

O k t o b e r 2 0 1 1



# *Fins & Tales*

*Serving Kitchener Waterloo and the surrounding area since 1960*



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Volume 51 Issue 7

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**Member Profile: Jeff Loney**

Next Meeting:  
Tuesday November 1, 2011  
7:30 PM  
Adult Recreation Centre  
185 King St S. Waterloo, ON  
Doors Open 7:00 PM

Coming Events:  
Oktoberfish!!!  
Sunday Oktober 30, 2011  
10 AM at the Waterloo Inn,  
Waterloo, Ontario

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**On the Covers:**  
 Front: Nothobranchis Spoonerburgia by Al Ridley  
 Back: Speaker Brad Smith judging the September Jar Show by Zenin Skomorowski



## KWAS Mission Statement

The Kitchener Waterloo Aquarium Society (KWAS) is a non-profit organization whose primary goals are to:

- . Further the hobby and study of tropical fish and related endeavours
- . Inspire the preservation of aquatic life
- . Maintain a meeting place for its members
- . Develop and maintain a library on aquatic life
- . Promote fellowship among its members
- . Seek out and establish a kinship with other clubs with similar objectives

KWAS is a charter member of CAOAC:  
The Canadian Association of Aquarium Clubs

Fins & Tales is published 10 times each year between the months of September and June for KWAS members. Opinions expressed in this publication are those of the authors and not necessarily those of the Fins & Tales editors or KWAS. The mention of any product does not constitute an endorsement by Fins & Tales or KWAS members.

**Reprint Policy** — Articles from this publication may be printed in a not-for-profit publication provided credit is given to both the author and KWAS. Copies of the reprint must be sent to both the author and KWAS. Any other use is prohibited without the written consent of KWAS.

**Exchange Program** — KWAS exchanges newsletters with other clubs across North America. If your club is interested in becoming a part of this program please contact our exchange editor by mail or e-mail zenin@golden.net

**Correspondence** — Please send all correspondence to the Kitchener Waterloo Aquarium Society, Box 38037 256 King Street North, Waterloo, Ontario, Canada N2J 4T9.

## Submission of Articles

Cover images and articles can be submitted for publication in Fins & Tales by all hobbyists and must be submitted digitally. Priority is given to KWAS members and to topics that have not been recently covered. Not all submissions will be printed in the month they are submitted. The editors of Fins & Tales may be required to edit your submission for length, spelling, grammar and/or clarity. Please indicate if you would like to proof read the edited version prior to official publication.

Submissions are due via email to the editors (kwasnewsletter@gmail.com) by the 15th day of the month for publication in the upcoming issue of Fins & Tales. Please contact us if you have any questions or would like suggestions or feedback on possible article topics.

## KWAS Officials 2011 - 2012

### Executive

**President** Ed Koerner (eds.fish@yahoo.ca)  
**Vice President** Jeff Loney (jeff.loney@hotmail.com)  
**Treasurer** Brad McClanahan (nasfan@3web.com)  
**Secretary** John Podhorny (pleco\_cichlid@hotmail.com)  
**Past President** Phil Maznyk (webmaster@kwas.ca)

### Board of Directors

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**Jar Show** Dave Boehm (fishman@golden.net)  
**Webmaster** Phil Maznyk (webmaster@kwas.ca)  
**Pet Store Liaisons:**  
 Al Ridley (pyrofishtoo@rogers.com)  
 Zenin Skomorowski (zenin@golden.net)

## Advertise in Fins & Tales

As of November 2010 the KWAS BOD has decided to use newsletter advertising as an incentive for product donations for our annual Oktoberfish show and auction. If you're interested in participating please contact a member of the BOD who will bring your request to the attention of the newsletter editors, store liaisons and Oktoberfish chair who will contact you to discuss a suitable arrangement. Due to the lag and delay in recent editions of this newsletter, all 2010 donors will receive advertising through the entire year of 2011, instead of just until the next Oktoberfish event.

## Join KWAS

### 2011 Membership Fees

	Adult	Family	
1 Year	\$25		\$30
2 Years	\$48		\$58
3 Years	\$71		\$86
4 Years	\$92		\$112
5 Years	\$100		\$120

Junior Members (under the age of 18) \$10 per year

## From the President's Desk:

It is that time of year again, when we get all nervous waiting for the decision of bad or good while becoming giddy with excitement and can hardly wait to open up our new packages that we've unwrapped. Yes, it is that time of year again when we hear those sounds that we've waited for all year. The crowds, the noise, the hustle and bustle of the season. Yes, everyone, it is that time of year again. Time for yet another coming of ..... Oktoberfish.

Yes, ladies and gentlemen, Oktoberfish is just around the corner and just before you celebrate with ghouls and goblins, you'll all be able to play trick or treat at our annual KVAS show and auction. I'm not sure how many tricks there will be but there are always many fishy treats to be found. So, please remember to mark down October 30 on your calendars and come on out to the Waterloo Inn and join in our little fishy games. There will be plenty to see and Jeff and his merry band will make sure that there is plenty to do.

Before that happens we will have our October meeting of course. We will be having our usual events and have a program to help introduce people to the art of showing fish and how to help make it easy and painless. Remember, the club gives out cash prizes for the show and there are over 40 classes that are out there for the taking. There will be information on the forum site for show and auction rules. Our show chair is still looking for class sponsors as well.

While on the forum, please take the time to check out Jeff's breeding contest proposal. As the new BAP chair he has come up with an idea to help introduce the program to more people while getting more club members involved in trying their fins at breeding and growing out a few fish. He is interested in feedback from our members and hoping there are enough people willing to give it a try.

The Exec and BOD discussed looking at a club sponsored trip in the future. The Toronto Zoo was mentioned as were a few places a little farther afield. If you have any ideas that would tie in with the hobby that might make for an interesting event, please share it with an Exec member so that we can bring some ideas to you, the membership. Thank you.

See you at the next meeting....

Ed Koerner  
President, KVAS

## Editor's Notes:

The days are shortening and the weather is getting cooler. Time to think about putting the ponds to bed for the winter and gear up for Show and Auction season. Winter is an active fish hobby season as our outdoor time can be curtailed. During our Board Meeting on September 13th we discussed how to increase the participation in the club Awards Programs. With an eye to this endeavour, this month I have included the outlines for both BAP and HAP programs and hopefully debuting our MAP outline sometime in the New Year. We have lots of 'planties' and fish breeders out there, you might as well get some recognition for your achievements. Maybe by taking the time to fill out a form you can help someone else raise a certain type of fish or plant in similar circumstances.

Please take a moment to browse over and familiarize yourselves with these achievement programs and consider enrolling. As mentioned last month, we are also encouraging participation in the CARES program so why not hatch two fish from one egg and do both at the same time? For more information, check out the kwas.ca Home page and visit Programs in the menu bar.

On an editorial note: We need proprietary photos for the newsletter. If you write an article, please send photos that you have taken yourself or asked someone in the club to take for you. Please do not send in pictures that you have "borrowed" from the internet. Copyright infringement has become a huge issue and we need to protect our newsletter's integrity. Besides, fish photography is another pleasing challenge to this wonderful hobby.

