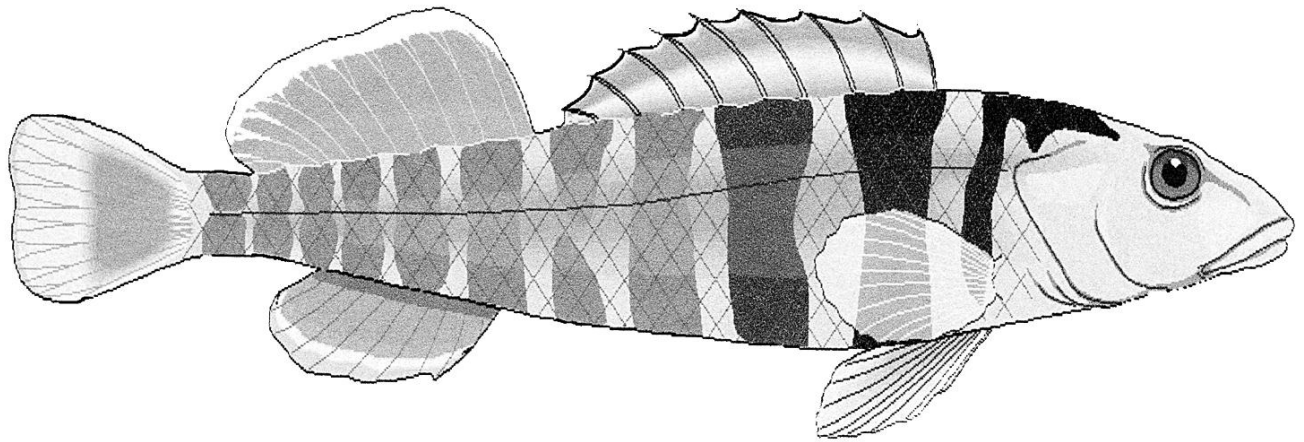


# *The Darter*

January - February 2013



**Missouri Aquarium Society, Inc**  
**St. Louis, Missouri**

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MASI’s official web page: [www.missouriaquariumsociety.com](http://www.missouriaquariumsociety.com)

Join the all-new MASI FishHeads Forum. See web page for instructions.

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# Places to Be / Things to See

SATURDAY January 26, 2013

Executive Council

Hosted by Nick Scarlatis

SUNDAY February 16, 2013

Auction, 11:00 AM @ the Crowne Plaza St. Louis Airport

THURSDAY February 21, 2013

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

SATURDAY February 23, 2013

Executive Council

Hosted by Nick Scarlatis

THURSDAY March 21, 2013

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

April 12-14 2013

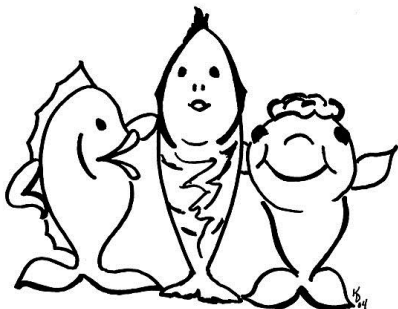
Spring-Fling Fishy Thing Show, Banquet, and Auction

THURSDAY April 18, 2013

General Meeting, 7:30 PM @ Dorsett Village Baptist Church

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## *Membership*



Yearly membership in the Missouri Aquarium Society, Inc. is \$20 per calendar year for members receiving a paper copy of the *Darter*. Starting in 2013, it will only be \$15 for members electing to receive the *Darter* electronically. Membership includes the *Darter* subscription for the year, which is currently 6 issues. New memberships and renewals can be submitted at club functions such as meetings and auctions, or by contacting Ron Huck, our membership chair.

# From The President's Tank

Pat Tosie

Wow! What a year MASI had!!

Successful Auctions  
Wonderful Weekend Workshop  
Super Swap Meet  
Great Monthly Programs  
Return of our Super Bowl  
Our publication "The DARTER" is one of the best in the country  
The O-FISH-L keeps you in touch every month  
Fantastic and Highly Successful Aquatic Gardeners Association Convention  
Cory Koch won a prestigious breeders Award from the ACA (American Cichlid Association)  
Our BAP program is second to none  
The HAP continues to grow  
MASI's Challenge of Adopt-A-Coral is starting out strong

What can we do to get better?? Well, 2013 will bring us some change. Steve Deutsch will be stepping down as Editor of The DARTER and we need a replacement. Whoever the replacement will be has large shoes to fill, but Steve has said he will help them get acquainted with the job to help with a smooth transition. Who will be that person? If you are interested in that position, please see any of the council members or myself to find out more. Remember, without an Editor, we will have no DARTER.

Another item for 2013, Scott Bush will be re-introducing us to our Annual Show. We have had several years where we replaced the Annual Show with a Workshop, and with people missing our beloved show, Scott stepped forward to be show Chairman and bring it back to life. Start getting your fish ready, plan to enter one, two or more. Attend the Show Weekend, make some new friends, see our speakers, and learn what it is to be a part of our beloved hobby! Our tentative speakers include: Dr. Eric Hanneman, Ray "Kingfish" Lucas, Rusty Wessel, and our own Mike Hellweg.

