The Official Publication of the St.Catharines & Area Aquarium Society since 1958 Volume 24 no. 2 October 2011 In This Issue: **Telmatachromis dhonti Eretmodus cyanostictus Tom & Kens Fish Store Hunt** The Year of the Rainbowfish - Breeding scaas.info



Club Notes



Our Mission Statement: Meetings of the St. Catharines & Area Aquarium Society are held on the first Monday of each month, 7.30p.m., at the Seafarers & Teamsters Union Hall, 70 St. Davids Rd. E. Thorold, Ont. No meetings are held on Mondays that are holidays. Those meetings are held on the second Monday. There are no meetings during the months of July and August. The Society, established in 1958, is a non-profit, educational organization dedicated to the task of promoting interest in the breeding, raising, maintenance and study of tropical fish, both at the beginner and advanced levels. The St. Catharines & Area Aquarium Society is a charter member of the Canadian Association of Aquarium Clubs Inc. (CAOAC) www.caoac.ca. SCAAS is also a member of the Federation of American Aquarium Societies (FAAS). More news and information about the St. Catharines & Area Aquarium Society can be found at http://www.scaas.info

Our next meeting will be held on October 03,2011 Start time is 7.30 pm ALL ARE WELCOME
This month's program will be a Workshop – making spawning mops, diy CO2, & fixing leaky tanks

2010 - 20011 Executive

2010 - 2011 Committees

Aquatic Horticulture Awards - Joe Krawchuck drummers_secret@hotmail.com Archives - Tom & Pat Bridges - - (905) 735-3352 - tp.bridges@sympatico.ca Auction Coordinator - Tom Bridges - (905) 735-3352 - tp.bridges@sympatico.ca Breeder Awards – Tom Bridges - - (905) 735-3352 - tp.bridges@sympatico.ca CAOAC Representative – Tom Hillier (905)227-5008 - tom.hillier@hotmail.com Editor - DAve Unruh - - - - (905) 684-9860 dunruh@cogeco.ca Jar Show - Pat Shriner -(905) 354-1367 gpshriner@sympatico.ca Library - Gary Phelps - - (905) 563-6523gphelps@yahoo.ca Library - Jeff Phelps - - -(905) 892-0248 lphelps@vaxxine.com Membership & Exchanges - Pat Bridges (905) 735-3352 tp.bridges@sympatico.ca Programs - Pam Danyluck - - - - - - danyluck@sympatico.ca - Tom Hillier tom.hillier@hotmail.com Press/publicity - Ken Brady -- (905) 935-4716 kbrady2@cogeco.ca Raffle & Draws - Heather Krawchuck hkrawchuk@yahoo.com Refreshments - Shawn & Shirley Markowski - - - - srogers33@cogeco.ca Web Master - Ken Brady - - - (905) 935-4716 kbrady2@cogeco.ca

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Any not-for –profit organization may reprint articles from "The Scat" provided credit is given both to the author of the article and to the St.Catharines & Area Aquarium Society (SCAAS) and that two copies of the reprinting publication are sent to: Exchange Editor, Pat Bridges 4 Crescent Dr. Welland, Ont. Canada L3B 2W5. Opinions or endorsements expressed in any article do not necessarily reflect the views of the SCAAS.

Membership Dues:

Family: \$ 25.00 Single - \$ 20.00

Junior - \$ 10.00 (under 16) Seniors - \$ 10.00 (over 65)

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Cover photo of a pair of Eretmodus cyanostictus "Ubwari, Zaire" spawning Photo © by DAve Unruh

Jar Show

The fish of the month for October: Barbs & Tetras

November – Rift Lake Cichlids

President's message

from past President Ken

The president's away so Ken can play at being president for a day.

The usual stuff: Show and auction planning is well under way for the October 23rd show and auction. Of course we will need lots of help and even if it's only a few minutes relieving someone the day of the sale it's a big plus.

Hagen has sent us a Santa bag of goodies like filters and other great products. Thanks to everyone, particularly John's, persistence and patience to bring this together.

Pam is pulling together great year of programming. We had a pretty good test of our new, to us, PA system. This will save us from renting and has the added bonus we can use it to get better sound for programs.

After Tom and I went on our great fish store search what we realized is that you should take the opportunity when you are in a new city to look up the local fish sellers. It will open your eyes and spark up your interest. You will also meet some great fish people.



Membership Meeting Minutes

September 13, 2011 submitted by Pam Danyluck

Meeting Commenced at 7:40 pm.

Announcements and business by President Tom Hillier:

There were no visitors in attendance at this meeting, but Bruce Hallet was with us.

