always said, the more you participate in anything, the more you get out of it! So keep up the participation! Attend meetings, read the newsletter, write for the newsletter, attend conventions and other club events, communicate with fellow members on our facebook page or on the yahoo mailing list, it all adds to the fun!

Cover photo of Blue Ghost pearlscale, Blue Marble pearlscale and Blue Ghost angelfish by Ann Whitman

CALENDAR OF COMING EVENTS

March 12	6:30 PM, **TFCB** meeting, Ann Whitman on Breeding Angelfish
March 14	Tropical Fish Society of RI Auction, Cumberland, RI
March 16	8:00 PM, Boston Aquarium Society tour NE Aquarium, Boston, for all NEC members
March 20-22	Northeast Council of Aquarium Societies (NEC), All-Species Extravaganza, 40th Annual Convention, Rocky Hill, CT
April 9	6:30 PM, **TFCB** meeting
April 10-12	Aquatic Gardeners Assoc. Convention, Sheraton, Reston, VA
April 12	New England Cichlid Assoc. Auction, Windsor Locks, CT
April 14	7:00 PM, OVAS meeting, Maclure Public Library, 840 Arch St., Pittsford, VT
April 20	Boston Aquarium Society Breeders' Auction, Boston, MA
May 1-3	American Livebearers Association Convention, Lancaster, PA
May 14	6:30 PM, **TFCB** meeting
May 17	OVAS Auction, registration at 9:30 AM, auction at noon, Holiday Inn, Rutland, VT
June 11	6:30 PM, **TFCB** meeting
July 30-August 2	American Cichlid Assoc. Convention, Springfield, MA
August 23	NEC Summer Auction, Rocky Hill, CT
September 4-6	Marine Aquarium Conferences of North America, Washington, DC
September 8	OVAS meeting, Karen Randall
September 9	Montreal Aquarium Society, Karen Randall
September 10	6:30 PM, **TFCB** meeting, Karen Randall
October 8	6:30 PM, **TFCB** meeting
October 25	**TFCB** Annual Auction, VFW, Burlington, VT
November 6-8	Aquatic Experience, Schaumburg Convention Center, Schaumburg, IL
November 12	6:30 PM, **TFCB** meeting,
December 10	6:30 PM, **TFCB** meeting and holiday party

Female and male *Betta splendens.* Photo by Ann Whitman

Catfish Cionado #2
The Jaguar Catfish – *Liosomadoras oncinus*

By Anthony P. Kroeger

Jaguars are one of my favorite catfish. Native to Peru they are usually exported from Iquitos and grow to about 9-10". This is a bragging rights fish! It is hard to find!

Jaguars are hardy fish but never cheap. They are only seasonally available and even then you have to ask stores to order them or look online for them.

Jaguars are one of the prettiest catfish. Juveniles are cream with irregular chocolate brown spots. As they grow, the spots decrease in size and the cream color darkens over the front half and the top of the fish.
Jaguars are closely related to Zamora Cats discussed previously. Care is similar to Zamoras, soft to medium hard water, neutral pH, temperature 72-78 degrees. They eat any food and especially love small earthworms.

Jaguars do not behave like Zamoras. This catfish is nocturnal and twilight active only. If your Jaguar comes out to feed during the day it is because it is starving. I always feed my Jaguars every night after the tank lights are off. To best view them, buy the new "LED Moon Lights" for your tank. Then you'll be able to enjoy watching your Jaguar.

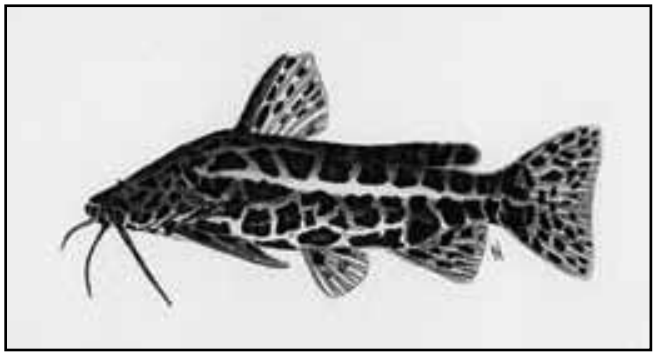
Jaguars' fins and gill plates are very spiny. Never use a net to move this fish. Use a plastic cup or bowl only. In addition, Jaguars' pectoral and dorsal spines are serrated. They have no problem locking these fins or clamping them down on your finger. This results in a nasty, ragged cut. Always handle Jaguars with great care.

They love driftwood and caves to hide in. If you drill holes in your driftwood, it will lodge itself into the driftwood. This makes it easy to move! Just move it wood and all. Never try to remove it from the wood. You will injure the catfish, and probably yourself, trying to do so.
This catfish will eat any neighbors half its size or smaller. Keep it with similar sized fish and it is always peaceful.

Jaguars will sometimes disappear for extended periods of time in densely planted tanks. Do not worry, it is fine. You just don't see it.
Jaguars have not spawned in the aquarium, but like Zamoras, it is assumed they use a form of internal fertilization.