Before everyone will realize, MASI's elections will be happening. Get involved in how our club runs, be an active member, volunteer, run for an office. In the upcoming months, Kathy Deutsch will be looking for people to run for President, Vice-President, Secretary, Treasurer, and Council members. We would love to have multiple people running for all these positions, I for one will run for a second term as club President. Talk to, drop her a note, send an e-mail to Kathy and get your name on our June ballot. Please talk to her about being one of these important people who will guide the club into the future. We are always looking for ideas to better our society, so make it your mission to be an active participant.

Keep looking below water....

# Auction Chairman's Message

Mike Hellweg

Happy New Year! In case you've missed it, we've outgrown the Masonic Hall so we're moving the Auction location! Starting with the February 2013 auction, we'll be at the Crowne Plaza St. Louis Airport, the same hotel which hosted the AKA Convention last spring, the Gateway Guppy event this past October, and the AGA Convention a few weeks ago. We'll need our volunteers to start arriving to help check in and set up starting about 9:30 am. There is a T.G.I. Fridays in the hotel, and there are several fast food restaurants nearby.

The auction dates for 2013 are:

February 10, 2013

April 14, 2013 (to wrap up the annual show weekend)

August 11, 2013

November 10, 2013

All start times will be at 11:00 AM.

I look forward to seeing you all there!

And for now, 'nuff said

Mike

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

## Editor's Notes

Steve Deutsch

As some of you noticed, the print version of the last Darter was missing two pages (one sheet). I am reprinting the article that was cut off, and the missing HAP report. My apologies to the people who receive a printed Darter for last month's omission, and to those who receive an electronic Darter for this month's duplication.

The club still needs a new editor for 2014. See Pat if you want to volunteer or me if you want to know more about what it takes. Others do the printing, labels, and mailing, so the Editor creates the layout from pieces from the other club members, and then turns it over to the printer (Charles).

The reprint on Quarantine was requested by a member. It has been in the Darter before, but I don't know the date of original publication or our first reprint date. I delayed printing a few issues looking for that, and gave up and printed it without credit for the original publication

Article deadlines for the rest of the year are February 15<sup>th</sup>, April 15<sup>th</sup>, June 15<sup>th</sup>, August 15<sup>th</sup>, and October 15<sup>th</sup>. All authors and articles are welcome.

# MASI NEEDS YOU!

## Elections-Council-Officers

Kathy Deutsch

In June, we will elect our next Executive Council and the 4 officers of the club. Now is the time to learn about, think about and (hopefully) run for a position in our club.

In order to keep the club moving forward, we like new ideas and people eager to implement them. Do you like the club? Join our Executive Council and keep it going. Not happy with the way the club is run? Join Council and work for change.

Ideally, we would like 2 or more people running for each elected officer position (President, Vice President, Treasurer and Secretary). There are potentially 6 positions open on the Executive Council, as well. You must be a current member in good standing to run.

### Brief descriptions of each job:

**EXECUTIVE COUNCIL MEMBER**-hosts one Executive Council meeting per year (can be at a restaurant or other place, as well as at their house), attends Executive Council meetings, possibly communicates with committee heads and reports at meetings, listens to members and brings their ideas to Council.

**PRESIDENT**-runs and manages General and Executive Council meetings. Keeps in touch with Council members and other officers to insure the smooth running of the club. Makes sure committee heads have what they need to do their jobs.

**VICE PRESIDENT**-runs meetings in absence of the President. Keeps the audio/visual equipment and brings it to events and meetings. Sets up and runs the monthly programs, as well as the raffle. Gathers a slate of candidates for elections.

**TREASURER**-handles the finances of the club. This is a job that requires some accounting skills. Attends events, meetings and auction reconciliation, to handle the money collected by the club. Presents Treasurer reports to the club and historian.

**SECRETARY**-pays attention to club business at General and Executive Council meetings, and takes accurate notes. The notes are written up and read at Executive Council and General Meetings. Presents meeting minutes to the historian.

If I can answer any questions, or to put your name on the ballot, please contact Kathy Deutsch at [kathy@skdeu.com](mailto:kathy@skdeu.com) OR 314-741-0474

# 2012 HAP Year End Totals

By Mike Hellweg

37 entries from 13 entrants represent 31 different species from 17 different families

3 Outdoor Blooms

3 Indoor Blooms

0 Seed Reproductions

31 Vegetative Reproductions

The most widely propagated species in 2012 was Anubias barteri - with 4 submissions from 3 different variants. We had a new Genera represented for the first time - the Ariod genus Bucephalandra, with 4 species.

<u>Participant</u>	<u>Points this year</u>	<u>Submissions 2012</u>	<u>Total Points</u>	<u>Total Species</u>	<u>Indoor Bloom</u>	<u>Outdoor Bloom</u>	<u>Seed</u>	<u>Rank</u>	<u>Award Status</u>
Andy Walker	10	1	530	40	8	0	0	Senior	Needs 1 Seed for Master
Charles Hoppe	65	6	115	13	1	0	0	General and Advanced	To be presented
Cory Koch	20	2	20	2	0	0	0		
Derek Walker	105	7	3240	244	20	7	13	Exalted Grand Master	
Dwayne Peters	5	1	85	11	0	0	0	General	
James H. Miller	30	3	340	35	2	0	0	Senior	Needs 1 Seed for Master
John Van Asch	20	2	765	62	5	24	6	Grand Master	
Kurt Zahringer	35	2	85	7	1	0	0	General	
Marlon Felman	15	3	125	14	2	4	0	Advanced	
Maureen Green	15	2	1310	69	1	29	9	Advanced Grand Master	
Mike Hellweg	30	2	3190	230	35	15	14	Exalted Grand Master	
Nick Scarlatis	5	1	5	1	0	0	0		
Pat Tosie	60	5	330	35	1	7	0	Master	Needs 1 Seed for Master