Tom announced that Ken and he had been scoping out some aquarium stores and managed to set up the following:

Finatics on Kennedy Rd. in Scarborough will place and ad in the Scat. Scaas members will receive 10 - 15% discount and no taxes.

PJ's Square One Mall Mississauga is setting up a discount for us.

Aqua Kingdom on Dundas in Mississauga will be donating items for the annual auction. Members will receive a 10% discount. They will also purchase fish we have bred. One of the guys there is willing to do talks.

Other discounts are:

Big Al's 10% discount ,Pet Corner in Welland 10 % discount

Aqua Terra in Niagara Falls 10 % discount

Hagen has set up a 25 % off Hagen products with Petland and Pet Corner

Ken purchased a receiver and microphone for the club for under \$200.00

Upcoming events

- •September 25 London Aquaria Show & Auction
- October 2, Hamilton Show & Auction
- October 23 St. Catharines Show & Auction
- •October 30 Kitchener Waterloo Aquarium Society Show & Auction
- CAOAC convention will be in Winnipeg on Easter weekend

Secretary's minutes from last meeting were in September's Scat.



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Pets and supplies at the right price.

Treasurer Bob Hayslip gave us the club financial standing. Float \$152.17, Bank \$952.06, Grand total of \$1104.23

Tom Bridges Presented Breeders Awards to: Dave Unruh for Crenicichla lepidota (Pike Cichlids), Tom Hillier for Driftwood Cats, Nezzie Swords & Odesa Barbs. Tom Hillier also received the Catfish Breeders Award for 2 distinct catfish breedings

Joe Krawchuk Presented Horticultural Awards to: Tom Hillier for Pickeral Weed, Guppy Grass, Amazon Frogbit and Parrot Feather

We had two shorts programs at this meeting on: *Photography for Dummies* by Ann Marie Towell presented by Pam Danyluck The second on was by *Pam Danyluck on Nutriton*.

Refreshment Break supplied by Shawn and Shirley

Pat Shriner presented jar show awards to: Joe Krawchuk 3rd Black Skirt Tetras, Clyde Beam 2nd Swordtail, Joe Krawchuk 1st and Best in Show Congo Tetra

Door Prize, Nightly Raffle, Evening Auction Meeting adjourned at 9:30 pm.







CAOAC meeting minutes in brief/Sunday, September 18, 2011

The executive meeting was still underway when we arrived just before noon.

The general meeting began around 12:25

There were nine people physically in attendance: Bob Wright, President; Ann Stevens, Recording Secretary; Phil Maznyk, First Vice-President; Noel Wright, Treasurer; TFCEC rep. Claudia Carthew; SCAAS rep./Breeders Directory Tom and Pat Bridges; Peter Melady, Sarnia rep./Awards.

Attending online were Ken Boorman, Second Vice-President; Lisa Boorman, FAAS liaison; Ann Marie Towell, Corresponding Secretary.

We were informed that Peter Orphanos is seriously ill at this time.

Sarah Langthorne, the lovely lady who provides coffee and treats at each meeting, was absent. It was assumed that she is on vacation.

Her future attendance will be appreciated!

Treats were supplied by two attendees in the form of peaches and cookies.

Terry Little, who is recovering from a health problem this summer, may not chair the Open Show committee due to the fact that he isn't allowed to drive for a while. Bob Wright is going to check with Terry and see if he can be persuaded to continue. The judges forms could be online, so even though Terry is a huge help at the club events, he doesn't need to physically be at the events. We all hope that he can get assistance in that regard. Check the next CAOAC newsletter for detailed information on heads of committees for the 2011-2012 club year.

Phil had to leave to attend to a previous commitment.

The meeting continued at approximately 1:45.

FAAS has updated their website and speakers list.

There are three new CAOAC judges.

The Wet Coast Aquarium Society from Vancouver, B.C. is now a member of CAOAC.

The Barrie club will officially be a member if and when their cheque is received.

The next Awards meeting will include only the members of the committee. There will be no visitors.

There were club reports from those in attendance who had info. to share.

Report submitted by Tom and Pat Bridges, Breeders Directory Committee/Pat Bridges, standing in for Tom Hillier, (absent), official CAOAC rep. for SCAAS.

Telmatochromis dhonti

by DAve Unruh

This fish is found in the rocky shore littoral zone of Lake Tanganyika. Its habitat is mainly composed of empty shells. T.dhonti has a reputation of being very aggressive to its own kind as well as other species. It is not a very common fish here in southern Ontario and so when coming across it at an auction I made sure I was able to bring it home.