# OKTOBERFISH 2011

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## October 2011 Exchange Editor Report

Zenin Skomorowski KVAS zenin@golden.net

The newsletters featured in this column and others are available to you. Please let me know by email, or at the monthly meeting, which ones you would like to read.

Some species of fish have quite a difference in the colour between male and female. One such fish is *Pseudotropheus saulosi*. Jeff Bulmahn wrote about his first time mbuna experience with this species in the May 2011 issue of [The Lateral Line](#) from the Hill Country Cichlid Club. Also in this issue, Benjamin L. Smith wrote about *Triglachromis otostigma*. This mud dweller from Lake Tanganyika digs tunnels and holes for protection from predators and to spawn. David Fair documents the DIY conversion of the shop lights over his tanks to LED lights. There are lots of photos and notes detailing the steps taken and wiring requirements.

Grindal Worms on Scrubbies ? Yes, Mike Jacobs wrote about his success maintaining and propagating this excellent live fish food in the May 2011 issue of [The Filter](#) from the Tampa Bay Aquarium Society. Lots of photos and encouragement to do live food in this article.

One of the larger eartheaters kept in the hobby is the *Geophagus brasiliensis*. These beautiful fish originate from South America and are relatively easy to breed. Read all the details in the BAP report "Pearl Eartheater" by Joel Antkowiak in the June 2011 issue of [Tank Tales](#) from the Aquarium Club of Lancaster County. Also in this issue, Joel continues his series on Bread 'n Butter Fish with "Scalare: Freshwater Angelfish". Michael Steffen asks the question "Have you ever wondered what goes on inside a spawning cave?" To find the answer, he describes a method of creating a cave for photos. It is a nice DIY project that yields a very functional and good looking tank decoration.

The C.A.R.E.S. page in the June 2011 issue of [Tank Talk](#) from the Durham Region Aquarium Society has the title "Mad Fishes 2010". It is an account of the visit to Madagascar by Tim McCaskie. He went with Dr. Paul Loiselle of the New York Aquarium and Alex Saunders of the Denver Zoo to document the fish and the conditions they live in some lakes and rivers of Madagascar. Lots of good photos featured will make you want to go too. Also in this issue, Derek Tustin continues his two columns "Year of the Rainbowfish" and "The Names You Know, the People You Don't".

A peaceful Labyrinth fish from South Asia is the Spiketail Gourami *Parosphromenus filamentosus*. This 3 inch bubble nest blower has a brownish body with red on the dorsal and anal fins along with a blue fringe on the spike tail fin. Read about keeping and breeding them in the June 2011 issue of [The Filter](#) from the Tampa Bay Aquarium Society.

In most Characin tetras, it is difficult to tell male from female at a glance. However the Emperor Tetra is easy. Not only are the male fins longer, their eyes are blue, whereas the females have

green eyes. Check out the spawning setup for *Nematobrycon palmeri* described in the June 2011 issue of [Finformation](#) by Stan Chechak.

Many tropical fish hobbyists also keep shrimp these days. An interesting species is *Macrobrachium borelli* from Uruguay South America. These large 2 inch shrimp can be grey with red on their claws, but do change to a mottled pattern depending on mood and habitat. Read more about keeping and breeding them in the article by Mike Crawford in the June 2011 issue of [The Fish File](#) from The Aquarium Society of Winnipeg.

The Cichlid Corner is a look at people and happenings in the cichlid world by Scott McLaughlin. In the Summer 2011 issue of [Tank Tales](#) from the Aquarium Club of Lancaster County, there is an interview with Mo Devlin. He is well known for growing and photographing some of the largest and most colourful cichlids. He is currently Chairman of the ACA ( American Cichlid Association ). He talked about the recent ACA convention in Washington D.C. as well as some considerations for flash photography of your fish. In the same issue, Joel Antkowiak wrote about his experiences at the ACA convention as well as publishing photos of some fish in the show – they look great !

Jules Birnbaum wrote about "The Common Denominator of Successful Aquarists" in the July 2011 issue of [Modern Aquarium](#) from the Greater City Aquarium Society of New York. See which habits and techniques you currently do and perhaps some others you should do to become an even more successful aquarist. When thinking of fish from Africa, several groups come to my mind; Rift Lake cichlids, West African cichlids and Characins, Killifish and Synodontis catfish. One group that I never think of are Anabantids. Alexander A. Priest suggests trying a different African challenge with *Ctenopoma kigsleyae* – The Tail Spot Bushfish. This bubble nest builder can get quite large at 25cm ( 10 inches ).

[Redfish](#) Magazine is a free-to-read magazine that you can read and download from the internet at redfishmagazine.com.au. There is also a Facebook page. Issue 1, July 2011 has a wide range of articles; Sterbai Corys, Guppy History and profiles, Goldfish Through the Ages, Watergardens, and marine Zooanthids and spawning Clown fish and more. There are slightly different editions, depending on where you are in the world.

*Pelvicachromis pulcher* is a dwarf West African cichlid that has been in the hobby for a long time. Bob Berdoulay wrote about his experiences keeping and breeding these fish that provide wonderful parental care of their fry. Read his article in the July 2011 issue of [The Filter](#) from the Tampa Bay Aquarium Society.

A very colourful Malawi mouthbrooding cichlid is *Tramitichromis intermedius*. The males display iridescent red, blue and greens, whereas the females are the usual drab grey. Both sexes have three irregular black spots along the lateral line. The bonus is that they don't bother plants when raised in

the aquarium. Read more about them in the article by Stan Chechak in the July 2011 issue of Finformation from the Greater Pittsburgh Aquarium Society.

The Rio Comal is a river near San Antonio Texas that is home to a wide variety of native and introduced species. There are thick mats of *Ludwigia repens* and stands of *Vallisneria americana* gigantean that are home to many livebearing fish in the *Gambusia* and *Poecilia* families. This river feeds Landa Lake where there are large and small mouth bass, fountain darters, red claw crayfish, blue tilapia, common plecos, Mexican tetras, various sunfish species, and the Texas Cichlid. There is an observation pier for bird and fish watching. Find out more about what is here in the article by Walter Wooton Jr and Greg Steeves in the August 2011 issue of The Lateral Line from the Hill Country Cichlid Club.

Do you remember reading Brent Lemanski's article "Abducted By Aliens" ? It was published in the June 2011 issue of KWA's Fins and Tales. Well, the Victorian Cichlid Society in Australia have reprinted it in their August 2011 issue of The Cichlid Monthly and added a couple of images for some additional fun. I love the Aussie attitude ! Also in this issue, Uri Bouman wrote about his experiences keeping and trying to spawn *Cleithracara maronii*, the Keyhole Cichlid.

After World War II, there were many technologies that began to appear in everyday use. A benefit to the aquarium hobby were the surplus airplanes and airstrips in South America. They enabled a huge number tropical fish to be available to the hobby in the 1950's. Fish arrived in hours rather than weeks, contributing to their excellent condition, ready for keeping and breeding at home. This still forms the basis of what is in the hobby today. Read more in "How World War II Contributed to the Golden Decade of the Aquarium Hobby, the 1950's" by Alan Mark Fletcher in the August 2011 issue of Modern Aquarium from the Greater City Aquarium Society – New York. Also in this issue, Dan Radebaugh wrote Part II of his Carpy Diem account of how various species of carp are impacting rivers in the U.S.

