



**The**

# **SCAT**

The Official publication of the  
St.Catharines & Area Aquarium Society  
since 1958 Volum 21 No.9 May 2009

**In this issue :**

**Crossocheilus siamensis**  
**Xiphophorus alvarezi**  
**Cryptic Emersion**

**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](http://www.caoac.ca) . SCAAS is also a member of the Federation of American Aquarium Societies (FAAS). More news and information about St.Catharines & Area Aquarium Society can be found at <http://www.scaas.info>

**Our next meeting will be held on May 04 at the Seafarers & Teamsters Union hall, 70 St. Davids Rd.E. Thorold. Start time is 7.30 pm ALL ARE WELCOME**  
**This month's program will be presented by Bob Wright on Native Fishes**

## 2008 – 2009 Executive

President – Ken Brady - - - (905) 935-4716 [kbrady2@cogeco.ca](mailto:kbrady2@cogeco.ca)  
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2<sup>nd</sup> Vice President – Bruce Hallet - (905) 934-7138  
Secretary – Claudia Carthew - (905) 684-0394 [crcarthew@yahoo.com](mailto:crcarthew@yahoo.com)  
Treasurer – Wally Ebert - (905) 687-6907 [lebort@cogeco.ca](mailto:lebort@cogeco.ca)  
Past President & Editor DAve Unruh (905) 684-9860 [dunruh@cogeco.ca](mailto:dunruh@cogeco.ca)

## 2007 – 2008 Committees

Aquatic Horticulture Awards DAve Unruh (905)684-9860  
Archives Tom & Pat Bridges - - (905) 735-3352 [tp.bridges@sympatico.ca](mailto:tp.bridges@sympatico.ca)  
Auction Coordinator – Tom Bridges  
Auctioneer – open  
Breeder Awards – Tom Bridges  
CAOAC Representative – Tom Bridges  
Jar Show – Pat Shriner – - - (905) 354-1367 [gpshriner@sympatico.ca](mailto:gpshriner@sympatico.ca)  
Library – Gary Phelps - - - (905) 563-6523  
Library - Jeff Phelps – - - (905) 892-0248 [jphelps@vaxxine.com](mailto:jphelps@vaxxine.com)  
Membership & Exchanges – Pat Bridges (905) 735-3352  
Programs – open  
Press/publicity – Ken Brady - - (905) 935-4716 - [kbrady2@cogeco.ca](mailto:kbrady2@cogeco.ca)  
Raffle & Draws – Priscilla Heus - (905) 988-9741  
Refreshments – Bruce Hallet - - (905) 934-7138  
Web Master - Ken Brady

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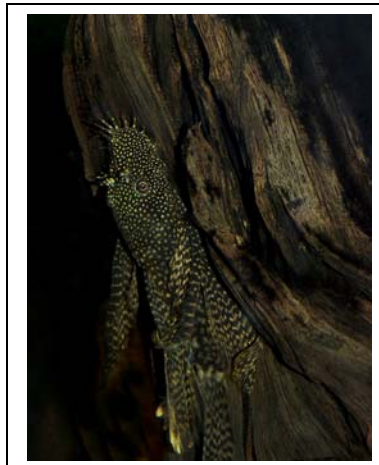
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## Membership Dues:

Family :\$ 25.00  
Single - \$ 20.00  
Junior - \$ 10.00 (under 16)  
Seniors - \$ 10.00 (over 65 )

## Inside This Issue

**Pg 2 - Club Notes, Executive & BOD List, Membership Dues**  
**Pg 3-** Presidents Notes , Jar Show  
**Pg 4 –** Xiphophorus alvarezii  
**Pg 5 –** Member Profile  
**Pg 6 –** Scanning the Exchanges  
**Pg7–** Cryptic Emersion  
**Pg13 –** Crossocheilus siamensis  
**Pg 14 –** Hagen Ad



Cover photo of a Long Fin Bristlenose Pleco  
Photo © by DAve Unruh

## Presidents Message May 2009

For April we had a fantastic program from Tom Bridges on breeding Angel fish. Although Tom says it's mostly old information there is nothing like years of experience presented in a straight forward easy to understand presentation. Tom's program shows that breeding mostly comes down to watching the fish and using good practices such as water changes and proper feeding. A bit of planning ahead is the final touch to success. It is quite rewarding to see a program that is developed over time by one of our own and reinforces the idea's that the club is a meeting place for discussion about the hobby and learning from each other.