The fish I bought were a young pair, about 6.5 cm (2.5") long. I had an empty 30 gallon tank that had a large piece of bogwood & a lot of Java Fern and Java Moss. There was no gravel in it and it was filtered by a double Tetra sponge filter. Since these were shell dwelling fish I put two medium sized conch shells in. The fish promptly dove for cover, one in each of the shells.

In their natural habitat these fish consume insect larva and other invertebrates. I fed them frozen krill, bloodworms as well as flake food and Tetra Bits. They eagerly ate every kind of food I gave them. I could not see any real differences between them. They were of similar size and their dorsal fins were both about the same size with pointed tips.



Male T.dhonti – very impressive teeth! photo © by DAve Unruh

The water in the tank was straight declorinated tap water with a pH of 7.4. The water temperature in their tank was 25°. Lighting was

by a fluorescent strip light over the tank and was on for about eight hours a day. I did not see the fish very much, they seemed to be rather shy.



Female Telmatochromis dhonti Photo © by DAve Unruh

When I wanted to observe them I did so in a way that they could not see me. They seemed to get along OK and after a few months I was able to see them start to go into the same shell. I hoped this was a sign that they were spawning inside the shell. About a week after I observed them going in the same shell one of them began to prevent the other from entering the shell. I presumed this to be the female.

After another week when feeding the fish I noticed some fry in the opening of the shell. I guessed that the female was hiding in the shell & she came out momentarily to get some food & then dashed back into the shell, along with the fry. As the days went by I began to see more fry and the female stayed out of the shell for longer periods. The fry stayed close to the shell, rarely going much more than about ten centimeters from the shell opening and would dash into the shell if they were startled. The male took no part in the care of the fry and he was kept at a distance from the shell in which they spawned. Eventually I removed the fry from the tank and after a few weeks the pair settled down, but did not spawn again till about eight weeks later.



While researching this fish all of the photos showed a rather dark, almost black fish, but mine were a light tan color. Perhaps this was due to the lack of gravel in the tank, or mine were from a different location.



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Jar Show

Open Class Senior

- 1 Joe Krawchuk 6 pts
- 2 Clyde Beam 5 pts
- 3- Joe Krawchuk 4 pts

Others 1 pt for showing Joe Krawchuk

Best in Show Joe Krawchuk – Congo Tetra

The Fish of the Month for October are Barbs & Tetras

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Limited time offer. Available only upon presentation of membership card.

Tom and Ken's Fish store Hunt

The original plan: Find good fish stores! Research the web using google and some word of mouth for good measure.

The day was a huge success. Every store was awesome. They had lots of variety and very healthy stock. Everyone was also very friendly and helpful. Tom and I might need to learn Chinese or lose weight as we had no clue what was on the lunch menus in the Pacific Mall except it looked good and boy was it ever tasty. We needed another day to complete a full survey but well we will just have to go back to catch a few we missed.



Is there something on Kennedy Rd that just attracts fish stores? Like cheap water or cheap electricity? Up north there is Frank's, then there is 4 in the Pacific mall area, now AI is moving there. Down south there is a Big Al's, Finatics, and finally NAFB is around the corner at the end of Kennedy Rd. That's 9 stores along that road!!

Honorable mention must also go to the Fish Place in Tonawanda, New York. They have healthy fish and the best variety of regular old aquarium fish. Good prices too.

The stores: Ken's starting list.

PJ's Square One - excellent

AquaInspiration: They have moved to 3477 Kennedy Road Unit 9 M1V 4Y3 (just south of pacific mall - 647-729-6667, 3477 Kennedy rd, Unit #9, Scarborough, Ontario – Missed

<u>Aquatic Kingdom</u>, 1810 Dundas Street East, Mississauga, ON, 905-281-1118 – Seriously big and awesome



Frank's Aquarium: 8380 Kennedy Road, Unit C18 | Markham, ON L3R 0W4 tel: 905-477-1950 | fax: 905-477-1959 | cell: 416-616-3883 – Missed

Cam's aquatic Services Fish store: 1133
Dundas street east Mississauga Tel (647)388-5291 #F104A, 2nd floor 4350
Steeles Avenue East, Markham, ON L3R
9V4 - (905) 477-8778 – Missed
Manla Garden Florist and Gift Shop 67

Maple Garden Florist and Gift Shop - 673 Gerrard Street East, Toronto, ON M4M 1Y2 (416) 466-9811 – Missed

<u>The Menagerie</u> - 549 Parliament St. Toronto, Ontario M4X 1P7 (416) 921 4966 – Missed

<u>North American Fish Breeders</u> - 2260 Kingston Road, Scarborough, Ontario, M1N 1T9,

Telephone: 416 267-7252



<u>Wong's Aquarium</u> - 590 Gerrard Street East, Toronto, ON M4M 1Y3, Telephone: 416-461-5362

How It Went!