**Surf's up ! Here are this month's web sites to explore:**

Landa Lake, Comal Springs, Edwards Aquifer Texas:  
[www.edwardsaquifer.net/comal.html](http://www.edwardsaquifer.net/comal.html)

American Cichlid Association:  
[www.cichlid.org](http://www.cichlid.org)

Redfish Magazine:  
<http://redfishmagazine.com.au>  
[www.facebook.com/redfishmagazine](http://www.facebook.com/redfishmagazine)

Madagascar's Endangered Fishes:  
[www.madagascarfish.org](http://www.madagascarfish.org)

**KWAS Member Profile**

by Zenin Skomorowski

*In order to help members become familiar with each other, I will try to feature a Member Profile each month. You might find out that someone else in the club shares your interest in a particular species of fish, or even another hobby. Let me know if you would like to share some information about yourself to the club.*



This month, I will feature our new vice-president Jeff Loney. He is on the KWAS forum as jeff.l.

Jeff joined KWAS in 2010. He found us by looking online for a forum to join. Jeff is currently a student at the University of Waterloo. At the annual CAOAC convention this past May, Jeff showed some fish and achieved awards for HAP and BAP. He recently has been maximizing the number of fish in the monthly KWAS show in order to unseat me as champion ... Go for it ! He will be showing fish at London, Hamilton and of course Oktoberfish.

Jeff has about 35 aquariums of various sizes from 2.5 to 50 gallons, mostly in the 10 to 20 gallon range. In his aquariums, he keeps rift lake African cichlids, dwarf cichlids, tetras, gouramis, corys, livebearers, bettas, South American cichlids and rainbows. He has spawned Endlers, various livebearers, Betta splendens and other fish. He also propagates plants. His current favourite fish are from the *Pelvicachromis* group; *subocellatus*, *taeniatus*, *dehane*, *pulcher* and *sacrimontis*. Someday, Jeff hopes to keep salt water marine fish.

Jeff spends time on Tropicalfishkeeping.com as well as the KWAS forum. Other hobbies of Jeff's are stamp collecting and playing video games. Between being a student and having a part time job, the rest of his time recently has been taken up with his duties as KWAS vice-president and Oktoberfish Chairman.

## Minutes of the September 2011 general meeting:

President Ed Koerner called the meeting to order at 7:48PM with 50 people present.

### Announcements:

Zenin handed out the FAAS Author awards to KVAS members. Refer to September's newsletter for the list of awards for KVAS.



Name that fish:  
The first bag were Madagascar rainbows won by Becky Allan  
The second bag were Stone catfish from Asia won by

Don Rhodes

### Auction:

All auction goods were sold



Program:  
We had a great presentation done by Brad Smith on guppies. Brad briefly explained the in and outs of breeding and keeping guppies. We watched a brief video about a tour some of fish rooms of the Michigan Guppy Breeders. Thank you Brad for all the energy and effort you put in the presentation.



### Jar Show:

Dave announced the winners of the jar show competition.



Upcoming events:  
Oktberfish,  
Oktoberfish,  
Oktoberfish!! I can't say enough about this event!!!! Come one come all!!

BAP: No entries

HAP: No entries



Meeting was adjourned at 10:02pm

### Name That Fish

By Jeff Loney, KVAS (jeff.loney@hotmail.com)

Welcome back to everyone from their summer holidays, hope you enjoyed them. With the second section of our KVAS year comes a new opportunity to win fish with our monthly name that fish contest. Two bags were brought in and neither were guessed easily.

The first bag of fish was a small group of *Madagascar Rainbows or Bedotia Geayi* and it was won by Becky Allen

These fish are native to Madagascar where they live in fast flowing rivers and streams. The males have two black stripes running through the body, one from its eye to the caudal fin and one from the throat to the anal fin. These fish are best kept in schools and are happiest when they have a long tank to swim back and forth.

The fish reach a maximum of 6 inches and are adaptable to the parameters in which they are kept. An important thing to remember with these fish is to keep a high water quality by performing regular water changes. The Madagascar Rainbow is a mop spawner who will begin to lay eggs when only 3 centimetres in length.

The second bag of fish was *Asian Stone Catfish or Hara Jerdoni*, these were won by Don Rhodes. These are an interesting little fish, with a total size below an inch.

These fish originate from India and Bangladesh where they inhabit slow moving rivers with sand bottoms. This fish is normally reclusive and hides during the day, but after lights go out you will be able to see them out foraging for food. They enjoy driftwood specifically and will hang upside down during the days. The asian stone fish will eat prepared foods without a problem, but they enjoy a live food from time to time. These species have been spawned in aquariums before but I was not able to find the details about how they spawned.



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**BUSINESS MEETING – Agenda for September 13, 2011**

Meeting 7:30pm at the home of Jayne Glazier  
 Present: Ed Koerner, Jeff Loney, Brad and Katie McClanahan, Zenin Skomorowski, Jayne Glazier, Carlos Mendes, Terry Clements, John Podhorny.  
 Absent: Phil Maznyk, Mary Lynne Lucier, Cam Turner, Brent Lemanski, Victor Dinh, Al Ridley

Motion to approve June business meeting minutes as delivered (e-mail).  
 Motion: Brad McClanahan Seconded: Jeff Loney  
 Motion Carried

Motion to approve Sept general minutes as delivered (e-mail).  
 Motion: Seconded: Motion not carried,  
 minutes not received

Future business Meetings: October 11...?? Possibly Carlos Mendes November 8 ..None yet December ... Zenin

Treasurer’s Report (Brad McClanahan):

Motioned: Zenin Seconded: Terry Motion Carried

Correspondence: none

**Committee Reports**

NL Editors/Publishers (Jayne Glazier - Victor Dinh): Newsletter is up and running. Software bugs being worked out. Printing hit a snag for September edition which was hardware related, Cam working on. Discussed membership email account to use for distribution of newsletters. Jayne to implement.

Webmaster (Phil Maznyk): absent Email report: Nothing to report.

Program (Victor Dinh): absent  
 October....Suggestions: Showing Fish November....

Exchanges (Zenin Skomorowski): Contact Zenin if you are interested in viewing other clubs articles, we are now trading newsletters with the Brooklyn New York club. Brent Lemanski's Alien Article reprinted by an Australian Club.

C.A.R.E.S (Terry Clements): One new registrant.

CAOAC (Phil Maznyk, Jeff Loney) Nothing to report since the June meeting. First CAOAC meeting is on Sept 18<sup>th</sup>/2011

Membership (MaryLynne Lucier): absent

Auction (Rein Breitmaier/Carlos Mendes): Carlos is learning and doing great. Harder than it looks.

Library (Terry Clements): New DVD copy of Ad Konings “Cichlids of the lake Malawi”

Raffle (Katie McClanahan): Need donations.

HAP (Brent Lemanski): absent

BAP (Jeff Loney): Summaries done for 2008 and 2009 Initiatives for HAP and BAP discussed.