Owning a Jaguar is a bragging right! Hard to find and rare, it is a prize well worth owning. Try one! Until next time, "Catfish Dreams!"

(Editor's note: They were recently spawned in the aquarium by Jeremy Bausch and his article appears in the November-December issue of Amazonas Magazine.)



Liosomadora oncinus. Illustration by Ian Fuller. This and other illustrations are available for sale and by permission at www.corydorasworld.com.

Making the Leap From Tank to Fish Room

By Ann Whitman

We all start our hobby with a single aquarium. In my case, it was a simple drum-shaped bowl of common guppies. My interest spread into larger aquariums as I learned about new species and their habitats, and even had some breeding success. But, over all the years I've kept fish, I always maintained tanks in my main living space and kept no more than a few at a time. Until a couple of years ago…

Go Big or Get Out

Finally, after nearly 50 years in the hobby, I had the "go big or get out" moment. What pushed my aquarium interest over the edge and into the basement? In a word—maintenance. As my angelfish breeding became more successful, tanks had popped up in the living room and dining room and threatened to take over the kitchen counter. Weekly water changes took hours of bucket hauling or didn't get done. We were running out of electrical outlets and horizontal surfaces. My spouse was not amused.

Moving my hobby to the basement and setting up a more efficient fish room decreased my maintenance time considerably, while allowing me to expand the number of tanks. Now, all my water changes can be done with a hose in a little more than an hour. This winter, I added central air and eliminated all the small, noisy air pumps and several hang-on-the-back filters. The Jehmco linear air pump and PVC manifold system is worth it's weight in gold! The next step is building or buying a better rack system so I can fit even more tanks into my space.

Focus on Fish

What pushes ordinary aquarium hobbyists into setting up a fish room? Everyone has a defining moment, vision or goal. Breeding is usually the key focus, but it takes many forms.

- **Breeding fish takes space.** Lots of space, depending on the species. Your bushynose pleco dad just let 50 babies out of the cave—again. Fancy guppy breeders require at least ten 2-1/2 to 10 gallon tanks to maintain just one strain of guppies. I breed angelfish and each pair needs several 10-15 gallon tanks, two 20s and a 30 gallon, plus a couple of gallon-sized pickle jars. Multiply that times half a dozen pairs, add a couple of big grow-out tanks and you've got a fish room!

Bushynose Ancistrus breed prolifically. Males guard the young inside a cave for several weeks.
Photo by Ann Whitman

- **Specializing.** Ask any killifish enthusiast about his collection and he'll lead you to the basement or spare bedroom. Killifish, Corydoras catfish, Lake Malawi cichlids and other specialty fish groups will quickly push your space limits, especially since most specialists are also serious breeders.
- **Collecting.** Some of us aren't content to specialize. We go to conferences, auctions and shops and bring home a wide assortment of appealing must-have fish, shrimp and plants. Then we figure out where to put it. Hey, what's one more tank?
- **Maintaining threatened species.** Many dedicated hobbyists are actively involved in keeping and breeding threatened and endangered fish species that appear on the ICUN Red-Listed and CARES fish lists. Many of these

species face extinction in the wild and others are available to the hobby only through the conservation efforts of dedicated breeders. Keeping genetically pure and viable strains and species takes space and good organization.

- **Efficiency of scale.** This is the true argument for convincing your partner to support your fish room desires. It is simply easier, cleaner and more energy-efficient to consolidate all the tanks into a tidy rack system, and add central air, heat and plumbing. I can run far more tanks on the same amount of electricity, now that they share air, light and heat. And maintenance no longer requires schlepping buckets through the living room or making baby brine shrimp on the kitchen counter.

Leap and the Net Will Appear

If you've been teetering on the edge, don't be afraid to make the leap. Ask fellow hobbyists for advice and watch Ted Judy's excellent YouTube videos on planning, building and setting up all aspects of a fish room. Angels Plus also has a good page on fish room planning. You will be happier, your housemates will be happier, and your fish will be happier. Take the plunge!

Angelfish need plenty of space to pair off and spawn. Raising the fry from each spawn to a saleable size requires several tanks, ranging from 10 to 30 gallons. Photo by Ann Whitman

Corydoras sterbai Photo by Ann Whitman

Tetra Tails #1
Sword (tails) and Dragons! Oh My!

By Anthony P. Kroeger

Tetras inhabit many ecological niches in the wild. Their behaviors are adapted to such. This column explores some unusual, interesting tetras. This time we look at two: Dragonfin tetras (*Pseudocorynopoma doriae*) and Swordtail tetras (*Corynopoma riisei*).

Dragonfin tetras are native to Paraguay and southeast Brazil. They grow to about 3-1/2". The body color is silvery with reflective blue and green spangles depending upon lighting. This fish shows its best under natural sunlight as it brings out the reflective colors. The tail fin of the male is split to the root, and he has spectacularly long and full dorsal and anal fins, as well. The lengthened tip of the dorsal fin is black.

Male Dragonfin Tetra, *Pseudocorynopoma doriae*

This active, peaceful community tank fish should be kept in small schools. I have never had them bother any small fish, but I always keep them with fish at least half their size just to be sure.