Started out from Tom's around 9 AM Thursday morning August 25, 2011. Nice morning, good for driving.

First stop Square One, Mississauga, PJ's Pets. Great store. Clean tanks with excellent variety. Saw some good Bosmani Rainbows for \$8.99. Too early to buy live stock so we planned to come back.

Next stop Aquatic Kingdom on Dundas in Mississauga. Big store fresh and marine. Driftwood galore and tons of beautiful healthy fish. There were rows of 40 gallon tanks. We talked to Daniel and Simon. They were very helpful and friendly people.



From there we scooted across to Scarborough to the Pacific Mall on Steeles near Kennedy, Little China, to get lunch and see Lucky's. We needed to fuel up to keep our stamina so we had some amazing Chinese food for very good prices. Now up stairs to Lucky's. Big fish are in vogue especially big Arawanas. \$1600.00 – \$3600.00 dollars each! Another winner with clean healthy tanks and variety we just never see here in Niagara.

Now across the road to 3 stores two in the same plaza!

Again clean healthy tanks. A bit less selection but still impressive. All the staff were open and friendly and ready to help us on our great fish hunt. And there were more really big Arawanas, flower horns, bass and discus. Not a few fish but tanks and tanks of them along with more regular cichlids and tetra's, barbs etc.



Now it's getting late in the afternoon so taking the advice of two other stores we are on our way down Kennedy to see a cichlid, read African mostly, store. Michael the owner of Finnatics was very open and friendly. He runs the store on his own and has just downsized from more tropical varieties to 140 tanks and 75 more at home.

continued on pg 13

Eretmodus cyanostictus

The Horseface Cichlid by DAve Unruh

This is a very interesting fish that I have been trying to obtain for quite a few years. In early February, 2011, I was able to purchase 12 wild-caught fish at what I thought was a quite reasonable price. However, I still had to spend close to \$200 dollars to get a good group of them. I had read that you should either get a pair or at least a group of eight or more. Getting a pair might have worked if they could be easily sexed, but they all look alike! Vent sexing might have worked but I favour getting a group as they are much more interesting to watch.



Eretmodus, Spathodus and Tanganicodus species are better known as Goby cichlids & I hope to be able to obtain the two others named here. They all have something in common – they have reduced swim bladders and thus do not swim very well. They kind of hop around the aquarium and it is common to see them perched on a rock or the bottom of the tank. Their eyes are sort of bulging and placed high on the head so they can easily observe the environment around them. They have an underslung mouth with teeth that are well designed for scraping algae off of rocks.

I brought the group home to the aquarium I had gotten ready for them. It was a 110 gallon

tank that I had made many years ago and over the years has housed many types of fish and habitats. It was most recently a planted tank that housed large New Guinea Rainbowfish (Gossolepis incisus). Now it has only gravel and two large piles of lava rock that are almost to the top of the water column. It housed a group of 10 wild-caught Tropheus sp. "ikola". These fish inhabit similar areas of Lake Tanganyika so I knew they would get along OK. The only drawback was that Tropheus are algae browsers and thus require a strict herbivorous diet while the goby cichlids diet could include small insect larvae and such. However, they would not suffer from eating the spirulina flake and herbivorous pellets that the Tropheus need.

The tank was lit by two 48" fluorescent bulbs that were quite old so the light was not intense, in fact kind of dull. I made a note to change the bulbs and promptly forgot about it.



They fit in well with the established Ikolas, sharing the rocky areas as well as the open spots in the tank. One day while getting ready to feed them I noticed two Goby cichlids together on a rock that was almost flat. They were positioned head to tail and turning in a circle. They were beginning to start to spawn! I was quite amazed

as they have a reputation for being hard to spawn and I did not expect to see them spawning after being in the tank for only about two months. As I watched they changed from their head to tail position and went to the classic T position in which one fish is positioned near the other's vent. Then one dropped an egg (now I knew it was a female) and quickly turned around to pick up the egg. The male was quivering over the



same spot with the female making the lower part of the" T". She was "inhaling" the milt & the egg in her mouth was being fertilized. After watching this a few times I left to get my camera and photographed them. They were sometimes bothered by some other cyanostictus and tropheus but they chased them away and got back to it. This went on for some time at least an hour. Always one egg at a time. Then once when the female dropped an egg the male picked it up and I expected that he would eat it but he "mouthed" it for a couple of seconds and then he spit it out in front of the female. She promptly picked it up and away they went, carrying on as though nothing unusual had happened. This happened twice more in the next hour, with me taking pictures and hoping I was not disturbing them. After two hours of spawning they stopped, the females mouth was bulging, I don't think she could have fit another egg in there.