MAP (Cam Turner): absent Email Report: MAP is stalled until at least January 2012.

NTF (Ed Koerner): Looking for others to step up and run time part of the meeting, see Ed for questions

Show Jar (Dave Boehm): absent

Lunch : We need someone to fill this position..... John will bring doughnuts and pop for October as long as someone makes coffee.

Pet Store Liaisons (Zenin Skomorowski, Al Ridley): Refilled flyers at Aquarium Services Kitchener. Discussed visiting Living Aquarium in Cambridge.

Oktoberfish: Al has stepped down as chair. He has committed to helping the new chair follow through for another successful event and will be there to make sure nothing falls through the cracks. We had two people step up to fill the gap. Jeff Loney will be handling the chair responsibilities and will be setting up a meeting asap.

Rein and Brad are confirmed as auctioneers, still looking for 3rd. Need suggestions please! Will reach out to Al to get the donations list and start tracking those down.

**Old Business**

BAP spawning contest - (Jeff Loney) In progress, Looking for feedback and suggestions. Posted idea on forum looking for responses. Tabled until after Oktoberfish.

**New Business**

Photobucket Pro account for Zenin and his pictures..... \$30/year. Not needed at this time, will revisit next year.

End of meeting 10:20pm!

## Killifish: The Best Kept Secret

by Al Ridley KWAS (pyrofishtoo@rogers.com)

Photos by Author

Dazzling, Stunning, Exotic.

Like most fish keepers, I had been keeping fish for many years before considering killifish. There were many reasons for avoiding these fish. First, I had heard that these fish were annuals which meant that they didn't live very long. Second, was the few articles that I had read suggested that these fish required live foods, peat filtered water and were generally difficult to keep and thirdly, they just weren't readily available in fish stores.

Killifish are found throughout Africa, Asia, South America, North America, and parts of Europe. More than 500 species are represented in this group. Several species also inhabit brackish water and a few actually live in pure salt water. Killifish are well-known for their adaptability and many species inhabit bodies of water that dry up during the dry season. Some species spend part of the year living under a layer of ice, while the Desert Pupfish (*Cyprinodon* species) has, on occasion, been found in water with a temperature of 116.6°F (47°C).

My first experience was when a friend of mine gave me some *Fundulopanchax gardneri*. They were a stunningly, colourful fish that he was breeding in a ten gallon aquarium. No heater, light or substrate and a sponge filter for filtration. The tank décor was just mops made out of acrylic yarn all over the place. He also gave me some killi eggs, but I will get to that later. I brought home my new fishes and set them up in a ten gallon aquarium almost identical in set up to the one they came from. Lesson one... they jump! Not only do they jump but they seem to jump through the smallest openings in the lid. Luckily, I only lost two so I still had five left.

I had to make some mops so I picked up some yarn and encouraged the drinking of wine with the sole result of getting the corks. I found a book that seemed to be of a suitable length and wrapped it fifty times with dark green yarn. I then tied off one end and used scissors to cut the other end (not so easy after consuming two bottles of wine – you *need* corks). Then, I tied a cork to the uncut end so that it would float in the aquarium with the tassels hanging down almost two thirds of the depth. I made dark green, black and medium brown mops and on two of them I didn't attach a cork so that it would sink to the bottom. Dark coloured yarn will help you clearly see the eggs when you are picking them out.

The tank was a bare bottom ten gallon aquarium on the top shelf in my fish room. It had five mops of different colours and different lengths. The temperature was in the low to mid seventies and the fish were fed frozen bloodworm, flake and mosquito larvae (during the summer months when they were available). I checked the mops daily and was amazed to remove ten to twelve eggs daily starting almost immediately. The interesting thing is that most eggs were recovered from the top 1/10<sup>th</sup> of the mop. Up where everything was tied together in the tightest part of the mop. These fish were very prolific and produced eggs regularly for me. I eventually changed their home to a low tech planted aquarium where they continued to produce fry but without my intervention.

So let's talk killies. Killifish are small, tropical egg laying fish. The word killifish originates from the Dutch word 'kill' meaning small stream, their natural habitat. Most killifish grow to 2" to 3" which allows them to be housed in aquariums as small as one gallon. Most will do well in five to ten gallon aquariums. Killies are egg laying fish however they lay eggs in different ways. Killies will lay only a few eggs per spawning rather than one mass spawning, however they will lay eggs every day. Also, the eggs of some killies must dry out for several weeks before being placed back into water to hatch. There are two main types of killies, top spawners and substrate spawners.

Top spawners are the group of killies that generally spawn in a thick planted habitat. They can be spawned two ways. You can set up a permanent, planted aquarium no larger than ten gallons or you can set up a two to ten gallon basic tank. I use sponge filters and a fine layer of a dark coloured substrate. Then I introduce mops as described earlier. The fish will dive into these mops and lay their eggs one at a time on the strands. I pick the eggs directly from mops every two days. A fertilized killie egg is very tough and can be rolled between your fingers without damaging it. If the egg pops in your fingers, it wasn't fertilized. I have two methods of hatching eggs. I still haven't decided which method is better. Once I find an egg and pick it out of the mop, I place them into a shallow tub with a layer of moist peat for a substrate. Margarine containers work well. I label the containers with the fish name and the date and place them in a styro box and put it on the top shelf in the fish room for warmth. I have heard that you can add shrimp from the genus *Neocardinia* to the containers as they eat all the fungus and dead eggs and the tannins and humic acids from the peat retard the bacteria. Every

so often, using a small turkey baster, I fish the fry from this container. The other method is to pick the eggs and place them immediately into a half strength solution of anti fungal solution. You can collect eggs for up to a week using these methods. Constantly do water changes on this container and remove any dead or fungus eggs. I have also pulled the mop out of the breeding tank and wrung the water from it. Again, be careful the fish have exited the mop before you squeeze – I have learned the hard way! It shouldn't drip at all. Put it in a zip-lock sandwich bag and roll it up to empty the air. Don't forget to label it with the species and date packaged. After two weeks in the styro, I just pull out the mops and toss them into two gallon show jars with an inch or so of fresh, dechlorinated water. Usually, the eggs all hatch in a few hours. It is quite the sight to see.

Substrate spawners are the group of killies that in their natural habitat, the water can dry up completely so they have a very short lifespan. They are sometimes known as annual killies. Before the adult killifish dies, they bury their eggs in the mud of their body of water. The tough-shelled eggs, survive in the mud, and hatch when the rains come. To breed this type of killie a small five gallon aquarium can be used. Peat can be used as the substrate or it can be placed in one or more spawning 'tubs'. I use 500mL margarine or sour cream containers. I use a hole-saw to drill a one inch hole in the lid. I silicone the tub to a piece of slate so it stays flat at the bottom of the tank and then fill it half full of well soaked peat. The fish will dive into the container and lay eggs in the loose peat. The pair should be conditioned prior to being introduced into the tank. I have more success in the summertime as there is an unlimited supply of mosquito larvae available and they condition up very quickly on live foods. After the pair spawns, the peat moss can be removed carefully, squeezed until it is moist and placed in a plastic bag or container where it is stored in the styro. Don't forget to label the bags. The peat should be stored for usually about one to four months depending on the species. After the storage period, the moss can be placed back in the spawning tank. The fry should slowly begin to hatch over the period of several weeks depending on the species.