Dragonfins like soft, acidic water, temperatures 75-82°. They eat any food offered: flakes, frozen, pellet. They especially like freshly swatted insects. To condition them for breeding, I use live blackworms, freshly swatted insects and frozen bloodworms.

This is an active fish! Give it a roomy 55 gallon tank with lots of open swimming space. Dragonfins are hardy fish. Always keep this fish's aquarium covered—it is an expert jumper. The first time you leave it uncovered, it's guaranteed you will find it dried out on the floor.

I have read that this fish fertilizes its eggs internally. I'm not sure if this is the case or not. I do know that they go through some very weird acrobatic positions and moves when spawning. It makes glo-lites barrel rolls simple by comparison. This is not an easy fish to breed.

Use a 20 gallon long for a pair, filled with soft, acid water at 80°. Fiell the tank only 6" deep and cover the bottom with marbles. Throw in a few bunches of hornwort and cross your fingers. They spawn in the morning and lay about 200 eggs. Remove the adults after spawning. They are eggs eaters. The babies hatch in 48 hours at 78° and are small. Try rotifers as a first food, then baby brine shrimp. This fish does not like large water changes. I change 10% every other day.

Dragonfins are very rare and hard to find now, but they are well worth the effort. Be the first in your club to have a dragon (fin) in your tank!

Swordtail characins are closely related to dragonfins. They come from Columbia and Venezuela and grow to about 2" long.

Swordtail characins are a metallic silver all over, just like tinfoil barbs. They have no other colors, but they make up for this in other ways. All the male's fins are long, high and full. The bottom of the caudal fin is long and sword-like, like in a good swordtail (X. helleri). Males also have long, thin extensions of the gill plate which ends in a ping-pong-paddle-shaped knob. This knob ends below the dorsal fin. These extensions are moveable at will by the male and he uses them to display to the female.

This is a very peaceful, community tank fish. I have never had it bother any small fish. Swordtails are not picky about their water. I keep them in moderated hardness, neutral pH, temperature 76º. Always cover their tank—they jump! These fish accept any food. They especially like floating micro pellets, live or frozen daphnia and small swatted insects.

This tetra used to be commonly available, but now it's much harder to find. You have to look for them. They are very hardy fish, but I have never bred them in an aquarium. I have bred them in pools in Florida where it is easy to spawn. You simply let nature follow its course.

There is some controversy as to how these fish spawn, especially as to how the eggs are fertilized. I believe the eggs are fertilized internally. I know from watching them in pools that the male waves his gill paddles at the female, extends his fins and does a very elaborate circular mating dance around her. Later, the female lays her eggs on fine-leafed plants without any attention from the male. The eggs hatch in about a day and a half. In a pool, they feed on infusoria and rotifers and grow fast. I think to spawn them in an aquarium I would try a 20 gallon long for a pair and put hornwort in it. I would start the fry on green water and rotifers. The behavior of this tetra is very interesting,

Male Swordtail Tetra, *Corynopoma riisei*

especially its courtship and breeding behavior. It's definitely something every aquarist should see and experience at least once.

Swordtail tetras and dragonfin tetras make excellent tank mates. So, bring the Middle Ages to your tank. Try some sword (tail) tetras and dragonfins in it.

Cryptoheros nanoluteus, the Golden Convict

By David L Banks Jr, TFCB

While it is true that nanoluteus is a close relative to the common convict cichlid, *Cryptoheros nigrofasciatus*, it really has all the good traits and none of the typical bad traits of the convict. In addition it has great color, stays smaller and is less aggressive and is quickly becoming a favorite among Central American cichlid lovers. It is still not a commonly available fish, but hopefully that will change over time.

I received mine while visiting Rusty Wessel in Louisville a few years ago. They were only ½ inch but the six all made the trip well. They even made the trip home as carryon luggage as you are allowed to bring live fish thru security and onto an airplane, even in more than 3.5 oz of water. There is an app for your phone, My TSA, which includes "Can I bring?" and live fish are listed as items you can bring thru security and onto the plane as part of your carryon luggage.

I placed them in a 20 gallon tank, they would come out to eat but were generally hard to find in the tank. I think this was partly because there were not a lot of hiding places, although the other fish in the tank would be out swimming around. The small fry grew nicely and, at about 2-3 inches,

Female *C. nanoluteus* photo by Rusty Wessel

I was thinking they should be getting ready to spawn, but they never did. There were a lot of fish in this tank as they grew, too many for sure. I eventually removed almost all other fish except for some barbs and a few ancistrus. I lost a couple of the nanoluteus soon after. I would notice the barbs chasing them around the tank a little but not enough to be concerned. Someone was harassing them one at a time as I witnessed some torn fins. My guess would be the barbs, but it could have been the other nanoluteus. I then removed the Odessa barbs and left the 4 remaining nanoluteus in with just a couple of ancistrus.

After several month of extra water changes and extra feeding, I was thinking of giving up trying to spawn these fish. I could not tell the sexes of the fish, they all looked very similar. There were no typical sexual differences. The dorsal and anal fins all looked the same, males typically have longer more pointed ones. There was no real size or color difference either. They seemed happy, but no spawning activity.