# HAP Report September - October 2012

Mike Hellweg

Member	Species	Common	Rep	Pts	Total
Derek Walker	Bucephalandra species Sintang*		V	20	3190
Derek Walker	Bucephalandra species Sekadau*		V	20	3210!
Derek Walker	Cryptocoryne wendtii Florida Sunset*		V	15	3225
Derek Walker	Echinodoras sp. Kleiner Prinz*	Kleiner Prinz Sword	V	15	3240
Dwayne Peters	Ceratophyllum demersum	Hornwort	V	5	85
Maureen Green	Cyperus percamenthus*	Giant Dwarf Papyrus	V	10	1305
Maureen Green	Pistia stratiotes*	Variegated Water Lettuce	V	5	1310
Cory Koch	Vallisneria natans*		V	5	5

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

\* = MASI First

# HAP Report November - December 2012

Mike Hellweg

Member	Species	Common	Rep	Pts	Total
Mike Hellweg	Bucephalandra sp. Melawi*		V	20	3180
Mike Hellweg	Cabomba furcata	Red Cabomba	V	10	3190
Cory Koch	Anubias afzelli		V	15	20
Andy Walker	Ludwigia arcuata	Needle Leaf Ludwigia	V	10	530

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

\* = MASI First

# BAP Report

Steve Edie

Member	Species	Common	Pts	Total
<b><u>Nov 2012</u></b>				
Charles Harrison	<i>Aphyosemion ecucuense</i> “Rio Muni” (GEMLBJ 03-42) *		20	2610
Mike Hellweg	<i>Hyphessobrycon loweae</i> *	Kitty Tetra	20	5159
Mike Hellweg	<i>Nomorhamphus towoetii</i> *	Dusky Halfbeak	15	5174
Mike Hellweg	<i>Tanichthys thacbaensis</i>	Lemon Fin White Cloud	10	5184
Jerry Jost	<i>Corydoras rabauti</i> *		15	1750
Cory Koch	<i>Alcolapia alcalica</i> #@	Soda Lake Cichlid	15	2567
Cory Koch	<i>Ataeniobus toweri</i> #@	Blue Tail Goodeid	15	2582
Cory Koch	<i>Lipochromis</i> sp. “Matumbi Hunter” #@		15	2597
Cory Koch	<i>Pachypanchax sakaramyi</i> @	Sakaramy Lillie	20	2617
Cory Koch	<i>Sarotherodon caroli</i> “Barombi Mbo” #@		10	2627
Cory Koch	<i>Skiffia multipunctata</i> “La Luz” #@		20	2647
Cory Koch	<i>Steatocranus irvinei</i>	Blue Lip Buffalohead	15	2662
Cory Koch	<i>Stomatepia mariae</i> #@		15	2677
Cory Koch	<i>Tanganicodus irsacae</i>		20	2697
Cory Koch	<i>Xenotoca eiseni</i> #@		15	2712
Tony McMillan	<i>Heterandria formosa</i>	Least Killifish	5	134
Tony McMillan	<i>Pseudocrenilabrus</i> sp. “Biera Gold”		10	144
Derek Walker	<i>Aulonocranus dewindti</i>		15	2885
Derek Walker	<i>Benitochromis nigrodorsalis</i> “Moliwe” @		30	2915

## **Dec 2012**

Mike Hellweg	<i>Hyphessobrycon minor</i> *		20	5204
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\* = First MASI species spawn (5 point bonus)

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

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

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

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

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

Sources:

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

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

Note: Bad news and good news.

Bad news is that more species have been added to the C.A.R.E.S. list.

Good news is there are more opportunities for bonus points if you can find and breed these species.

## From The Fish Room

By Ed Millinger

"Labyrinth", the official publication of the Anabantoid Association of Great Britain recently ran an article by Colin Dunlop about using various species of dead leaves in anabantoid aquariums. Within the article he referenced Mike Hellweg's TFH book "Culturing Live Foods".

The MASI way back machine this issue takes us to the March/April 1987 issue. The president was Ralph Wilhelm, vice president was Charles Harrison. Peggy Scott's BAP report was titled NURSERY NEWS, Gary Lange with a take off of Abie Hoffman's STEAL THIS BOOK wrote an article entitled STEAL THIS IDEA. Reet Thomas, Pat Tosie and Pat Chevalo also contributed. Gateway Guppy Associates which was holding their show in conjunction with MASI published rules and awards for the future show of 82 classes!

David Hale who was on my last Peru trip posted a video on YouTube titled "Amazon collecting August 13, 2008", it is short (less than four minutes) and shows how before breakfast one day we caught two large stingrays. After taking pictures we released them back into the river

Without giving anything away, as points tabulator I can tell you that we have two members who have set a new record for the highest point total for service to MASI.

Just a reminder to all keepers of black worms, you must keep the water clean. I don't get mine home until Friday. I rinse five or six times right away and three or four more six hours later and from then on twice a day.