I am currently (October 2011) keeping the following killies:

**Aphyosemion australe (orange)** is a stunning fish and usually draws attention immediately. There is the original variety that has the natural Tan/Brown color (also known as the Chocolate australe), both varieties have all the colourful markings and long flowing fins. This killie comes from Western Africa

and the rain forests of Gabon. The name "Aphyosemion" means: fish with a flag or banner, and "australe" means: south or southern. They prefer water that is slightly acid and soft so I use rainwater, but they adapt easily to any water conditions. I do not heat the aquarium as the ambient temperature of the aquariums in my fish room keeps unheated



tanks between 68 to 74°F. They eagerly accept regular flake foods, freeze dried and frozen bloodworms and live white worms. In the summer they get feedings of live mosquito larvae and the breeding results are noticeable. These fish spawn in mops however I have occasionally seen some fry swimming with the parents. I feed the newborn fry microworm and finely ground up flake.

**Chromaphyosemion poliaki** is a beautiful fish that comes from South West Cameroon in Africa. It is found in higher elevations on the eastern slopes of Mount Cameroon and prefers cooler waters. It is written that this peaceful fish prefers living in the upper areas of a well lit, planted aquarium. Males can be aggressive with its own kind so they are best kept in trios, rather than pairs. Of course, I lost my female so I am in need of some! The males are more colourful and I think I have the strain known as Mile 29 which refers to the location it is found. It is an easy first killifish with a good lifespan of 5 years.



**Aphyosemion Striatum (Five-Banded Killie)** comes

from Guinea in Africa. When in spawning colors it rivals even marine fish. It is very easy to breed in captivity. Just add a few mops, some java moss, water, and food, and you will have tons of eggs. In the wild they lay eggs in hornwort or Java moss that floats on the surface. Feeding never seems to be a problem with my two pairs as they will accept almost anything.

**Fundulopanchax spoorenburgi** is an interesting killie because all the research I have done suggests that this fish was 'discovered' in Holland. It is thought that this fish comes from the area around the Nigeria and Cameroon border. Another easy killie to spawn however, the eggs are sensitive to being handled. I have had more success in water



incubating these eggs than trying the peat method. These guys jump! They prefer cooler water and hardness doesn't seem to matter.

Here are some I have kept:

**Fundulopanchax Sjoestedti (Blue Gularis)** is found in Nigeria and West Cameroon on the western coast of Central Africa. It is another of the extremely colourful killies and is also one of the largest. Males can often be six inches long and females 4 to 5 inches in length. The overall body color is blue-green in color with numerous rust coloured blotches across the body. At the midpoint of the fish where the dorsal fin starts, the pattern of these blotches forms vertical bars. The dorsal, anal, and pelvic fins are also blue-green in color with the same pattern of dots. The caudal fin is very striking forming a trident shape coming to three points. The upper and lower sections of the tail are the same as the body with rust coloured patterns, the middle section being a yellow to orange color. To best visualize this fish you just have to see it. The females, in typical fashion, are dull beige in color with some strains having a few red dots along the body.

**Nothobranchius guentheri** is one of the annual type killies. It comes from Tanzania and grows to

about 3" total length. This is one of the most



stunning killies I have kept but also one of the hardest. The reason being is that it absolutely requires live food. I find that I can maintain these fish over the winter but they thrive in the summer when mosquito larvae is

readily available. This fish spawns in peat, I use the margarine container method so that I can remove the peat without too much of a mess. The peat and eggs must be moist and then stored for up to six months before hatching.

**Aplocheilus lineatus (Golden Wonder Killie)** is somewhat more common in your local fish store. It comes from Sri Lanka and India. This killie is a beautiful gold colour with red highlights. The males have longer fins and more impressive coloration, while the females and immature males have several vertical black bars on their sides. This fish is very pike like in body shape. This fish lives at the surface always on the look out for flying insects and other live prey. You will have good success using floating foods. They are voracious fry eaters so for best results, use a mop. The eggs are large and easily handled. The eggs will hatch in 12 to 14 days and the fry are large for killie fry. This fish prefers soft slightly acid water with a temperature range of 70-80°F (21-27°C). A tank of at least 10



gallons required. *A. lineatus* is an excellent beginner Killifish. It is very hardy and rather long lived for a Killifish, living for up to 4 years.

These fish are hardy and can be long lived. With the right conditions, they will spawn and the young will grow in the tank with the parents. The one negative thing is these fish jump. I mean they almost practice it to perfection so be aware if you are keeping them. One positive thing is you can mail other killie hobbyists eggs. What a way to trade fish!!!!

September Jar Show Results

Livebearers:

- 1st Jeff Loney Heterandria formosa
- 2nd Zenin Skomorowski Nezzie sword
- 3rd Jeff Loney Carlhubbsi stuarti

AOV:

- 1st Zenin Skomorowski Odessa barb
- 2nd Jeff Loney Apistogramma cacatoides
- 3rd Ed Koerner Atolamprologus calvus



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This month's jar show was all about Livebearers with an emphasis on Guppies  
 above: Tequila Sunrise Guppy  
 below: Pineapple Swordtail  
 pictures by Zenin Skomorowski



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## White Worms (in technicolour)

by Jayne Glazier KWAS (phocusgroupie@aim.com)

It started innocently. I was trying to entice some of my smaller angel fish to become better eaters. Just like small children who won't eat anything other than macaroni for breakfast, some of my angels were turning up their pointy little noses at all my regular foods. It wasn't cheap stuff either, NLS pellets, Angel's Plus flakes in 3 different flavours, Hikari pellets, you get the picture. Big angels eat anything including shrimp and guppies but I wanted to keep these little guys away from such violent meal time action. Some of my shrimp fight back.

Then I read a book from our club library on live foods. I had seen many sources for live foods on the internet and tried some of my own from around the yard. Mosquito larvae were not easy to find as I keep guppies in my water barrel and my koi eat anything in the pond. Earth worms were full of well, earth and made a mess when I chopped them up, besides the fact that my kids rolled their eyes and wouldn't eat anything in the kitchen for days after. You can imagine that I was getting desperate.

I decided to get a starter culture of white worms from the club. That was the beginning. I readied a plastic shoe box with dampened coconut coir after reading that white worms don't like an acidic pH and coconut is pH neutral. One of the issues with coir is that there are long fibres in it which the worms like to ball up around but that is another paragraph. Apparently potting soil also works but I had some special acidic stuff full of peat moss so I decided against it. I have since used it and it works fine.

The culture preparation was intensely difficult, not to be attempted by amateurs. I opened the baggie, dumped the culture in the box and stuck the lid on. Then placed it on the cool concrete floor of my fish room under the sink. Phew. Make sure you have supervision, that last step can be a doozie.

My husband was concerned that they might 'break out' of their sub-sink incarceration and invade the basement environs that he inhabits in the evenings (man cave). I assured him that they would not leave the shoebox but if he was concerned further I could put the whole operation in maximum security with temperature control for added peace of mind. He didn't seem to be enthusiastic about them going into his beer fridge so on the laundry room floor they remained.