Eventually I gave up as I wanted to use their tank for growing out other fry of fish that were spawning. I had considered giving them away, but instead put them in a 40 gallon tank with many other fish of a similar size. They continued to grow a little larger, and were always right at the top waiting to be fed. They were very comfortable in this arrangement. There were many fish from a spawning group of ancistrus, 10 Mexican mollies, a trio of large rainbowfish, a school of sidthimunki loaches and a few other odds and ends. It was a bare bottom tank, but had lots of plants, there were several bolbitus and java ferms attached to rocks and driftwood and a few pots with crypts in them(well, until I added a pair of geophagus that dug out the crypts, then there were just empty flower pots and some floating crypts.)

I am not sure if it was the larger tank, or having other fish swimming in the tank, or some other trigger, but I noticed two of these fish guarding a

very small flower pot that was empty. I didn't think too much about it at first, then I noticed the beautiful yellow and black markings both of these fish were displaying. I decided to investigate.

Sure enough, there was a plaque of small brownish eggs in the bottom of this very small flower pots, I am not even sure how they managed to get in there and lay the eggs. I removed the flowerpot but unfortunately the eggs fungused in just a day or so. So, did I have females that were just laying eggs, or was the male unable to get in and fertilize the eggs in this very small flowerpot, or were they just an immature pair and needed more practice? Since there was still no difference in the physical appearance of the two fish and they were over a year and a half old by now, I was convinced I did not have a pair. There was still a third nanoluteus in the tank, and except for the intense coloration, looked just like the other two.

A few weeks later I noticed two of them guarding a spot under a piece of driftwood. The intense yellow and black coloration was back. This time I decided to leave everything as is and see what would happen. The pair did a tremendous job of protecting this site, and within a week I noticed fry bouncing around the piece of driftwood, almost free swimming but not quite. At this time I siphoned off as many as I could without completely disturbing the tank and the pair. I was able to get over 50 very small fry and set them up in a 1-gallon glass jar.

Male *C. nanoluteus* photo by Rusty Wessel

I had seen a very cool setup recently that I was ready to try. It consists of two pieces of foam with a lift tube thru each piece inside the glass jar. One piece of foam was near the bottom of the jar, the other at the very top. The lift tube went to the bottom of the jar and had an airline inserted to provide the lift. The fry went in the jar between the two pieces of foam. This provided flow from the top thru the foam into the chamber the fry were in and out thru the bottom piece of foam and up the lift tube. Another piece of rigid airline tubing was inserted into the top piece of foam and acted as a way to feed the fry. The whole jar is then inserted into an existing tank with the lift tube coming to the surface of the water and the feeding tube just above the surface.

I cut my own foam instead of buying a precut kit. So there were a few spots that didn't fit tightly against the glass and I did lose a few fry down the side where they would perish, but overall the

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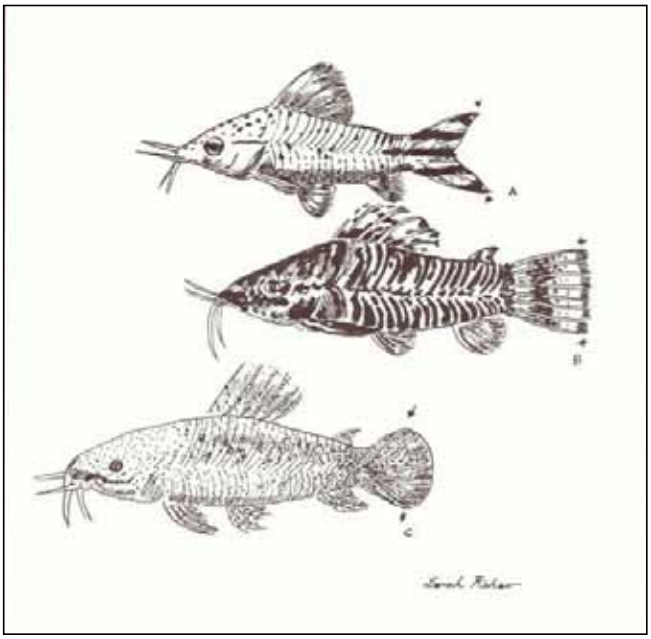
system works very well. I would turn off the air supply during feeding so that the live baby brine shrimp didn't also get sucked down the uneven sides and was very diligent about making sure to turn the air back on after feeding. Without the air flowing, and the heavy feedings, the fry would not live longer than a few hours in this chamber. Just as the fry were old enough to move into their own tank I found out the hard way how long they would last. I fed the fry in the morning before work, and forgot to turn the air back on, when I came home from work all fry were dead. They were 1/4" to 3/8" long and there were close to 50 of them, but the good news was the adults had already spawned again!

Unfortunately, the timing was bad as we were about to go away for a week and my travel schedule was going to keep me away a lot over the next couple of months, so I had to leave the fry. When we returned after a week there were still a few being defended by the adults, but figured I would wait until a better time. With the loaches in the tank, I expected the fry would have disappeared quickly once they started straying from the adults.