At the time of spawning the water conditions were as follows: pH - 8.6, Temperature - 26° C.Microseimens – 963 ppm (I use reject

water from my RO system) so the water is quite hard.



I watched for her over the next few days and was able to spot her mostly hiding in behind the rock piles. She had a spot she favored but did not spend all her time there. I read up on these fish from Ad Konings "Tanganyika Cichlids in Their Natural Habitat" (1st edition). Here Ad describes the spawning that I observed but also describes the second part that I did not see. After about 10 to 12 days of the male staying close to the female she initiates what appears to be spawning behavior again, but what they are preparing to do is to swap the eggs. The female releases the larvae one at a time and the male picks them up and carries them for the next 7 to 10 days. After this period the male releases the fry and they are on their own. No further care is supplied by the male or female.

I was not prepared to potentially lose the fry to possible predation by the other fish in the tank so I caught the one carrying the fry 14 days after spawning. When spawning a new fish for the first time I usually will strip a fish of the eggs to be sure of keeping the spawn but this time I decided to let the eggs be carried full term.

I presumed that it was the male carrying the eggs, and this was confirmed by vent sexing after the fry were released. I had to remove all the







rocks in the tank to catch him, but this was not too difficult. I placed him in a two gallon tank that I had prepared with water from the tank and a working Tetra foam filter. I put a small ceramic cave in the tank to give him some cover. The fry were released 20 days after spawning. The male was caught and released back into the 110 gallon tank.



There were 30 well developed fry that did not show any sign of their egg sac. The next dilemma was what to feed them. I decided on a shotgun approach. In the mix I added finely crushed spirulina flake and crushed Tetra Bits. To this I added some decapsulated brine shrimp eggs. I added this to some water and squirted it into the tank near the foam filter. I hoped that the filter would suck some of the foods onto the foam and the fry could sort of graze on the food. At first the fry just went after the food that was floating in the water but when all this settled out they started picking at the bottom and eventually some started picking at the foam. This seemed to work pretty well as the fry survived and grew well. After a week I just fed one kind of food at a time with the decapsulated brine shrimp fed once daily and one of the others fed once daily every other day. I reasoned that the brine shrimp eggs might be similar to insect larvae or eggs that the fish might find in the natural surge zone that these fish would occupy in Lake Tanganyika so I was not too concerned about introducing nonvegetative food into their diet. Since there have been no deaths I think I can safely state that this diet was not wrong for them.



The fish grew well but slowly, particularly when compared to their tank mates, the Tropheus sp. "Ikola" When I caught the Eretmodus male with the eggs I noticed that there were two very small fry in the overflow filter that feeds the trickle filter on this tank. They were Tropheus fry, possibly released a week or so before I removed the Eretmodus. These baby Ikolas were fed nothing but crushed spirulina flake and Dainichi Veggie Deluxe pellets and after two months they were three times the size of the Eretmodus fry.

An interesting closing note – Ad Konings (Tanganyika Cichlids in Their Natural Habitat) states that the fry exhibit dark & light brown characteristics. In a study the fry were raised separately and it was found that the dark fry were males and the light ones turned out to be females. I noticed this in the fish I have. It would be great if this is a reliable way to sex the fry!

Tom & Kens Fish Store Hunt continued from pg 9

All cichlids! We picked up some Daffodils for Joe and I bought 20 tetras, Congo and Black Skirt, he was clearing out for \$1.00 each.

Now up to the original Big Al's on Kennedy. Well now we see what we are missing even in big box fish stores, rows and rows of clean tanks with active healthy fish. More money was spent on Black Phantom Tetras and Oto Cats. These were 2 items we were looking for.

Now for a mad dash back to square one to get the rainbows. Well I should say a mad dash to the highway where all dashing ceased and first gear was all we managed. We missed closing by 15 minutes. It's OK Tom went back Saturday.

So time to head home at 9:30 PM

Hmm more traffic! OK past Hamilton and More traffic well now it's late and Boston pizza is still open so since we hadn't eaten since lunch. We thought we better eat instead of going home to wake up our better halves by cooking up something. We didn't make it to Franks. The Menagerie, Cams or Aquatic Inspiration that are often recommended. There are at least twice as many we could have targeted but still what a great day of fish store crawling! Many new friends were made. Oh and we took pictures too. If you don't mind seeing a couple of hot guys in front of fish stores check them out when I post them on our web page.