## Club Hopping 2013

Steve Edie

Apr 5-7, 2013 – Hartford: NorthEast Council Convention

May 24-26, 2013 – Chicago: GCCA Cichlid Classic

July 18-21, 2013 – Denver: American Cichlid Association Convention

Check with the individual clubs for more details.

# FISHES as DISHES

Patrick A. Tosie, Sr.

We all love our fish! This column will be dedicated to using our fish for something tasty to enjoy. Try it, you may like it. If you have leftovers, bring it to a monthly meeting for others to enjoy.

EAT MORE



FISH

## Garlic Tilapia

### Ingredients:

1 ½ pounds Tilapia Fillets  
4 Garlic Cloves, thinly sliced  
3 tablespoons Olive Oil  
Salt and Pepper  
Lemon, for serving  
Chopped Parsley (to garnish)

### Directions:

Season tilapia fillets with salt and pepper. Heat oil in a skillet over medium heat. Put fillets in first, and when they start to turn color a bit (after 1-2 minutes) add garlic slices.

Continue cooking about 4 minutes or so, then flip fillets.

Fry until cooked through, and fish flakes easily with a fork-- this will depend entirely on the thickness of your fillets, so you will need to watch them carefully.

The garlic should turn a dark golden brown, but not be burned, if you notice that the garlic is starting to burn, spoon it over the fish, so it is no longer in contact with the pan.

Serve with freshly squeezed lemon juice and garnish with chopped parsley. Serves 4



# Reflections: On Aggression

By Ron Coleman

Reprinted from the September 2012 Cichlid Blues of the Pacific Coast Cichlid Association

The title of this article is not random: Konrad Lorenz wrote an interesting and influential book by the same title in 1966, in which he attempted to explain aggression using the knowledge of the day. Much of what he wrote then we no longer regard as valid today, largely because his work was based on theories of behavior that have long since been disproved, but like any good science, his work did inspire others to investigate the problem much more deeply.

Aggression is at the core of much of what we do as fish keepers. In fact, in some ways it is even more of a central focus in a fish tank than it is in the wild. The reason is that the confines of a fish tank, no matter how large, are almost always smaller than the natural world and as such, a fish in a tank is short a key option in any encounter with another fish, namely it cannot simply swim away.

The consequences of this simple fact are manifested throughout our hobby. For example, pet stores will often label fish either by words or by little codes as “aggressive” versus “community fish” or some similar sort of scheme. Books and websites will often do the same. Hobbyists may ask each other: “Can I keep this species with that species or is this one too aggressive?” The dark side of the hobby is displayed when certain people crave “an aggressive fish” to show off in their tank to amuse their friends (or worse). In fact, this notion of aggression transcends the fish hobby and we see it with other pets, e.g., breeds of dogs labeled as “aggressive” epitomized by the controversy over pit bulls.

We spend substantial time and effort attempting to “control” aggression in a typical fish tank to keep the inhabitants alive and well. For example, one of the principle reasons for keeping a larger fish tank is because it allows us to keep more fish than we can keep in a smaller fish tank. And it isn’t the amount of food that is limiting – if food were the problem we could just dump more food in a smaller tank – no, the problem is something about space, and fighting and everybody just trying to get along.

But, to label a species as “aggressive” begs the question: is “aggressiveness” even a property of a species? In other words, because an individual is of species x, does that bring with it an automatic dose of aggression that is part and parcel of being a member of that species? For example, the Jack Dempsey (*Cichlasoma octofasciatum*), one of the first Central American cichlids to be commonly imported, was given the name of a famous boxer because of its supposed propensity to fight. And if you want to go outside the world of cichlids, Siamese fighting fish are also named for their supposed behavioral tendencies.

But is this correct? Is aggressiveness a property of a species?

The short answer is no, but the true answer is likely very complex and is something that we have been working on in my lab (and many other labs around the world) for a long time.

The notion of aggression as a property of a species goes back to Konrad Lorenz (and likely further) and was formulated in a time when ethologists (scientists who studied behavior in a particular way) viewed the world in a certain framework. Key to their understanding was a fundamental misconception, namely that behavior operates for the good of the species. As such Lorenz attempted to explain the bright colors and aggression of coral reef fishes, which he famously referred to as “poster

colors” because of their bold, distinct contrasting nature, by arguing how such aggression benefitted the species. In a nutshell, the aggression was beneficial for allowing the species to persist.

This foundational idea of ethology was soundly rejected in the scientific world in the 1960s. For the general public, the stake through the heart was firmly planted by E.O. Wilson in his book “Sociobiology” and Richard Dawkins in his book “The Selfish Gene” in the 1970s. Reading the latter of these is time well spent. However, as with all ideas, it takes a long time for the ideas of science to trickle through to the rest of the world, and the idea of group selection, as it is known, has died a slow and lingering death and still lives on in some unenlightened corners. Equally importantly, the consequences of this thinking are still with us in many aspects of modern life. And the notion that aggression is a property of a species is one of these.

The first crack in the armor of a species-based notion of aggression comes when we notice exceptions to the rule. For example, while many cichlids will be aggressive in an aquarium environment, some of them are not. And this isn’t just because the nonaggressive cichlid is a member of a nonaggressive species of cichlid. No, sometimes you will see a Jack Dempsey, a member of the species named for its aggression, not being aggressive. The same observation holds for “red devils” (*Amphilophus labiatus*), a large and robust species from Nicaragua, fully capable of inflicting enormous damage on another fish, yet sometimes not doing that at all. So aggression must be much more complex than simply a stamp placed on the body of species x.