Like a kid waiting for Christmas I was excited as only a fish keeper can be. I get quite perplexed when my family doesn't let me talk to strangers about my hobby. My husband swore me to secrecy, exhorting me not to mention developing worm cultures in the

next room to his hockey buddies during their "team meetings" in our basement. I waited, and waited. Every time I opened the box of worms nothing was happening. I could see them occasionally but they apparently were shy and didn't like being disturbed every 10 minutes. Of course the fact that they are photosensitive and prefer being left in the dark might have had something to do with it. Two weeks of stress and no worm nookie. Or at least none that I could see. White Worms lay egg packages which can contain multiple baby worms, these look like tiny white dots in the bedding material. I didn't see any.

I began to think that maybe they too needed a different kind of food. Now this was starting to become a vicious circle. The book suggested dampened oatmeal, dog food and for some reason bread soaked in milk. Most of the internet sites concurred. Well I beg you dear reader, to imagine what any of these foods looked like after 24 hours on top of wet dirt kept in the dark in a cold place. Green, blue, purple molds were just the start of it. The worms didn't seem to be enjoying this buffet either.

After clearing up the latest batch of mutant penicillin from the shoe box I had an epiphany. Maybe it was just some sort of psychotropic mold spore affecting my brain but I put two ideas together. If you are feeding worms to fish quite often you raise them on one food and then just before feeding you cleanse their systems by fasting them and then you can "gut load" them with high quality food to make sure they have a high fat, vitamin and protein content. Many fish keepers add colouration foods to the worm's diet to make sure that the fish keep up their colour diet when supplemented with live foods. Most fish food is a cereal base with added ingredients like fish, shellfish, veggies etc. Why not just feed the worms fish food? So I did.

The worms were fed with the food the angels were rejecting..the NLS pellets, algae wafers, flake foods, food found at the back of the fish cupboard that was stale.... you get the point. Many different foods on hand and they ate it all. I went back to the internet with my amazing discovery to brag a little and lo, others had thought of it before me. Oh well.



Now an interesting point, and no, there is no longer any mind altering hallucinogenic mold involved....the worms don't stay white when they eat fish food. I fed colour flake and they turned orange, I fed algae wafers and they turned green. Their ground state colour is now a sort of peach. When they eat garlic flake they smell like

garlic...really. It's interesting that we feed garlic to fish to help their immune systems and discourage parasites (worms) but worms don't seem to mind it much. I was also thinking that maybe it is a good way to get medication into fish if they were sick. I would have to get a degree in biochemistry to analyze the rate of decay of fish meds in a worm's digestive tract first though. On a side note, don't feed worms deworming flake. Just don't.

Anyway, the population exploded. At this juncture I had been waiting for 6 weeks for the culture to come to the point that I could use them for food. I placed a piece of plastic wrap over the top of the soil after sprinkling on some flake. I waited 24 hours and then returned to view my 'catch'. Nothing. Now I know there are thousands of worms in that box. The accepted method of catching them is to lay something on top of the soil in the expectation that the worms will climb onto the bottom in their search for food. Then you just wipe them off. Sure. My next step was to lift out a one inch section of coir



White Worm egg cysts

and rinse the worms out of it. Not as easy as it sounds. Remember those long fibres? Well a group of worms is called a squirm (who thinks up these things?) and they do. All around those long fibres. Not something you want your angels to ingest. At one point I had a two inch ball of solid white worms wrapped around three thread thick pieces of coconut coir fibre and couldn't dislodge them.

So I took the squirm up to the adult tank and held it with my fingers to see if I could retain the fibres while the fish picked at the worms. It took about 3 seconds for me to realize my life was in danger.

Those angels went immediately insane. To say they channelled piranha ancestors might be a stretch but they were definitely enthusiastic. I dropped the squirm into the tank to staunch the bleeding while I still had some flesh hanging on my fingers. The fibres were stripped of their hangers on within a minute. An interesting note here too: The bottom feeders also went crazy. The bolivian ram quartet that run the benthic layer immediately started a riot with the cory wide boys even though outnumbered by 2:1. Any white worm lucky enough to evade consumption made a break for it into the substrate. To say the experiment was a success would be an understatement.

A year later I have broken up the original culture at least 10 times. I have supplied a dozen members with starter cultures and one whole established culture. I have had two cultures crash for reasons of accident or neglect but always recovered once I paid

better attention. You can leave a culture for 2 weeks with no ill effects but leaving it with the lid off (dog investigated the shoe box) and letting the culture dry out is not good for the inhabitants. Also leaving the soil for too long without adding new, clean bedding is not healthy. Obviously the worms consume food and create waste. This waste becomes ammoniacal after time. I just move the existing coconut coir to one side and add new to the other. At this point I usually start a new culture for back up reasons. Just like computers, back up, back up, back up. An easier collection method was also refined. The original piece of plastic is now a block of styrofoam that sits on top of the soil. The key after several trials was humidity.... If the soil is wet enough, the worms will clamber all over the block and the sides of the container in a feeding frenzy. The coconut coir has a benefit of being fairly 'clean' and stays compact and I usually don't have to rinse the worms as there is no soil contamination on the block, just worms.

The worms are high in fat and protein. Fish love them. Too much. Feeding these constantly can cause finicky eaters to reject other foods. I have found that once or twice a week is enough. A bonus to the feeding of live worms is that uneaten worms don't decompose but can live quite happily in the substrate or a filter sponge for a long time. I've even found them in canister filters. Worms buried in the substrate become prey for substrate browsers like corys and loaches and give them a more natural feeding experience.

The worms come in a variety of sizes from tiny to mature 1 inch long monsters. Obviously they might be better for a community of fish or adults than raising fry because of the size differential. Having said that though I had a guppy fry female that ate a white worm twice her length with no ill effect. It took almost 12 hours and she swam around with it hanging out of her mouth the whole time defending the other end from the rest of the hungry tank members.

In closing, my first foray into raising live foods was a success and one that I would recommend to any fish keeper. Live starter cultures can be obtained through club members or shoot me a PM and I can set you up. Watch out for that hallucinogenic mold though.



## KWAS Breeder Awards Program (BAP)

### Purpose:

1. To encourage and recognise achievement in the breeding of aquarium fish
2. To share knowledge of breeding techniques

### Awards:

Junior Breeders Award – 50 points

Breeder must have accumulated 50 points from the available classes. The necessary points may be from one class only.

Elementary Breeders Award - 150 points

Breeder must have accumulated 150 points from the available classes, but must have achieved the Junior Breeders Award. The necessary points may be from one class only.

Intermediate Breeders Award – 400 points

Breeder must have accumulated 400 points from the available classes, but first must achieve the Elementary Breeders Award. Breeder must include at least 30 points from Class A, at least 50 points from Class B and at least one spawn from Class C.

Advanced Breeders Award – 700 points

Breeder must have accumulated 700 points from the available classes, but first must achieve the Intermediate Breeders Award. Breeder must include at least 100 points from Class C and at least one spawn from Class D.

Senior Breeders Award – 1000 points

Breeder must have accumulated 1000 points from the available classes, but first must achieve the Advanced Breeders Award. Breeder must include at least 50 points from Class D and at least one spawn from Class E.