The pair spawned a few more times but I never had a good opportunity to save the fry until my last trip was coming up. I had not been paying too close attention, but just a day or so before I left on my last trip, I saw they had fry again and the fry were just starting to bounce around, not quite free swimming. I was able to siphon off about 40 very small fry. This time I put them in a 5 inch fine mesh net hanging in a tank of very small rainbow fish and killifish fry. While I was gone I asked Janine to let them go into the 10 gallon tank after they were completely free swimming. When I returned home a few days later they were all doing great, swimming around in a little cloud around the tank. They have grown nicely and have now been moved to a 20 gallon tank to grow out until they are ready to move on.

In my mind, here are some of the top reasons to keep this fish. First has to be the intense breeding coloration. It is a great contrast of the bright yellow with a very dark black. Even when not in breeding coloration, the golden yellow is striking. The blue in the eye is also a great attraction to this entire group of cichlids. Nanoluteus are great defenders of its fry, not overly defensive to the point of damaging others, but certainly enough to keep even much larger fish away. To watch this interaction with the fry and other tank inhabitants is fascinating. It is not a large cichlid, so a large tank is not needed, although it sure seems happy in the 40 gallon tank, I think it would do quite well in a 30. The fry, as well as all stages thru adult, seem to do quite well and are not finicky or sensitive, although others have reported that they are more sensitive than the other species in the genus, but of course the convict cichlid (*C. nigrofasciatus*) is almost indestructible! This fish is growing in popularity so there seems to be a good market for them for quite some time to come. Even if you are not typically into Central American cichlids, give nanoluteus a try if you get a chance.



Dianema species. Illustration by Sarah Fisher

Killifish—Friend or Foe
Or, What's This Thing Doing in My Tank?

By Richard Weinberg, TFCB

Let's get rid of some misconceptions. Killies will neither eat all of your most prized fishes nor leave your tank strewn with dead bodies. They are, for the most part, rather peaceful. Although most people who are really into killies keep them separated by species, most will get along well in a community tank. So, why the name? As I understand it, "Killie" is derived from a Dutch word meaning stream or small stream.

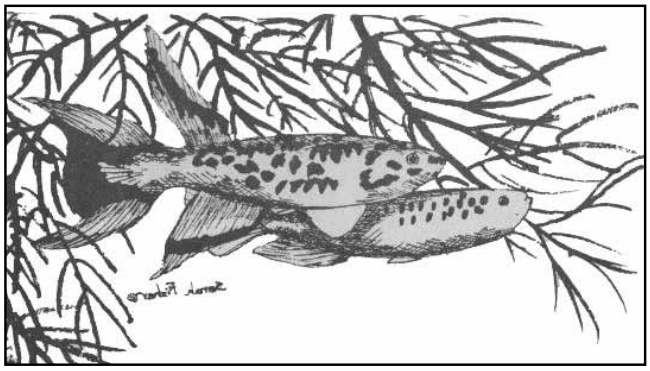


Illustration by Sarah Fisher

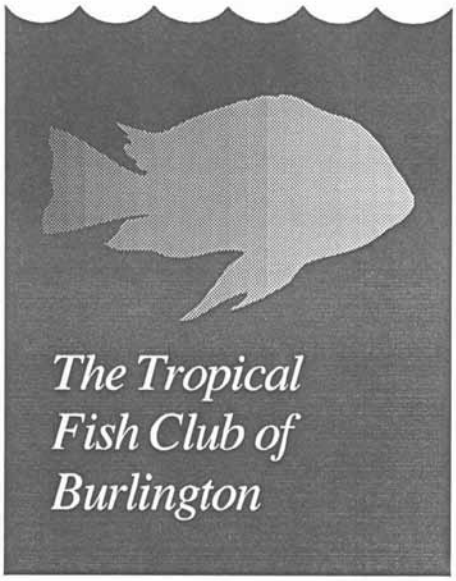
Killies are not difficult to keep. They will do just fine in a small aquarium at room temperature provided, of course, the room is neither a walk-in freezer nor a sauna. They will also be OK in a heated tank. The tank may be landscaped and densely planted or absolutely bare (not even gravel). Filtration can be high-tech or simple (a sponge filter) or none at all. They will eat anything other fishes will eat, but will (of course) do better with live foods in their diet.

Sounds pretty generic, huh? So why bother to have killies at all? For me, there are two reasons. First is the colors. Most killies (at least most I have seen) have truly beautiful colors that rival those of salt-water species. The second is their spawning habits. Some will spawn in a yarn mop attached to a cork floating at the top of the tank or in the roots of floating plants. Some will dive together into a sub-strata of peat moss and bury their eggs. Some will listen to Johnny Mathis records and smoke a cigarette afterward.

By the way, most killies are good jumpers, so their tanks should have good covers. I, for one, will never understand why a killifish or for that matter any other fish would prefer a dry, dusty floor to a tank full of water, but then I like driving in pea-soup fog, so what do I know anyhow?