In case you were thinking that I was going to get into a “nature versus nurture” argument, rest assured I am not. The basic tenet of that argument, that there is a dichotomy between behavior that is “coded in the genes” while other behavior is “learned”, is fundamentally flawed and has dogged psychology for decades, largely because of a misunderstanding of the variability and complexity of genetic systems. Suffice it to say that behavior has complex genetic mechanisms, much more elaborate than having a simple gene for being aggressive. And there can be genes to learn particular behavior. So to argue that something is “genetic” or “learned” is a pointless battle that neither explains nor excuses anything.

Returning to the main argument, namely that members of a single species do not always behave the same way, gets even more interesting when you discover that individuals themselves do not always behave the same way (and to repeat, this isn’t about learning). What it is about, is context. Aggression is a function of context. That is not to say that all individuals of different species are the same when put in the same context; that is most definitely not true. A very brief experiment putting a 16 inch wolf cichlid (*Parachromis dovii*) and a 2 inch *Apistogramma* in the same tank will quickly settle that question. There are certainly differences between species, but the key question is: how much of that difference is due to the species and how much of that is due to the context.

I’ll continue with this topic “on aggression” next time.

#### References

Lorenz, Konrad. (1966) *On Aggression*. Methuen, London

# Reflections: More On Aggression

By Ron Coleman

Reprinted from the November 2012 Cichlid Blues of the Pacific Coast Cichlid Association

Last time, I presented some ideas “on aggression” and I will continue with that theme this time. In brief, I argued that the idea that “aggressiveness” is somehow a property of a species is a relic from past ideas about biology and behavior and really does not stand up to observation: individuals of a particular species may be aggressive, or not. What matters is the context.

We have been studying aggression in my lab for a long time, in several different contexts. In fact, most of my academic career for the last 25 years has been spent studying one form of aggression, namely the defensive behavior of parents, first in sunfishes and then in cichlids. More recently we have been looking at aggression in other contexts, and this should be of relevance to anyone keeping fish in an aquarium.

First, the sunfishes. What I did with them, in a lake in Eastern Ontario, way back in the 1980s, was show that the defensive behavior of a male parental sunfish was a function of how many kids he had in the nest and what his odds were of surviving. Having many kids caused him to increase his aggressive defense. Lower odds of surviving also caused him to increase his aggressive defense. How I did that set the tone and style for much of our work since. Basically, I worked on a colony of sunfish that had many dozens of nests. Some of the nests I applied one manipulation to, other nests I manipulated in a different way. A typical “manipulation” was to remove half of the eggs. Then, several days later I tested the parent’s willingness to defend his remaining offspring, by threatening him with a photograph of a predator on a stick which he would then bite. The technique worked surprisingly well because I could count the number of bites he gave to the model – my measure of his aggressiveness – in a certain amount of time, such as 30 seconds. By comparing the aggressiveness of parents subjected to different treatments, I could determine which factors affected aggressive defense.

Later in my PhD thesis, I switched to working with convict cichlids, and often in the laboratory, i.e., lots of fish tanks. Working in the lab allowed me to carefully control all sorts of parameters, while I varied other things. For my thesis, I showed that not only is a parent capable of incorporating the number of offspring it has (what is known as the value of the brood), and the odds of the parent’s survival (known as the value of expected reproduction), but it can also figure in what its partner is willing to do and adjust its own defense accordingly. So, you see, already the idea that a convict is “simply aggressive” no longer makes sense: they are aggressive when the situation warrants it.

Several years later, a student (Alison Galvani) and I, showed that a single female parent convict cichlid of a small size, with all else being equal (and that is critical) will defend more than a single female parent convict cichlid of a larger size. What this tells us is that a small fish is more motivated than a larger fish. In other words, small females value their offspring more than larger females. But, that does not mean that a smaller fish can inflict the same damage as a larger fish – a much harder thing to experiment with and prove (and something we are still working on).

Since then my students and I have done many experiments. For example, we have investigated how the size of the opponent affects aggression – it does. Does the fact that a particular fish has seen and interacted with another fish change how they interact in the future? Yes. And we have shown that the size (or stage of development) of the offspring also critically affects a parent’s aggression. In other

words, parents are able to evaluate the condition of their offspring and defend accordingly. There is a lot going on.

Most recently, we have been working on aggression in forms other than a parental context, i.e., how much do fish fight when put in a tank, and what influences that? This deals directly with the question so often heard in a pet store, namely “Can I put this fish in with that fish?”

For example, Anthony Barley and I showed a few years ago that in a very simple tank setup, namely a 20 gallon long tank, with a filter and a few flower pots and plastic plants, that the amount of structure (pots and plants) affected the amount of fighting. If we put more plants and pots in the tank, there was less fighting. We do these experiments by carefully controlling everything that we do not want to change (e.g., temperature, size of fish, etc) and then placing selected fish to be subjected to the particular treatment in a carefully arranged tank. We then record the behavior of the fish to each other over a period of time, often 30 minutes, for several days. In most experiments, we look at the number of bites, number of chases, and duration of chases.