This month we will have Bob Wright speaking on native fish. That's the fish we see in our own wild ponds, streams, rivers and lakes. It's always amazing to learn what we have and take for granted in our own backyard particularly from someone with a passion and willingness to share. We all benefit from someone who took the time to investigate and learn firsthand to satisfy their own curiosity and is going the extra mile to pass on that enthusiasm.

By now the Auction is over and we will be hard at work finishing up the details of how things went. So a big thanks to all who helped make this a success.

May is a planning month for the executive elections that are held in June and manning the committees. It's critical to the ongoing operations of the club and ensuring a fun and growing club. Think about what skills you have or want to learn. Taking on a position or committee is an opportunity to practice skills and learn about people. It can help build confidence and provide a

non stressful way to develop practical skills that may even benefit you in other clubs or employment. The time demands are quite flexible and not too much to be overwhelming. Mostly it's a way of supporting each other and getting a sense of satisfaction as the club prospers and friendships thrive.

Here is a rundown of the positions: Note that some are doing more than one and many are actually open although members are pitching in. It's much easier to do just one job so what's your interest?

### EXECUTIVE: Current Elected positions

**PRESIDENT - Ken Brady**

**1st. VICE PRESIDENT - John Verhage**

**2nd. VICE PRESIDENT - Bruce Hallet**

**SECRETARY - Claudia Carthew**

**TREASURER - Wally Ebert**

**PAST PRESIDENT / EDITOR - Dave Unruh**

### 2008 - 2009 Committees: By Volunteer

**Aquatic Horticulture Awards - Dave Unruh**

**Archives - Tom & Pat Bridges**

**Auction Coordinator - Tom Bridges**

**Auctioneer - Jim Chalmers**

**Breeder Awards - Tom Bridges**

**C.A.O.A.C. Representative - Tom Bridges**

**Jar Show - Pat Shriner -**

**Library - Gary Phelps -**

**Library - Jeff Phelps -**

**Membership & Exchanges - Pat Bridges**

**Programs - (shared) Ken Brady, Tom and Pat**

**Bridges, Dave Furness and Dave Unruh**

**Press/publicity - headed by Tom and Pat Bridges**

**Raffle & Draws - Priscilla Heus - (905) 646-0430**

**Refreshments - Bruce Hallet - (905) 934-7138**

**nurselisa9611@gmail.com**

**Webpage - Ken Brady**

**Jar Show** — unfortunately the results from April were not available at time of printing.

**Fish of the Month for May are Dwarf Cichlids (Old or New World)**

**Fish of the Month for June are Goldfish & Koi.**

# Xiphophorus alvarezii.

By DAve Unruh

**Xiphophorus alvarezii** is an uncommon (in this area at least) swordtail even though it was described over 40 years ago. It's range includes the upland basin of Chiapas, Mexico and that is why it is commonly known as the *Uplander Sword*, or the *Chiapas Swordtail*.



X.alvarezii female Photo © by DAve Unruh

It looks similar to other swordtails in the *Xiphophorus hellerii* complex. The adult male's sword can reach a length of 4 to 6cm and that places it firmly in the short-sworded complex. The sword is yellow, or gold with black edges. *X.alvarezii* has two or more red lines along the middle of the body which is a brilliant turquoise blue. The color of the dorsal fin is made up from two rows of red or orange spots. The gills and the front part of the belly are a creamy white.



X.alvarezii male Photo © by DAve Unruh

## Care & Spawning

This species as with most swords needs no special care. Just the same you should avoid extremes in water temperature and water hardness. Despite being found in fast moving streams in the wild it does not require this in the aquarium. Some water movement is a good idea, water movement from a small power filter or even a sponge filter is a good idea.



Male Uplander Sword Photo © by DAve Unruh

While plants are not a necessity the fish will feel much better if there are some thick stands of plants such as *Vallisneria* species to provide cover. The fry will benefit from the hiding places provided by the plants.