Killies don't spawn great numbers of eggs every few weeks, but rather a few eggs most every day. No one is going to earn millions of dollars raising killies, but a lot of people all over the world are getting great pleasure from them. Try a pair of two. I'm sure you'll enjoy them.

Reprinted from newsletter of the Commonwealth Pet Center, Brookline, Massachusetts in November 1989.



Some Friends, A Fish and Food: The Power of Three

By Richard Maxwell Jr., TFCB

It all started with a road trip to Rutland last year to help support a sister aquarium club that supports us, reciprocal finship I'd call it. The trip would bring me in contact with old friends, new friends, a roomful of aquarists, a boatload of hobby related items (animate and inanimate) and canine computer chips. Quite a menagerie of people, fish, pooches, and aquarium related products. It was the beginning of this story, although it could trace it's origins back even farther, but due to time and space constraints, I will keep it narrowed down to present day.

The Tropical Fish Club of Burlington has always had a penchant for helping to support as many sister clubs as possible and 2014 was no exception. I was honored to be on one of those trips to help support The Otter Valley Aquarium Society which was holding its annual auction at the Rutland Holiday Inn. As the day arrived we met our assigned ride share groups and proceeded south on the winding road known as Route 7. The roadside scenery of Vermont was magnificent, as it always is winter, spring, summer, or fall and we, the passengers, took it all in with awe and inspiration. It was quite amazing to me what we saw and took in inspired some reflective stories of all of our pasts and how it was that we all ended up in Vermont. It was indeed a reminiscent trip with some interesting twists.

When we got there we were all greeted with many smiling faces and a flurry of activity as it is no small feat to pull off a successful auction. In fact, much forward thinking and processes go in to such an event. Much like how a wedding should unfold. As is customary, we got all of our stuff in and registered then dug in and helped others as they arrived with their cargo ships full of aquatic treasure and gleeful greetings. One particular vehicle was actually full of perennial plants for a vendor table, of which there were quite a few, and it was good to see some dirt being shifted around amidst the life giving waters of the Piscean world.

On a side note, there was a large group of canines and their owners in the mix too! They were doing wellness checks and microchip locater injections at the hotel for a local dog organization. It was quite interesting and, after I helped get folks settled in with the aquatic event, my interest engaged me in conversation with a few of the canine folk. They offered to chip me but alas I had to decline the offer of an invisible leash!!! Now that I have distracted you for a moment lets get back to the fish.

In an effort to reduce the amount of paper, I am going to take up here in the hard copy March 2015 issue of *In Depth* let it be known that we all had a grand ole time, shared some labor, laughed with each other, sympathized with those having a tough go of things, and stimulated the local economy a bit. It was a beautiful day!!!

So towards the end, I was running lots to bidders and I noticed a fish that came up which I had not seen in the preview. In fact, it was in the mini show set up on the sidelines of the bigger event. It was a *Polypterus senegalus*, a Senegal Bichir or Cuvier's Bicher for common names and it was so awesome I had to have it. You see this fish of the Polypteridae family was no average creature.

At this point I could have jumped on a computer to try and gather as much information about this fish that I paid twelve dollars cash for but I have decided to give you a bit of information I garnered from a book. Not just any book though, I pulled out my Baensch Aquarium Atlas 2 and there it was, the *Polypterus senegalus* right there on page number 218. This fish is listed as being a part of the Lobe-Finned Pikes and Pseudo-Bony and Cartilaginous Fishes. The atlas was first printed in 1993 so, as is true with many fishes, it could possibly have been reclassified by now, but for all intents and purposes I will go with the literature I have at hand.

As is implied by the name, this fish hails from Africa and has been found from the White Nile up to Lake Albert, Lake Rudolf and Lake Chad, Senegal, Gambia, and Niger. It is predatory in nature and generally is quarrelsome with others of its kind and fighting generally occurs. At the time of publishing, it seems the fish had not been bred in captivity but I have heard that most of them available in the hobby these days are captive bred. At this time I have no substantial proof of this. The fish is snake-like in looks except for the fins and bony protrusions. This fish conjures up the image of mini leviathan or water dragon, my description.

Upon observation I found that the fish was not inclined to eat prepared foods and was quite fond of live Ghost Shrimp and feeder Guppies. I was greatly intrigued that the fish seems to not be able to see well as it missed its live food when right in front of it from time to time and I feel it senses the prey or uses its sense of smell. The fish is sand colored and could blend in with the bottom which in my estimation is similar to the Pikes and such occurring similar fishes of Lake Champlain. When it hones in on dinner it seems to be fairly accurate in striking and has teeth that point inward as that is the direction in which it swallows the meal whole, much like a snake, and it is gluttonous to the point that it becomes very rotund when filled with live food. I brought home some larger feeder goldfish to see if it would eat them and sure enough it did. I noticed that it ate fewer of these per dining event and the goldfish in its belly made it jerk around a bit as I think they were like Jonah in the belly of a whale, still alive and looking to get back out. It is quite the sight.