Ken

Editors Notes

I had a slight delay in preparing the newsletter as my computer decided it was time to not start up a few days before the printing deadline. After a small moment of panicking I was able to determine that the problem was the power supply in the computer. I had to wait till the next day and got a replacement which I installed a little later. Just enough of a delay to make one a little apprehensive. The deadline for the November issue will be October 21.

DAve

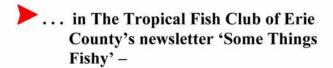
SCANNING THE EXCHANGES



& etc.

with Pat and Tom October, 2011

GOOD READING...



September, 2011

- **★**Paradise Gourami -- Macropodus opercularis Author unknown
- ... in the Hamilton & District Aquarium Society's monthly bulletin –

September, 2011

- **★**Breeding the Dwarf Orange Mexican Crayfish by Charles Drew
- **★**Chlamydogobius eremius by Ron Romigh

Most clubs' newsletters are on their web sites. If they are not available to you, let me know and I'll provide you with the article.

Pat B.

For those of you who wish to renew your memberships, if you weren't at the September meeting, or didn't pay your dues at the meeting, your dues are now overdue!

See you there!!

Pat B.



BAP ACHIEVEMENT AWARDS presented at the September meeting

Dave Unruh	
Crenicichla lepidota15 pts.	
Tom Hillier	
Barbus padamya - Odessa barbs 10	
Xiphophorus nezahualcoyotl5	
Corydoras paleatus – correction!	
(Pepper cory)15	
Tatia perugiae – Driftwood cat 20	
Congratulations! Tom Bridges, BAP cha	ir

UPCOMING EVENTS TO November 2011

October 2, 2011

Hamilton & District Aquarium Society Show and Auction

- **October 16, 2011**
- CAOAC executive meeting

(ELECTRONIC ONLINE)

- **October 23, 2011**
- St. Catharines & Area Aquarium Society Show and Auction
 - * October 23, 2011

Aquarium Club of Edmonton

SHOW and AUCTION

October 30, 2011

Kitchener Waterloo Aquarium Society Show and Auction

- * November 13, 2011
- Tropical Fish Club of Erie County AUCTION ONLY
- November 13, 2011
 Peel Regional Aquarium Club AUCTION ONLY

November 20, 2011

CAOAC Meetings 11:00 AM CAOAC Executive meeting in Waterdown, ON 12:00 PM CAOAC General meeting in Waterdown, ON

<u>Year of the</u> Rainbowfish

by Derek Tustin
Reprinted from the September issue of "Tank Talk",
the newsletter of the Durham Region Aquarium Society

Breeding Rainbows

As I write this, it's actually early July, and in the past this has been the most successful time of year for breeding for me as I put species of



Rainbowfish out in the pond and let nature take its course. In doing so, I've successfully breed Melanotaenia boesemani, Melanotaenia australis, Melanotaenia misoolensis and Chilatherina fasciata. I've put more out this summer (Glossolepis incicus 'albino' and Melanotaenia boesemani once again), but am also undertaking some more concentrated efforts inside as well. In October I'll be writing about my acquisition of the extremely rare Melanotaenia oktediensis, and they are one of the species I'm really trying to propagate. It's interesting, because inside I've had accidental spawnings of Melanotaenia kamaka, Melanotaenia parva, Melanotaenia misoolensis and Chilatherina sentaniensis, but am finding that the more I work at it, the more elusive the results are becoming. Of course it could be that there are issues around the fertility of the Melanotaenia oktediensis, but the failures and frustrations have really made me take an in-depth examination of all aspects of the breeding of Rainbowfish.

It is my hope that the following will lay the groundwork for understanding how easy (in most instances) breeding Rainbowfish can be, and encourage you to try breeding a species (or two, or three) of your own. (Please note that my experience with breeding Rainbowfish is limited to the Melanotaenia. Chilatherina and Glossolepis species. The following details are for the most part derived from those experiences along with some research. However, while some of the information is transferable to the other species previously presented, I would strongly encourage you to undertake detailed research should you try and breed Iriatherina werneri or any of the Pseudomuail species.)