The gestation period is pretty standard – from 24 – 30 days, depending upon water temperature, which should be 24 - 27°C. At higher temperature the gestation period will be shorter. The number of fry in a brood can number from 15 for a young female to as high as 40 from a fully mature female.

Feed them a diet that has a high amount of vegetable content. Live brine shrimp can be fed every other day, particularly to the fry.

**Don't forget about our auction on May 2.**

**We need help from as many members as possible! Even a few hours will help!!**



## Member Profile

*By Pam Danyluck*

**This** month's member profile is on a couple of our newest members, Shawn and Shirley Markowski. They joined our club in December of 2008. Shawn was born in Burlington and grew up there. Shirley was born in Dunnville, but grew up in Wainfleet. They now reside in Welland with their fourteen year old daughter Alisha.

**Shawn** is an Absentee Allowance employee at Ford in Oakville and replaces regular employees who are off sick or on holidays, which is about fourteen different jobs. Shirley is a lunchroom supervisor for two schools in Welland.



Shawn & Shirley Markowski Photo © by DAve Unruh

**Shawn** has always been interested in fish. His family always had aquariums when he and his sister were kids. Shawn got involved in saltwater fish about fourteen years ago, which he had to get rid of when he went to college. Then he and Shirley got their first

tank about five years ago when Alisha came home with a Betta that her cousin had gotten talked into buying for her, and it started to grow from there. So far their hobby has grown to five tanks, four being fresh water and one ten gallon saltwater for raising Amano Shrimp. Shawn and Shirley's tanks are spread out in the house with a five and ten gallon in the bedroom, a twenty-nine and fifty-five gallon in the living room and a ten gallon in the computer/spare room.

**They** keep Pineapple Swordtails, Bettas, Silvertip Tetras, Yoyo Loaches, Dojo Loaches, Amano Shrimp, Cories and Plecos. Their favourites are the Yoyo's, Amanos, Bettas and Tetras. The personality and comical nature of the Yoyo is what makes them one of the favorites. Amano are favored for their never ending battle to eat hair algae, they regularly have eggs (berried) and are trying to rear the Amano larva. Bettas are also a favorite because of their personality and their amazing look when they flare at one another. Tetras are also one of their favorites for their colors you see when looking closely at them, and because of the constant chasing of one another.

**For** filtering they use Aqua-clear, Fluval, Whisper and also use a U/V light.

**Shirley** helps Shawn with the tanks most of the time and loves looking at the fish. They do not think Alisha even notices that the tanks are there, but their cat Frisky watches the aquariums very closely and does try to help out.

Thanks Shawn and Shirley for letting us get to know you a little better.

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### **Wanted**

**Members** willing to be interviewed for member profiles! It would be a big help if anyone willing to have his or her profile done would contact me. You do not need to be an expert fish keeper, just interested in fish. ☺

Please contact me at:

[pjdanyluck@sympatico.ca](mailto:pjdanyluck@sympatico.ca) or 905-562-3290.

# SCANNING THE EXCHANGES & etc.



... with Pat and Tom ...

## GOOD READING IN THE S.C.A.A.S. LIBRARY ...

▶ ... in the Greater Cincinnati Aquarium Society's newsletter 'Fincinnati' -

Mar/Apr 2009

- \*Spawning Report – Ancistrus sp. "Snowflake" & Cyprichromis sp. "Kitumba" by Jerry Riegel
- \*Spawning Report – My First Betta Breeding by Al Winstel
- \*Aspidoras albater – reidentified after a decade here in the GCAS by Eric Jacobsen

▶ ... in the London Aquaria Society's newsletter 'Below the Waterline' –

April 2009

- \*Connecting the Dots by Lorraine Gregson

▶ ... in the Central New York Aquarium Society's newsletter 'Reflector' –

April 2009

- \*Breeding Lamprologus Ocellatus "Golden" by Kevin Cyr

The above newsletters will be in the club library at the meeting.

## BAP ACHIEVEMENT AWARDS presented at the April meeting

**Dave Unruh**

Xiphophorus alvarezi – Upland swords .... 5 pts.

**Dave Furness**

Hyphessobrycon columbianus  
– Columbian tetras ..... 15  
Neolamprologus sp. "Daffodil" ..... 15

**Pat and Tom Bridges**

Carassius auratus auratus - goldfish ..... 15

Congratulations!