I was resigned to the fact that the fish would only eat live foods, it did eat a couple of chunks of white tuna, but that was my food and I knew I could not eat tuna that often to support this fish. This is where the next part of my article kicks in. I am going to reveal a back-up food item in the form of a product report on a new fish food I first heard of at our 25th Fishstravaganza celebration that was held at the South Burlington Holiday Inn, where we were treated extremely well by the hotel and staff, an event that shall be spoken about for a very long time.

Rachel O'Leary was a guest speaker for this event and, don't quote me if I am incorrect, I am told part of her sponsorship comes from Repashy Super Foods. Repashy sent products to help support our club and its milestone event, thank you Repashy and Rachel. Some time later, at our Christmas gathering, I received a container of Repashy Super Foods Community Plus Omnivore Gel Premix. A week or so later I was reading the directions, thanks Ray "Kingfish" Lucas (another story all in its own), and once I saw the word microwave I stopped reading as I have not owned a microwave in many years, they take up valuable counter space and I would just as soon eat my food cold than to nuke it.

As a short span of time elapsed, I brought the matter up in conversation with Dave Banks and he told me you could make the gel with boiling water on the stovetop. I asked if it stated that on the package and he said it did (my bad for not finishing the directions). This spurred me on to make a batch of the food to see if my *Polypterus senegalus* would go for it, but first I had to do some math to do a test batch and that was quite an adventure in itself. Yet I was successful and, lo and behold, this fish partook of the meal!!! WooHoo for Repashy and their magical fish gel!!! The Polypterus prefers the live food but supplemental feedings of the Repashy get us through the leaner times. Until next time, keep on fishing, friends.

Polypterus senegalus

Setting up a Hillstream Biotope

By Ann Whitman and Joan Snider

Biotope aquariums strive to replicate a particular native habitat, including the water chemistry and flow, fish, plants, substrate and furnishings. One of the main goals is keeping and observing fish in their natural setting as much as possible. For many species, this may be the only hope of breeding them in captivity.

Type "biotope aquarium" into your search engine and you will quickly learn how popular they are. Nearly everyone is familiar with rocky, alkaline Lake Malawi and Tanganyika biotopes filled with African cichlids. South American Blackwater habitats with soft, acid water, submerged wood, plants and shoals of cardinal tetras, Corydoras catfish and angelfish are also popular.

Less common, but rising in popularity, due to the increasing availability of loaches and other fast-water fish species, is the Hillstream biotope. The key to this habitat is providing fast-moving, highly oxygenated water that mimics a mountain stream. Smooth, water-worn stones, submerged roots and a sandy or smooth gravel substrate are the main furnishings. The best aquariums for this type of set up are long and relatively shallow, such as a 20, 30 or 40 long, 55 or 75 gallon tanks.

After finding her Lizard Loaches inside the filter outlets and constantly hovering over the airstones, Joan decided to give her loaches the Hillstream habitat they craved. She set up a 20-gallon tank with smooth rocks, driftwood and a sandy bottom, then attached an internal powerhead to one end of the tank and aimed it down toward the rocks. An air stone turned up to high volume is positioned below it to add oxygen to the current.

To provide natural food for the grazing species, she concentrated the LED lighting on the rounded rocks and caves to promote algae growth. The fish population includes several species of Hillstream loaches, neon and cobalt gobies, white clouds and long-finned plecostomus. While she hasn't copied the biotope exactly, she's made the fish happy and enjoys watching them in a more natural environment.

White Clouds and Lizard Loaches enjoy the heavy current and bubbles in their Hillstream biotope tank. Photo by Ann Whitman

Goby grazes on algae in the fast-moving water. Photo by Joan Snider

Match the Species with its Breeding Method

Write the letter of the breeding method next to the species.

A. Bubblenest
B. Mouthbrooder
C. Egg scatterer
D. Mop spawner
E. Cave brooder
F. Livebearer
E. Egg buriers
F. Exposed surface spawner

___ Arowana (*Osteoglossum bicirrhosum*)
___ Siamese Fighting Fish (*Betta splendens*)
___ Gardner's Killifish (*Fundulopanchax gardneri*)
___ Zebra Danio (*Danio rerio*)
___ Rachov's Killifish (*Nothobranchius rachovii*)
___ Snakehead Betta (*Betta channoides*)
___ Wrestling Halfbeak (*Dermogenys pusilla*)
___ Bushynose Pleco (*Ancistrus* sp.)
___ Pearl Gourami (*Trichogaster leeri*)
___ Angelfish (*Pterophyllum scalare*)
___ Molly (*Poecilia sphenops*)
___ Yellow Lab (*Labidochromis caeruleus*)
___ *Apistogramma cacatuoides*

Which parent cares for the eggs and fry?