Two summers ago, two students, Nathaniel Bell and Nathaniel Shanklin, showed that when a pair of convicts are put in a simple tank, with just a few pots and plants, changing the temperature dramatically changes the amount of aggression. Fish fight more in warmer water.

Most recently, Jasmine Hamilton and I have been investigating how two individual fish of the same species, but two different sizes, interact with each other. As you might imagine, if the two individuals are similar in size, they fight more intensely than if one is much larger than the other.

There are lots more of these experiments that we are doing. What they show is that whether a particular fish is “aggressive” or not, is not simply a matter of which species it is, but rather it is a matter of the complex interaction of a large number of factors, e.g., the size of the fish, its reproductive status, the tank mates, the tank structure, the water temperature, etc. The bottom line is that whenever I hear someone say “that is an aggressive species”, it make me cringe: it simply is not true.

P.S. If you want to reduce aggression, keep fish at lower temperatures, in a tank with lots of structure (plants, wood, rock) and keep fishes of different sizes. If the fish start breeding, then expect a dramatic increase in aggression.

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# Spawning the Leopard Frog Pleco *Peckoltia compta* L-134

By Philip Hypes

Reprinted from the November/December 2012 Tank Topics of the Greater Akron Aquarium Society

As a juvenile the pattern is wide zebra like yellow and black stripes. When the fish matures the stripes will separate into a leopard like pattern. Adult length averages about 5". They are a shy bottom dwelling catfish that is not aggressive.

These fish have been collected from two locations: in Rio Tapajos, near the village of Pimental, downstream from the confluence with the Rio Jamanxim, and in Rio Jamanxim around Ilha da Terra Preta. Aquarium collectors primarily work in the area around Pimental. In the wild they are opportunistic, general feeders with a tendency toward meaty foods.

Their diet consists of New Life Spectrum pellets (6mm Thera A) and Repashy Superfoods. They are fed mostly in the evenings.

They are in a 40 gallon breeder with a hang on power filter, a power head and two large sponge filters with a large amount of air flow. The tank has a thin layer of gravel on the bottom with a lot of rockwork and caves throughout the tank. The temperature is normally about 80 degrees. They have no light on their tank, it is only illuminated by lights on surrounding tanks.

I started doing 60 percent water changes 3-4 times each week with reverse osmosis water and feeding more of the Repashy Superfoods to try to get them to spawn.

After starting the "conditioning process" there was a lot more activity in the tank. Then about a week into it I saw two fish in the same cave. The next morning I went down to check and there was a pile of eggs in the back of the cave. There ended up being about 45 eggs!

I left the eggs in the cave for several days, then about two days after they hatched I took the cave out and put the fry into a hanging nursery that was hung on the side of the main tank. The adult was placed back in the tank with his cave. The fry absorbed their egg sacks a couple of days later and I started feeding them small pieces of Repashy Superfood. I continued many water changes per week on the tank and cleaning out the nursery daily. After the few weeks in the nursery the fry were moved into two separate tanks where they are growing up nicely today.

I really enjoy keeping these fish and I would recommend them to anyone wanting to keep a nice and relatively small pleco. They are not very hard to take care of with normal aquarium maintenance. They will adapt to most water parameters.



# *Crinum americanum*, The Everglades Lily

By Dan McMonigle

Reprinted from the November/December 2012 Tank Topics of the Greater Akron Aquarium Society

I bought the parent to the seed that I grew into new everglades lilies about 1984 from Dan and Lorna Buxton's pet shop in Strongsville, Animalkins. For a number of years after buying them, I insisted on bringing these tropical bog plants out of the fish room and putting them in my pond for the summer, where their leaves always got sunburned and scorched from the sun.

They always looked lusher and taller inside in the winter than when outdoors. But it wasn't until I left some of them in the fish room in the summer that I could really see the difference. They bloomed. Huge white lilies, five or six of them on each three or four foot tall stem, didn't have to be seen to be appreciated. Open the fish room door and their perfume hit you first.

Over the years, the plants grew larger and the bulbs divided. More than once I took three quarters of them to an auction or a green house, but I still had an indoor pond about three feet by five feet, totally dominated by this plant in a number of plastic pots. This pond had been on the floor in my fish room for years, but when my daughter and her family were going to move in with us while they house-hunted, I built a stand for the pond so that it would be well above toddler level.

After blooming, some of the flowers would set seed. Large golfball to slightly larger lumpy green fruits appeared. The first ones I had just stayed green and nothing happened. I cut inside a few of them and there was nothing to see inside them, no seeds, nothing. It was like cutting into a giant pea, nothing to see there.

Eventually I let some of them just float on the water surface. Nothing happened. Months later, still nothing. Then, a tiny bump. It turned out each green lumpy ball was a lot like a pea, it was a single seed. Unlike a pea, it never split open into halves to form leaves. The seed just stayed as it was, but a few leaves and eventually a few white roots would all exit from one spot on the seed. Here is a photo of one of the seeds being held in my hands. I'm 6'2" and have big hands, so you are looking at one big seed. Try them in your fish room. If you don't have space for a "pond" you can put a potted lily into a five gallon plastic bucket or splurge and get fancy with some decorative pot (as long as it has no hole in the bottom). Pour your old fish water that your gravel vacuumed out of your tank to keep the lily pot covered. Room light will work, especially if you have spillover from some nearby aquarium light fixtures. If there is a window, direct sunlight will burn the leaves. In nature these tropical plants live in the swamp under the canopy of cypress trees so they are fully shaded, which explains why they hated my outside ponds.