Tom Bridges, BAP chairperson

## CAOAC CONVENTION SPEAKERS!

**Heiko Bleher**

Amazing adventures in India  
Newly discovered species of  
South American Cichlids

&

Geophagus and Dwarf Cichlids

**Anthony Caifo**

Conservation of Species

**Gary Lange**

Collecting in New Guinea

**Bob Fenner**

Algae Can Be Your Friend

**Rein Breitmaier**

Our Great

Mediterranean Expedition

For more info. go to [www.caoac.ca](http://www.caoac.ca) and click on  
50<sup>th</sup> Anniversary Convention



# Cryptic Emersion

## – Part One (of Ten)

By Derek P.S. Tustin

### History

As I've mentioned to many of you in person, and occasionally in print here in *Tank Talk*, one of my main areas of interest in relation to the aquatic hobby is in the growing of aquatic plants. Luckily, I have had some success in doing so, but find that a major blockage to my achieving the next level in the Aquatic Horticulturist Awards Program (AHAP) is getting more of the plants I am cultivating to flower in order for them to go to seed. After doing some more research, I have confirmed that many aquatic plants, especially those sold for aquariums as opposed to ponds, will not flower when grown submersed, or if they do, they will not go to seed.

The family of plants that has really captured my attention is the *Cryptocoryne* family. They are probably the family that has the greatest number of species commonly available, and some are actually quite easy to grow submersed in a community aquarium. However, almost every member of the family needs to grow emersed in order to flower and go to seed. (There is some confusion about what exactly "emersed" means. One definition, as taken from the website [www.yourdictionary.com](http://www.yourdictionary.com), is: "having emerged above the surface; specifically, standing out above the water, as the leaves of certain aquatic plants". Immersed means "growing completely under water.") As such, I was thinking that I might like to try and grow some species emersed to see if I could achieve this.

A while back Ivan Shaw of our club mentioned a rather uniquely shaped aquarium that he was considering parting with. The tank, which measured 36 inches in length, 6 inches in width, and 6 inches in height, seemed to be almost a perfect height to encourage some *Cryptocoryne* sp. to grow emersed. After a bit of convincing, Ivan agreed to sell me the tank for a very reasonable price.

I was in the middle of planning the set-up of the tank (even having built a very rough stand) when life, as it is often wont to do, threw me a curve. My wife and I found a new home, and in the period of four months ended up moving. This of course put my plans for this tank on hold. However, as we moved into our new

home, I took the opportunity to set the tank up on an ad-hoc basis. During the move of my main tank, a 75-gallon, I also took the opportunity to prune some of my flourishing crypts and removed about 20 small *Cryptocoryne* sp. for inclusion in this new set-up. Unfortunately, I cannot tell you exactly which species they are, but I did put them into the ad-hoc set-up to test several of the parameters I was planning on using. After about 10 weeks of function, I was satisfied that what I was planning should work at least to keep the species alive.

After some further planning and some calculation of time remaining until our annual auction, I planned and set-up the tank (including the building of a new stand, substrate selection and acquisition, and tentative selection of fish) anticipating purchasing several crypts at our annual auction. I was successful in doing so, and came home with four species of crypts, two *Anubias* sp., a single sample of a *Lobelia* sp., and several fish with which to stock.

Over the next year (or ten issues of *Tank Talk*, which should take me up until the April 2009 edition) I will be sharing my experiences on a month-by-month basis, including a picture of the tank every week to visually present the changes that occur. Hopefully this will encourage me to keep a very sharp eye on my tank, and also to view it critically. Further, I am hoping that in doing so you as a member of DRAS will offer suggestions on some of the things I am doing wrong, or that you may read something that will help you in your aquatic horticultural endeavors.

Before I begin my week-by-week account of what is happening in what I have informally called my "*Crypt Emersion Tank*", I would like to share exactly how I went about setting up this tank, and my reasoning behind some of these decisions. Again, should you have any suggestions, I am hoping that you will contact me and share them.

### Tank Set Up

#### Size

As mentioned, the tank measures 36 inches (or 3 feet) in length, 6 inches in width, and 6 inches in height. The

capacity of the tank is therefore 25.26 litres (5.61 gallons) of water. However, with the substrate I estimate that the actual capacity is closer to 15 litres (4 gallons).