### Rules and Regulations:

1. Points may be acquired in any order but the awards will be given in the above listed order. Additional certificates will be presented upon the completion of the requirements for each level.
2. You must be a member in good standing of KWAS. All spawnings are recorded and kept on file. If any member does not renew his/her membership, the points will be kept on the "inactive list" until such time that he/she does renew their membership.
3. A standing committee of at least 3 people will be formed to assess the point value and to inspect the fish. The chairman, as elected by KWAS; will be responsible for the keeping of records and reporting to the club. In addition to the chairman and the committee, any one of the Executive members can inspect fish.
4. Points shall be awarded only once for each species. No additional points shall be awarded for varieties, sub-species or colour morphs. Certificates will be awarded but no points will apply.

5. Any fish not included in the point's classification of fishes will be assigned points by the B.A.P. Committee upon request.

6. Hybrids or crossbreeds will not be recognized by KWAS and will therefore not be eligible for points or certificates.

7. Any questions as to the interpretation of the rules or any suggestions as to the improvement should be submitted in writing to the B.A.P. Chairman.

8. Fry must be a result of a spawn by the breeder's own fish.

9. The Chair will publish an annual summary of fish spawned by KWAS members.

10. If the Committee periodically finds it necessary to adjust point values, only spawnings from then on will receive the new points.

11. Breeder parents must be present on the first inspection of the fry, not necessarily in the same tank and not necessarily alive. (At the discretion of the B.A.P. Chairman.)

12. To gain points for a successful spawning, the breeder must;

A) Notify a committee member within 10 days of free swimming for a first inspection

B) Notify a committee member 60 days after the initial inspection. At this time 10 fry must be remaining. The breeder must spawn and raise at least 10 healthy fry to an age of 60 days to be eligible for a KWAS Breeders Award. A reasonable percentage of the original must be present at the second inspection date in order to have points credited toward the C.A.O.A.C. award program. At the discretion of the B.A.P. Committee, more than one spawning of a certain species may be counted in order to reach 10 fry (i.e. – *Tropheus Moorii*, *Heterandria Formosa* and some Killies.)

C) For all classes, a KWAS Spawning Record Form must be completed before a certificate is awarded. For Class A and B, the breeder can write an article to be published in *Fins & Tales* at the discretion of the Editor or two or more fish resulting from the spawn must be offered for sale in the KWAS monthly auction. All other Classes require an article to be submitted to the Newsletter Editor or a mini program on the fish and the method of spawning and keeping used to be scheduled by the Program Chairman for presentation at a KWAS general meeting.

13. KWAS will recognize a new member's previous breeder awards from another club upon presentation of proof that the member spawned the species of fish in question. Certificates will not be awarded by K.W.A.S. in this circumstance. Upon request, our B.A.P. Chairman will also forward points achieved to a new club in the event of a KWAS member leaving our membership.

14. An updated list of classes can be obtained by contacting the B.A.P. Chairperson.

## KWAS Horticulturist Awards (HAP)

Revised Feb 2011

### Purpose:

1. To encourage and recognize the achievements in the keeping and propagation of aquatic plants.
2. To share our knowledge of aquatic plant keeping and propagation techniques.

### Awards:

Beginning Aquatic Horticulturist - 50 points

Horticulturist must have accumulated 50 points from the available classes. The necessary points may be from one class only.

Aquatic Horticulturist - 150 points

Horticulturist must have accumulated 150 points from the available classes but must have achieved the Beginning Aquatic Horticulturist Award. The necessary points may be from one class only.

Expert Aquatic Horticulturist - 400 points

Horticulturist must have accumulated 400 points from the available classes but first must have achieved the Aquatic Horticulturist Award. Horticulturist must include at least 30 points from Class A, at least 50 points from Class B and at least 15 points from Class C.

Master Aquatic Horticulturist - 700 points

Horticulturist must have accumulated 700 points from the available classes but first must have achieved the Expert Aquatic Horticulturist Award. Horticulturist must include at least 105 points from Class C and at least 20 points from Class D and at least one plant from any class that has flowered.

Grand Master Aquatic Horticulturist - 1000 points

Horticulturist must have accumulated 1000 points from the available classes but first must have achieved the Master Aquatic Horticulturist Award. Horticulturist must include at least 60 points from Class D. Must have at least one seed propagation from any class.

### Rules and Regulations:

1. Points may be acquired in any order but the awards will be given in the above listed order. Additional certificates will be presented upon the completion of the requirements for each level.
2. You must be a member in good standing of KWAS All propagation's are recorded and kept on file. If any member does not renew his/her membership, the points will be kept on the "inactive list" until such time that he/she does renew their membership.
3. A standing committee of at least 3 people will be formed to assess the point value of plants and to inspect the plants. The chairperson, as elected by KWAS, will be responsible for the keeping of records and making a report to the club. In addition to the chairperson and the

committee, anyone of the Board of Director members may inspect plants.

4. Points shall be awarded only once for each method for each species. No additional points shall be awarded for varieties, sub-species or colour varieties. Certificates will be awarded but no points will apply.
  5. Any plant not included in the point's classification of plants will be assigned points by the HAP Committee upon request.
  6. Hybrids will not be recognized by KWAS HAP program (no points awarded)
  7. Any questions as to the interpretation of the rules or any suggestions as to the improvement should be submitted in writing to the HAP chairperson
  8. To gain points for a successful propagation, the horticulturist must:
    - (A) Notify a committee member so that an initial inspection, identification and HAP report can be completed. For a first inspection, photos with proof of plant size and date may be submitted to HAP chair at his discretion.
    - (B) Notify a committee member when it is time for the second inspection to be done.
    - (C) For all classes, a KWAS HAP Record Form must be completed before a certificate is awarded. For all classes, the horticulturist can write an article to be published in Fins & Tales at the discretion of the Editor or provide one plant of the species (for which points are being claimed) for sale in the KWAS monthly auction. To receive the Grand Master Aquatic Horticulturist Award, the horticulturist is required to write a detailed article to be submitted to the Newsletter Editor or a mini program to be presented at a monthly meeting about their propagation's. The HAP program chairperson will meet with the program chairperson to schedule a time for the presentation at a KWAS general meeting.
  9. KWAS will recognize a new member's previous horticulturist awards from another club upon proof that the member propagated the said plant(s). All points submitted will be reviewed by the KWAS HAP chairperson to be assigned a point value according to our rules and point system. Certificates will be awarded starting from the point value given to the member by the chairperson.
  10. The Chairperson will publish an annual summary of plants propagated by KWAS members to KWAS and CAOAC.
- NOTE: The report to CAOAC is for KWAS member's propagation's to be recognized in their HAP directory. KWAS members will also be awarded certificates from CAOAC HAP program.
11. If the Committee periodically finds it necessary to adjust point values, only propagation's from then on will receive the new points.
  12. Algae may not be submitted for consideration in the HAP program.
  13. An updated list of Plant Classes can be obtained from the HAP Chairperson.