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# *Telmatochromis temporalis* “shell”

By: Roy Smith

Reprinted from the September 2012 Fancy Fins of the Circle City Aquarium Club

*Telmatochromis temporalis* sp. “shell” is a Tanganyikan cichlid that belongs to a group that many hobbyists call “shell dwellers” due to their habit of spawning and seeking refuge in the empty snail shells that litter Lake Tanganyika. The scientific name indicates that this is a sub-species of the “normal” *temporalis* species but I have found little information regarding that species. *Temporalis* “shell” is a small fish with adult males having a body length of 2 3/4” and females no more than 2”. They are by no means a flashy fish in terms of their appearance but males are a pleasant slate gray color with a few stripes and marks around the face and females are a subdued beige color with some mottling. They are a rather tenacious fish and will hold their own or even defeat much larger fish so don’t expect to be meek or good candidates for a general community tank. Like most cichlids, they will become especially aggressive when spawning and protecting fry. As far as their use of shells, it is mostly the much smaller female that goes in and out of shells. I rarely saw males going into shells.

I have owned this species for quite a few years and kept them in a variety of situations. Over the years I had sold off all of my fry and non-spawning adults and ended up with only one adult pair that spawned quite readily. At one point I had them in a 55 gallon aquarium with a group of haplochromines

from Lake Malawi and I could always tell when the *temporalis* had spawned because all of the much larger haps would be crowded at the end of the tank away from the very protective *temporalis* parents.

One thing I always found unusual about the *temporalis* that I had was that they seemed to be good parents but only up to a certain point. I never witnessed them actually turning on their fry but invariably the fry would all disappear after a couple weeks with perhaps only a few stragglers surviving. It seems to me that the parents would kill or eat the fry once they reached a certain age. With that in mind I decided I wanted to make a concerted effort



## **Female *Telmatochromis temporalis* “shell”**

to raise up a large group of fry and really spawn these guys right after several years of few survivors.

I put the pair and a few snail shells in a 10 gallon tank with a gravel substrate, a few rocks and a sponge filter. Sand would work better and allow them to fulfill their digging desires but at the time gravel worked better for me and I also knew the nooks and crannies of gravel would give the small fry a place to hide once they left the shell. I raised the temperature up a bit to 78 degrees and after a couple months I saw a few tiny fry starting to poke their heads out of the females shell. The fry are very small but I was able to feed them frozen baby brine shrimp and powdered New Life Spectrum cichlid granules. I left the happy family alone for about 2 weeks but then decided to move the parents out of the



tank to make sure they didn't have a chance to turn aggressive with their babies. It wasn't easy catching the female outside of her shell but I managed to get her and the male out of there and into another tank.

Over the next couple weeks I realized what I had been missing with all of the other times I've spawned this fish. They do not just have a dozen or so babies like I thought but in fact have quite large broods. I was never able to count all of them but eventually the gravel in the 10 gallon tank seemed to be carpeted with temporalis fry. I would say there must have been at least 40 of them. They have been pretty slow growing but eat voraciously on anything small enough for them; crushed flake food, grindal worms and the other foods mentioned earlier are all eaten with gusto.

Although not as eye-catching as some other fish, *Telmatochromis temporalis* "shell" is worth keeping for their interesting behavior and unique appearance. Devote a 10 or 20 gallon tank to a pair and you won't be disappointed.



**Male *Telmatochromis temporalis* "shell"**

## The Practice of Quarantining

Randy Carey, Minnesota Aquarium Society

You live, you learn. Hopefully the lesson doesn't cost you too much. My lesson cost me my best display tank and its fish.

Three years ago I ordered a number of wild-caught fish for myself and other MAS members. I didn't have enough tanks for quarantining all the fish I ordered, so I had to make a decision. That gold nugget pleco sure looked nice. It would look great in my main display tank – the 40-gallon with some of my rarer and more colorful species. So I did it. I dropped him into my favorite display.

In just three days I found the poor guy motionless on the bottom. He had died. I sighed and netted out the corpse. This wasn't the first time I lost a fish and it won't be the last. I can handle it.

A few days later I recognized an outbreak of ich in that tank. Bad luck! I turned up the heat as a treatment (I refuse to use dye-based treatments in display tanks!).

This must have been a bad strain of ich. I was unable to reverse it. Those white specks choked the life out of some of my favorite fish. A couple species survived, but only after I removed them to a hospital tank. The damage was so great that I reluctantly tore down that well-established tank. With pain I pulled out plants that had been well-rooted for over two years. Foolishly, I had introduced a wild-caught fish that had at least one deadly disease. I sterilized and started all over.

A couple of weeks later I talked to another club member who ordered one of the gold-nuggets as well. His experience mirrored mine. The pleco died after a few days, and after a few more days that tank was invested with a nasty strain of ich that took out certain species. Like me, he knew better; but like me, he gambled and lost. We lived, we learned.