## **Lighting**

In my other tanks, I have kit-bashed some basic components to achieve my desired lighting. For this tank, I want the plants to grow emersed, and as such almost all of the components will be exposed. I therefore decided to go with a commercial set of lights for this tank. I designed the tank so the lights would be suspended 6 inches over the surface of the water, and realize that I will lose a fair amount of light from spill over. However, this tank is designed for *Cryptocoryne* species, and many of them will grow in lower light conditions. Therefore, for both the amount of light, for aesthetic reasons, and for the ability to integrate it into my design, I went with the Coralife Freshwater Aqualight T-5. It is a double fluorescent lamp fixture with one Colormax Full Spectrum bulb and one 6700 bulb. Two features that were especially attractive were the polished reflector behind the bulbs (which will help re-direct some light back into the tank), and the acrylic lens cover (which is easier to clean and allows the bulbs to remain dry). Each of the bulbs is rated at 18 watts each, for a combined wattage of 36 watts total.

Very little is actually available on the internet regarding exactly how much light will be lost as the lights are raised incrementally above the aquarium. However, using the traditional “watts per gallon”, I would have 9 watts per gallon (using 4 gallons of water as the baseline). Most sources on the Internet suggest that this would be high wattage per gallon. However, by raising the lamps to 6 inches above the surface, I think I may be more in the range of medium watts per gallon. According to the sources I have reviewed, this should be sufficient for *Cryptocoryne* spp.

Finally, a while back, I came across a reference to an “algae break”. Basically, the concept is that if you provide a break in the daily photoperiod, it will inhibit the growth of algae in the aquarium. Apparently, most types of algae require a longer and unbroken period of lighting to grow. While certain sources (Christel Kasselmen among them) do not put much credence in the “algae break” system, I have been using it with all my tanks for a couple of years. While I am unable to

definitively say that it completely prohibits algae growth, it does seem to decrease it. I am also using this system in this tank and, using a timer, the lights come on at 11:00 AM, go out at 2:00 PM, turn on once again at 2:45 PM, and finally shut off at 11:00 PM. Most sources seem to indicate that a 12-hour photoperiod is acceptable for growing most aquatic plants. My reasoning for turning the main aquarium lights on at 11:00 AM is to allow a full 12-hour photoperiod, a good portion of which I can enjoy after returning home after work in the evening.

## **Filtration**

Given the rather unique design of the aquarium, specifically a long length but shallow depth, it was somewhat difficult to settle on a filtration system. Further complicating this was that I wanted to place the aquarium on top of a cabinet so I could easily view it. I eventually settled on using the “hang-on-back” Aquaclear Mini (now known as the Aquaclear 20), but with a rather simple modification. I mounted the filter on the short end of the tank, but instead of using the standard tub attachment, I bought an extra Fluval 105/205 hose. (The nice thing with the Aquaclear and the Fluval, is that both are made by Hagen and, whether intentional or other wise, are actually compatible with each other.) The Fluval hose fits perfectly with the Aquaclear tubing, so I siliconed the tube along the back bottom corner running the length of the tank, with the input arising from the substrate. This allows me to have the intake located at one end of the tank and the input, from the Aquaclear, at the other end. (When I initially set the tank up I did not silicon the tubing in place and the tube, probably due to being packed in a coil, would not lay flat, even with the weight of the gravel on top.) For the initial set-up, I have not included any biological or mechanical filter media, although I will likely add some sponge in the future. As I plan on dosing with liquid fertilizers, I will not be using any carbon or ammonia removers.

In my research on *Cryptocorynes*, I found that many like to be in moving water. It is my hope that the set-up I settled on will allow water movement along the entire length of the tank and assist in stimulating growth. For those of you interested, the Aquaclear Mini has a maximum flow rate of 378 litres-per-hour (400 gallons-per-hour) and a minimum flow rate of 125 lph (33 gph). This means that I can turn the water over a maximum of



approximately 100 times per hour with the ability to adjust downwards should I deem it necessary. This should be more than sufficient for the set-up I have designed.