<u>Background</u>

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Almost every Rainbowfish sold in the aquarium hobby today is captive bred. I have been following the trends and publications over the last several years, and while species are still being wild-caught (some for the first time), there is actually very little collection occurring that is available to the hobby globally. Australia is under an import / export ban, so any of the species native to Australia are not being exported to the rest of the world. (What few species native solely to Australia that are in the global hobby were exported prior to the ban coming in to effect.) As regards New Guinea, it must be remembered that the native environment (dense rainforest) and the lack of modern infrastructure (few roads and small remote airports) combined with the difficulty in obtaining gathering and export permits, means that the organization and successful execution of gathering expeditions is infrequent at best. What little that does occur (usually by individuals like Heiko Bleher, who acquire permits to collect from

the appropriate governments) results in the few specimens caught being provided to a designated breeder of collector's choice to raise a first captive generation. Once sufficient stock exists, they are slowly released for sale, usually within the Rainbowfish community, but this often takes two or three years.

In Nature

I think from my articles detailing the different species of Rainbowfish, you have a fair understanding of the vast numbers of species that exist. Rainbowfish as a group make up the vast majority of freshwater species occurring in Australia and New Guinea. However, while much is known about the various species in captivity, relatively little is known about Rainbowfish in their native habitat. In fact in many instances (most notably those species occurring in New Guinea) little is actually known about the native habitat, let alone how Rainbowfish behave in that native habitat. What we do know regarding the husbandry, care and breeding of Rainbowfish is based for the most part on the observations and records of those aquarists who keep the different species that are available, along with some logical inferences on what is believed to occur in the wild.

In nature Rainbowfish breed when conditions are best suitable for the survival of fry. Usually this period is during the spring / summer months of November to May (remembering that as Australia and New Guinea are in the southern hemisphere, the seasons are reversed). These months correspond with the rainy season, which results in swollen rivers, an increase in water area available (which in turn provides an increase in the riparian vegetation available for the laying of eggs and subsequent protection of fry from predation), and an increase in the diversity of aquatic flora and fauna suitable for the diet of Rainbowfish. It should further be noted that there is a variation from geographic region to geographic region when Rainbowfish will spawn, and different areas undergo ecological changes at different times. For instance, mountain streams will swell sooner given mountain run off, and lowland rivers will swell later.

As winter turns to spring and then to summer, the daylight (photoperiod) grows longer, the water temperature rises, the water quality improves and the availability of food increases. It follows that in captivity, an increase in the photoperiod, raised water temperatures, excellent water quality, and excellent nutrition will lead to breeding.

Male Rainbowfish can be very territorial, and will establish and defend chosen spawning sites. In the wild these sites include submerged logs, rocks and vegetation (both permanently submersed and riparian that becomes submersed during raised water levels).

Female Rainbowfish will swim through an area, encountering and evaluating males of their respective species as they do so. The male Rainbowfish will swim to the female and court her by extending his dorsal and anal fins (thereby creating the illusion of being larger), intensifying his colouration, and in many cases flashing a "breeding stripe". (The breeding stripe is a coloured band that runs from the snout of the Rainbowfish along the spine to the first dorsal fin. This stripe, which can be a variety of colours [white, yellow, orange, pinkish red, light blue and various other shades in between] will rapidly flash on and off.)

The male will then swim around the female in all his glory, fins extended, and will make sideways motions to the female. Should the female be feeling frisky, her colouration will also intensify, although to a lesser degree than the male. She will then enter the spawning location, followed by the male. He will press against the side of the female, both will tremble, and eggs are expelled directly onto the chosen spawning medium.

The female will then move on, and then male will stay with the eggs. He will attempt to entice other females to spawn with him, and continue to guard all eggs laid at his chosen location. Unfortunately, Rainbowfish aren't very skilled at egg guarding, and often other fish will eat them. In the wild a given

population of Rainbowfish will spread eggs over an extensive area, effectively increasing the probability that some eggs will survive.

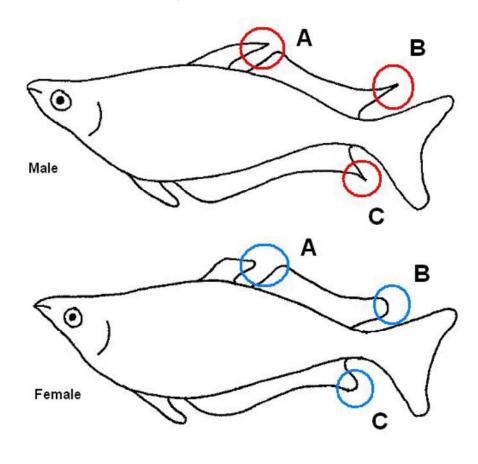
Set-Up

So, Rainbowfish breed in the wild, have numerous partners available and a wide area in which to deposit eggs. Unfortunately, in captivity, it is almost impossible to duplicate the conditions of their native habitats. Fortunately, they are very adaptable and will readily breed in home aquaria.