Quarantine new fish. We know it, but we seldom do it. Why? We don't reserved tanks for quarantining. We are too impatient. But the real underlying reason is that we've skipped the quarantine phase before and nothing bad has happened. When nothing bad happens, we are rewarded for doing the wrong thing. And so we try it again, and then again. Even after we get burned we justify the result as just bad luck. We rationalize that it probably won't happen next time. And so we don't reserve tanks for quarantining. We justify our impatience.

But is the gratification from impatience worth the catastrophe when it befalls us?

Since my lesson with the gold nugget pleco, I decided that I needed to apply a little more discipline in my fishroom. All new fish will be quarantined for at least a month. The redesign of my fishroom accommodates this policy. Let me share how I practice quarantining.

I agree with those aquarists who feel that bottom-row tanks are not desirable. But I also feel that unused space is undesirable. So all of my bottom rows are filled with tanks. These are not for display. These are reserved for either quarantining or for grow out. In my room the bottom rows hold seven 20-longs, a pair of 10's and six 5-gallon tanks. I prefer to use the 10's and 5's for quarantining. The 20-longs are split according to the activity of my breeding room vs. the activity of my acquisitions.

All of these bottom tanks are gravel-less. This is important for quarantining. The reason I'm isolating new fish is because of the increased chance of some disease or parasite. Should an outbreak strike, and whether or not I can save the fish, that quarantine tank and all of its contents will be sterilized. And for that reason I want quarantine tanks that are conducive to sterilization. So all my tanks are bare-bottomed.

The possible need to sterilize argues also for corner box filters over any other filtration – even over sponge filters. Should I need to sterilize, I merely drain the tank and wash it with bleach. Likewise, I can dispose of the material in a box filter and sterilize that plastic box. Sterilizing a sponge filter with bleach (or any other substance) would be hard on a sponge, and I have no guarantee that every crevice in a sponge has been thoroughly purged of parasites.

Since driftwood is a pain to sterilize (I'm still not good at it), no wood is kept in the quarantine quarters. I have been able to sterilize plants, but they take time, so I add them only when the species really seems to need them. *[For the record, I sterilize plants with a soaking in a solution of Potassium permanganate. This is a potent chemical which I obtained at a local chemical supply store – and I had to sign papers in order to purchase it.]*

OK, I have seen species that really acclimate better in a gravel-bottom tank. They are simply too nervous and easily stressed in the unnatural setting of a bare tank. When I detect such a species, I'll claim and isolate a gravel aquarium as a temporary quarantine tank. If a disease does break out, I'll have to thoroughly sterilize the gravel as well.

I would never dream of centralizing the filtration of my quarantine tanks! In fact, out of concern of spreading diseases, I refused to centralize the filtration of **any** of my tanks. I have witnessed a centralized system that had hydra in one tank and thus hydra in all. I cannot tolerate this. One of my fishroom policies is that once water enters one tank, it will never go into another tank.

Ideally, each new species should be isolated to its own tank. But sometimes my greedy fishbox comes home with so many new fish that I have to double up – two or more species per quarantine chamber. That’s a known risk. But it’s also a controlled risk. If a disease breaks out, only one or two other species will be affected, but not several tanks. Hey, it’s either that or go without that new acquisition.

When it comes to acquisitions, one needs to consider the source. Imported fish absolutely, positively ought to be quarantined. They bear the greatest risk of bringing in some new and nasty outbreak.

Store-bought fish can be safer, but it depends upon the store. I know of one shop that sterilizes all nets between uses. I have a greater confidence in fish bought there. Furthermore, many of today’s aquarium fishes come from isolated ponds on fish farms, not from the wild. Still, one never really knows the handling history of store-bought fish. I always quarantine what I get from a store.

Fish obtained from fellow hobbyists have a decent chance of being clean – that is, if the hobbyist himself practices good fishkeeping. Of course, there never is any guarantee that the fish and water are clean.

I have received fish directly from such aquarists when I didn’t have an open quarantine tank. My option is to put the tank-raised fish either in with quarantine fish or in an established tank. I let my best judgment guide me. If I do use an established aquarium, that tank is isolated for at least a couple weeks as if it were quarantined.

When I do introduce fish, I never reuse the water. I transfer each fish using a net and then I discard the bag’s water. Once all fish from a bag have been transferred, the net is sterilized under scalding water.

But fish are not the only thing I quarantine. Plants get this treatment, too. I’m not so concerned about plants spreading diseases. I have witnessed outbreaks of undesirable snails or of the hated hydra after the introduction of plants. So any new plant that I bring home goes into one of my gravel-less bottom tanks.

When I entered the hobby, almost all of the fish I kept were easily replaceable. These days I keep very few of the bread-and-butter species. If a disease or parasite is introduced into my fishroom, it could take out species that I might not see again for years – and perhaps never again.

Live and learn. That’s what it takes to develop serious aquarist skills. And quarantining is a practice of the serious aquarist.

# The Computer Page

Steve Deutsch

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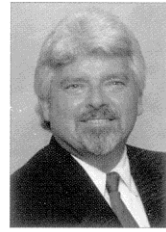
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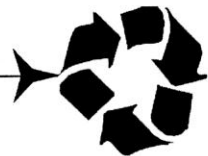
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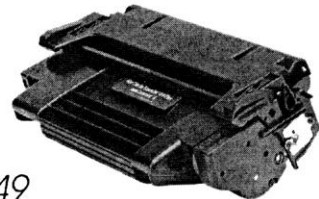
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