## **Heating**

I'll discuss this more in a bit, but I calculate that the aquatic plants in my tank need a minimum temperature of 22° Celsius (72° Fahrenheit) and will tolerate a maximum temperature of 30° C (86° F), while the fish and crustaceans require a minimum temperature of 24° C (76° F) and will tolerate a maximum temperature of 26° C (80° F). Given this, I do require a heater in this tank, and from personal experience have found the Fluval Tronic to be an excellent heater. Given the actual small amount of water, a 50-watt heater is more than sufficient, and I added this to the tank, suction-cupped to the rear wall.

## **Substrate**

One area that I did put a lot of thought into was what type of substrate I was going to use in this set-up. In Christel Kassleman's book *Aquarium Plants*, she recommends the addition of some peat moss for growing *Cryptocoryne* spp. However, while I wanted to include the peat moss, I also wanted to ensure that the water be clear.

In my previous tanks, I had completely mixed the substrate. In my 75-gallon and my 30-gallon, I mixed regular aquarium gravel with Tropica's Aquacare Laterite and Seachem's Flourite at a ration of 4:1:2. While my plants did well in this mixture, I also want to see if the suggested benefits of the peat moss actually assist in the cultivation of *Cryptocoryne* spp.

In this tank, I decided to layer the substrates. Since I wanted some peat moss, but not a lot, I mixed CIL Peat Moss with Schultz Aquatic Plant Soil on a 1:4 ration, and placed a layer about ½ inch deep as the bottom layer. Next, I added a ½ layer of Schultz Aquatic Plant Soil in the hopes that this would provide a boundary layer to prevent the peat from seeping into the water column. Finally, I added a 1 inch layer of substrate taken from my 75-gallon aquarium, which as mentioned is regular aquarium gravel, Tropica's Aquacare Laterite and Seachem's Flourite in a 4:1:2 ratio. Further, the substrate taken from my other tank had been in place for 10 months.

I have read some negative things about the Schultz Aquatic Plant Soil, but mainly in relation to the appearance. It is actually a very plain beige coloured soil, but is also apparently a good substrate, being made from kiln fired Fuller's earth. Fuller's earth is clay, and is actually an ingredient used in cat litter. There are several articles on the internet which deal with using clay cat litter as a substrate, and in the past I have had some success in using it, although I found that it tended to degrade over time. However, the clay base of the cat litter is where the interest arises, and as such, it makes sense to use this clay-based substrate.

While not added directly to this tank (rather coming aged and mixed from my 75-gallon tank), both Tropica's Aquacare Laterite and Seachem's Flourite are also highly recommended.

I have some concerns about adding five different types of substrate in this tank, but mainly because I will not be able to specifically identify where any substrate problems arise. However, this concern is out-weighted by the benefits that seem to come from using any of these substrates. It is my hope that by using all of them, I should achieve some positive results.

Finally, one of the things I accidentally stumbled upon in my previous experiences with planted tanks was the Malaysian trumpet snail (*Melanoides tuberculata*). To be honest I cannot pinpoint how or when they appeared in my tank, but it was most likely on one of the plants I placed in. For those of you not familiar with these little fellows, they are small cone-shaped snails. They can be very disconcerting as they breed very rapidly, and to suddenly see an army of them crawling up the wall of your tank can be a surprise. However, for the planted aquarium, they can also be very beneficial. First, unlike some other snails (such as apple snails [*Pomacea* spp.] and rams-horn snails [*Planorbidae* spp.]) they will not eat your plants. Second, they are one of the best scavenger crews around. They will eat any food that escapes your fish. Finally, and this is especially beneficial to the planted aquarium, they will burrow through the substrate during the day (you will usually only see them at night or if you water conditions are especially poor), ensuring that your substrate does not become too compacted, which is exactly what the roots of your plants need. As I did want some of these in this new tank, I waited until after the lights were out on my

main tank, plucked 25 from the glass, and put them in the new tank. To date I haven't seen them out and about, but fully expect that with-in a month I will occasionally catch glimpses of these fascinatingly little critters as they go about their nightly duties.