**Methods of Propagation:**

1. Doubling of the original size or amount of plants.
2. Reproduction by runner to produce one healthy plant capable of living independently of the parent plant, while that parent plant is still alive and in good health. The plant must be attached to the parent plant and separated in the presence of the first inspector. The second inspection shall take place a minimum of 60 days later and both the parent plant and the runner must be alive and in good health.
3. Reproduction by cuttings or division. See reproduction by runner.
4. Flowering requires only one inspection. The inspection must take place when the flower is in full bloom and still attached to the plant. Photos, at the discretion of the HAP chair may be used for a flowering inspection.
5. Reproduction by seed to produce a new plant from the seed of the horticulturist's plant. The seed cannot be purchased from a supplier or breeder. The parent plant and seed are to be inspected on the first visit. The second

inspection will take place after the seedling(s) has reached 10% of their potential full grown size. This will also serve to verify that the seedlings are of the same plant.



## Living With Livebearers – The Other Mollies

By Ed Koerner KWAS (edsfish@yahoo.com)

Last time I talked about mollies I mentioned finishing up with some harder to find species. In fact, most of these I have not found yet myself, so if any of you out there see any, please let me know. For anyone wondering where this article started, just go back and look up the June 2011 issue.

The Amazon molly is one of the most unique fish in the hobby. *Poecilia formosa* is not found in the Amazon but gets its name from the fact that all fish of this species are female. It must mate with a male to reproduce but the genetic material is not important to fry being produced. It is found in Northeastern Mexico and southern Texas. It is not very interesting for any other reason being a rather plain uncolourful fish.

*Poecilia mexicana* is found in northern Mexico and the Atlantic areas of Central America, giving it one of its names – the Atlantic molly. It can be found in shallow streams and rivers, but also a more unique habitat which gives it its other name – the cave molly. It can be found in subterranean caves where it has evolved to survive conditions in dark oxygen starved waters.

*Poecilia salvatoris* or the liberty molly is often confused with the *P. sphenops* but is a distinct and uncommon species. It does not have a lot of colour being a wild colour similar to a female guppy, but

with more iridescence and some red and black in the dorsal and caudal fins.

Sulphur molly *Poecilia sulphuraria* are listed as critically endangered based on highly their localized occurrence and small area inhabited, and decline of habitat quality. The species is federally protected by the Mexican government. They inhabit of spring pools and their outflows that contain high concentrations of toxic hydrogen sulfide in Baño de Azufre, Teapa, Mexico.

*Poecilia butleri* is another rare wild molly with very little colour except for orange or yellow edging on its fins. It is commonly called the Pacific molly.

*Poecilia catemacensis* or the Catemaco or bicolor molly is found in Mexico and Central America. It looks more like a common molly with black or silver grey colouring.

I have searched the web and found another 8 or 10 species of mollies. They tend to be rare and not usually seen by hobbyists. I have been told that some of them are not likely to be found outside of their native Mexico, but I hope to find some eventually.

## Playing the Shell Game

by Ed Koerner (edsfish@yahoo.com)

Well, as there are many species of shellies, there are yet more articles on their breeding. This one is on *Neolamprologus brevis*, another cichlid from Lake Tanganyika. It is a small fish with the most

discernable difference in sexes being the size. The male will be 2-2.5 inches while the female only reaches about 1.5 inches in length. The male is also a little darker in colour, usually a brownish purple.

Being a normal Rift Lake cichlid they do very well in hard water conditions with a pH of 8-9.

Temperatures should be in the high 70's F range. They will eat pretty much any foods that are offered to them – flakes, pellets, live, frozen. I have never heard a complaint from them. The fry have been fed smaller variants such as crushed flake and "First Bites", as well as frozen baby brine shrimp and daphnia.

I had five fish initially in a 10 gallon tank but for some reason a few were lost and I ended up with 2 males and one female. A pair formed and the lonely male found a place at one end of the tank while the pair formed a relationship in the other end. They would sometimes share a shell, or have their own. As with other shellies, they will shift the substrate around the mouth of the shell which is why I prefer using sand. The fry appeared without warning as very small flitting sets of eyes moving around the sand in jerky movements. The parents didn't seem to tend to the fry or be overly protective of them. The only time I noticed any interaction is when I felt they were ready to spawn again. The pair started herding the fry to the opposite end of the tank from where their spawning site was and the male kept them away.

At that time I decided to move them and give them a tank of their own, thinking the adults may start picking them off as I've found with some other shellies such as my *Temporalis*. The lone male paid them no real attention at any time. They have been spawning about every six weeks from what I've seen.

### **Another Neolamprologus – With an Encore** by Ed Koerner KWAS (edsfish@yahoo.com)

Here is my experience with another popular Tanganyikan fish known as the lemon cichlid. *Neolamprologus leleupi* is a beautiful dwarf cichlid that is found in many areas of the lake but actually has slight colour morphs depending where it is found. They are usually a bright lemon yellow, but sometimes are orange or a grey or black which don't really find a market. They can also have blue or black lips which make for an interesting look.

I received my fish from another club member who had spawned them himself. You can find Zenin's article in the February 2010 issue of Fins & Tales. I brought home six fish and initially kept them in my 100 gallon mixed African tank. I had some *Tropheus*

and a mixed bag of Malawi cichlids all in together like a soup. The only fish that did any spawning in those conditions were the *Tropheus*, but the *leleupi* were still fairly young. After a move (for me, as well as the fish) I placed the fish in a 23 gallon long tank of their own with sand substrate and two rock piles made of thin slate. They grew a bit more and it didn't take long before I found fry in the tank. I was all excited as these fish tend to be rather popular and I was counting my coin and my BAP counts. I had someone come over the next day for my first count, but between the two of us we could not find any fry. Disappointed, I chalked it up to the "first spawn gets eaten" category and waited.

Two months later I was doing a water change and while emptying the bucket, I thought I saw some movement in the sand at the bottom. I looked closer and found several fry swimming in the little bit of water I had left in the bucket. The excitement came back. I carefully netted them out and placed them back into the tank and cautiously refilled the tank and then went looking with a light shining from above. I saw two groups of fry in the tank. The fish had formed into 2 pairs and the two that were left seemed to be caught in the middle. Each pair had a shallow rock pile they were guarding and would occasionally chase off one of the loners. Over time the fry tended to swim about in the tank and seemed to mix amongst themselves so I could not tell which were which. The parents had no issues with whose fry were who's and the two loners were left alone as well. I would not say it was as peaceful a group dynamic as *multis* have, but everyone seemed to get along.

After a few weeks I started pulling the fry from the tank and put them in a tank of their own to grow out. I had a tough time catching them as they are quick darters and use the rock hideouts very well. I decided to catch what I could and not tear apart the rocks as I hoped to keep the adults happy with their surroundings to encourage them to spawn again soon, but they have not to my knowledge. There are still 10-20 fry in the tank so it may be that the presence of the fry is holding them back. A more thorough fry hunt may be in order. They are not the fastest growing fish, finally reaching an inch after four months.

I have treated them like most Tangs, keeping them fed with a high protein diet. I give them an assortment of flake foods such as shrimp, earthworm or spirulina along with frozen brine shrimp, shrimp pellets and live black worms. The fry seem to find more than enough bits and bites to fill their needs.



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