Sexing Rainbowfish

The first step in breeding Rainbowfish is to make sure that you have males and females.

Rainbowfish Sexing is incredibly easy in some circumstances and much more difficult in others. In general. it is easy to determine the gender of fish over a year and a half in age. Males are larger, become more deep-bodied over time, and in general are much more colourful. Glossolepis species in particular are very easy to differentiate, with the males being vividly coloured, and the females usually being silver. However, several species are very similar in appearance and are difficult to sex, and others do not colour up until they are over a year and a half old. This means that determining the gender of some Rainbowfish, especially juveniles and fish under a year of age, is difficult. The best way to sex Rainbowfish in



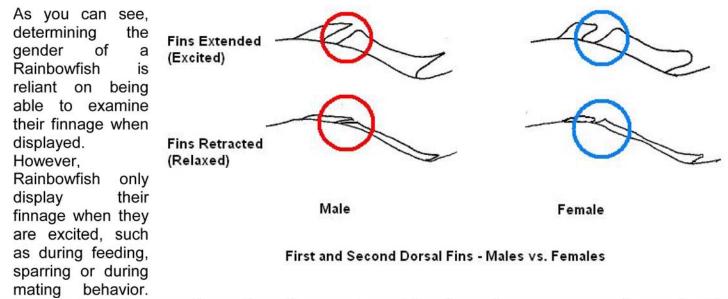
these categories is by looking at their finnage.

Once you have sexually mature fish, sexing via finnage is actually very easy. First, look at the first dorsal fin. If it is pointed (or much less rounded) and overlaps the second dorsal fin, then it is a male (refer to circle "A" in the attached diagram). As a secondary indicator, look at both the trailing (posterior) edge of both the second dorsal fin and the anal fin (refer to circle "B" and "C" in the attached diagram). The posterior rays in both of these fins will be elongated and often form a very prominent point.

So;

- Males are larger
- Males tend to be more colorful

- Males will have an overlap of the posterior edge of the first dorsal fin and the anterior edge of the second dorsal fin
- Males will have elongated rays (often forming a prominent point) in the posterior edge of both the second dorsal fin and the anal fin.



This display of finnage will usually not be seen in most locations where you can readily acquire stock, such as when fish are found at auctions or at local aquarium stores.

But even when the fins are in a relaxed position, tight up against the body, it is possible to distinguish differences between the genders. In males the first dorsal fin will lay overlapping the second dorsal fin when relaxed, and in females the first dorsal fin will lay against the spine stopping before or just at the second dorsal fin. In short, if there is an overlap, it is a male, if there is a gap, it is a female.

Breeding in a Breeding Tank

The next step is providing the correct conditions and environment. I'm assuming that you already have excellent water quality. (I personally perform a 25% water change on Wednesdays and a 50% water change on Sundays. A bit overboard I admit, but it provides excellent water quality.)

Some advocate separating the males and females for a period prior to breeding, and this is an excellent idea if you have space and resources to do so. By separating the males from the females, it will increase the number of eggs when they are reintroduced and start breeding. It is recommended that in a breeding situation you have 3 males and 2 or more females. (With only two males, one will tend to become dominant, preventing the other from breeding. If you only have one male it will stress out the female with constant attention.)

Place the males into your chosen breeding tank, leaving the females in either the permanent tank or in another holding tank. The tank itself (assuming you are going with a 3 males / 2 females) should be a minimum of 15 gallons. (If you use a larger tank, the males will be able to establish their own territory or you will be able to keep more males and females.) While the temptation may be present to include some decorations, the tank is best left as featureless as possible, with only a heater, your chosen filtration, and some spawning mops or breeding friendly plants. (Remember that Rainbowfish will lay their eggs in a variety of locations, including plants and on rocks and logs. By restricting the only possible laying location, you will ensure that the eggs are actually there, and portable should you need to do so.) As Rainbowfish are excellent jumpers, the tank should be covered. Water temperature should be between 79°Fahrenheit - 86°F (26°Celsius - 30°C) with the preferable temperature being 82.5°F (28°C). (Note that this is the preferable temperature for most Rainbowfish, not all.

Continued next month



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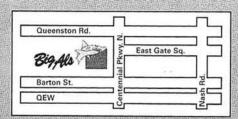
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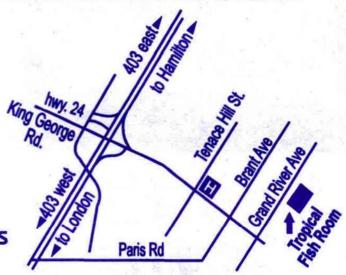
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