	Neither	Both	Female Only	Male Only
Kribensis (*Pelvicachromis kribensis*)				
Cardinal Tetra (*Paracheirodon axelrodi*)				
Zebra Pleco (*Hypancistrus zebra*)				
Umbrella Cichlid (*Apistogramma borellii*)				
Red head Tapajos (*Geophagus* sp.)				
Paradise Fish (*Macropodus opercularis*)				
Koi (*Cyprinus carpio*)				
Discus (*Symphysodon discus*)				
Pumpkinseed (*Lepomis gibbosus*)				
Clown Knife (*Chitala ornata*)				

Tropical Fish Word Search

C S P L E C O S H K V F E G D
R I E M D G W S Z M X D Q R I
H A C I Y N I G C E A B U Z L
O X C H P F R F L N B U R P H
R N P S L P O N I H R R D J C
I Z G E O I U O X S G A A D I
J G G I Q F D G C I O V A K C
S N U J B U O S M F L B Z P D
A W I Z X Y F A C W D A O D G
C O R Y D O R A S O F R I B O
Y C N A F L R U L B I B Z E A
X F B S I Z C V Y N S S E Q B
X R H E R S K I B I H O Q F Y
N Y R V I S L P N A C I R F A
W I S D M X C W S R I Q G A D

AFRICAN
ANGELFISH
BARBS
CICHLIDS
CORYDORAS
DANIO
DISCUS
FANCY
GOLDFISH
GUPPIES
MARLIERI
OSCAR
PLECOS
RAINBOWFISH
ZEBRA

				S	H		N	G
					G			
		G	I	N	A	L		
	A	E	N	I		H		
	N						E	
		H		E	F	S	G	
		F	G	H	N	E		
			L					
L	H		S	A				

SUDOKU PUZZLE

Fill in the blank squares using the letters from the word:

ANGELFISH

Each letter may be used only once in each column, row and 9-square. Good luck!

Otter Valley Aquarium Society

2015 Auction & Bowl Show

Sunday May 17

Noon - 5:00 PM

Holiday Inn Rutland

US Rte. 7 South - near Green Mountain Plaza

Tropical Fish / Aquatic Plants / Equipment / Fish Food / Door Prizes

Auction Guidelines:

Auction runs from Noon till 5:00 PM

Registration and viewing opens at 9:30 AM
Preregistration encouraged by contacting Brian & Lee Scott at leenbrianscott@yahoo.com
50/50 split on all auction lots (60/40 split to those who preregister lots by May 15th)
Donated lots encouraged (100% of sale to OVAS)
Maximum of 4 lots per species per person
Maximum of 40 lots per person total (fish, plants, etc.)
Auction goers may request a lot be bumped to the front for a fee of $2 per auction lot
All "wet" auction lots (fish or plants) must be double bagged. All lots that arrive in single bags will be double bagged for a fee of $1 per lot
All bagged fish and plants must be clearly labeled with species and common name. We encourage adding "adult" photos of fish to increaase the lot's salability
All equipment up for auction must be in working order

Aquatic Plant Sale Table!

Too many plants in an auction brings down the prices and slows down the auiction. Bring some or all of your plants to the plant sale table first for direct sales from noon to 3:00 pm. Leftovers go to auction at 3:15pm.

Bowl Show Guidelines:

Prizes:

$100 (1st), $75 (2nd), $50 (3rd)

No entry fee this year
Preregistration encouraged for show label printing
All species eligible
Set up is 9:30 - 11:30 AM
Judging is "People's Choice" voting by attendees of the auction event (winners announced at 2:00 PM)
Fish must be shown in bare tank (no gravel, plants, or decorations) with at least one flat side
You may include your fish in the auction at the close of judging (standard 50/50 auction split)

Things we will provide:

We have a limited number of small show tanks
We have a few air pumps, stones, tubing
Water conditioner
Show tables

Things you should plan to bring:

Show tank (with at least one flat side), seasoned water, nets, fish, air pump & stone, plastic bags if you intend to auction your fish

50 / 50 Raffle

Support OVAS, Buy more fish! Drawing at 3:00 PM

Contact: Bob Hooker at bjhookervt@gmail.com
Brian Scott at leenbrianscott@yahoo.com

AN EDUCATIONAL AND SOCIAL WEEKEND OPEN TO ALL!

GIANT ALL-DAY SUNDAY AUCTION!
Hundreds of fish, inverts, plants, dry goods!

WEEKEND-LONG SILENT AUCTIONS!
Benefiting *The James J. White Memorial Conservation Fund*

FISH SHOW!
Intl Guppy Education and Exhibition Society

ROOM SALES, VENDORS, & MANUFACTURERS!
Hobbyist-raised and imported fish, inverts, plants, books, & dry goods!

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HOSPITALITY ROOM! by wetspottropicalfish.com

RAFFLES! PRIZES! FREEBIES!

BUFFET DINNER, BREAKFAST, & BANQUET!

Don't miss this opportunity to hear great speakers, acquire new stock, and meet and learn from new and old friends around the country!

15 TOP PROGRAMS FEATURING:

BRIAN PERKINS: *Killifish; Peru; Dart Frogs;*

MIKE HELLWEG: *Cyprinids; Tetras; Halfbeaks*

PAM CHIN: *Tropheus; Malawi; Rio Negro*

MARK DENARO: *Nano species; Namesake fish*

SHANE LINDER: *Loricariidae habitat; catfish*

ARIEL BORNSTEIN: *cichlids; collecting trips*

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2015 NEC CONVENTION

ConventionChair@northeastcouncil.org

COME CELEBRATE OUR RUBY ANNIVERSARY CONVENTION!