### Fertilization

I have been using the complete line of Seachem's Liquid Plant Fertilizer line on all my tanks, and while some may think that this is an exorbitant cost, I can honestly say that after several months of using these chemicals, I have noticed an appreciable amount of accelerated growth in my main tank. The major problem with the Seachem line is that it is expensive. Also, the suggested dosing amounts tend to be for larger aquariums. However, I sat down with a calculator and developed a dosing schedule for all my tanks based on the recommended dosage versus my tank size. One minor difference in my approach from the one recommended by Seachem is that I try and dose something every day.

Following is a list of the dosing schedule I have adopted.

Sunday	Flourish	1 millilitre
	Flourish Excel	2 millilitres
Monday	Flourish Iron	1 millilitre
	Flourish Nitrogen	1 millilitre
	Flourish Trace	1 millilitre
Tuesday	Flourish Potassium	1 millilitre
	Flourish Excel	1 millilitre
Wednesday	Flourish	1 millilitre
	Flourish Iron	1 millilitre
	Flourish Phosphorus	1 millilitre
Thursday	Flourish Excel	2 millilitres
	Flourish Trace	1 millilitre
Friday	Flourish	1 millilitre
	Flourish Potassium	1 millilitre
	Flourish Iron	1 millilitre
Saturday	Flourish Excel	1 millilitre

*Weekly Dosage Totals* = 3 millilitres  
 Flourish Excel = 6 millilitres  
 Flourish Iron = 3 millilitres  
 Flourish Potassium = 2 millilitres  
 Flourish Phosphorus = 1 millilitres

Flourish Trace = 2 millilitres  
 Flourish Nitrogen = millilitres

### Plants

The following chart lists the plants that I have added to my "Crypt Emersion Tank". I have recorded the temperature range that several sources say the plant will tolerate (in both Celsius and Fahrenheit), as well as the pH range. (I actually have a spreadsheet that details all the plants in my tanks with this information.) This information (along with similar information for my other aquatic inhabitants) allows me to determine the temperature range I should have in my tank as well as the pH range. I take the highest "low" temperature and the lowest "high" temperature and this provides a range for all the plants. The same works for the pH range. For the plants I have in my tank, the temperature should be between 22° and 26° Celsius (72° and 80° Fahrenheit), and the pH should be between 6.0 and 7.0

### Other Inhabitants

Just as I did for the plants, I also calculated the temperature and pH range for the aquatic inhabitants I added. There are 13 neon tetras, 3 marbled whiptail catfish and 6 dwarf Cajun catfish.

### Temperature and pH Calculations

After calculating the parameters for temperature and pH for both the aquatic inhabitants and the plants, I combine them to determine the optimum parameters for the tank.

Therefore, I will attempt to maintain the temperature between 24° and 26° Celsius (76° – 80° Fahrenheit) and the pH between 6.5 and 7.0.

### Miscellaneous Set-up Information

In addition to the basics listed above, I have added several minor decorations. The first, and most basic is a standard aquarium thermometer. Second, I planned from the outset to add at least one Anubias to the tank, and therefore added a piece of aged driftwood. To prevent it floating, I attached it to a piece of slate, which is buried in the substrate. Finally, in my test set-up, I



noticed that the output from the Aquaclear Mini tended to agitate the gravel directly beneath the waterfall. To prevent this, I planned on building a set of slate “steps”. However, I was unable to arrange to get the slate cut, so I used an unusual piece of extra driftwood that was shaped like a slide. With a few cuts and after attaching another piece of slate, I produced a chute to lessen the impact of falling water on the substrate.

Finally, I considered using an under-gravel or substrate heater in this tank, but based on cost, my inexperience with this piece of equipment, and my hope that with the relatively small volume of water the high filtration rate combined with the heater will keep the water in all layers warm, I decided to forgo it at this time.

### Week One



All of the plants, fish and crayfish listed above were purchased at the Durham Region Aquarium Society’s Annual Show and Auction on April 6<sup>th</sup>, 2008. The tank was set up and running for 5 days prior to the auction, and it was seeded entirely with water from my 75-gallon aquarium.

Regarding the stocking levels. First, I realize that the number of fish that I have added is some-what high for an aquarium of this size. However, I wanted a schooling fish, and the neon tetras seem to be doing quite well. I fully realize that the marbled whip-tail catfish may eventually get too large for this tank, but I will have no problems with moving them into my larger tank should it be required. If I do so, I will probably add a small school of dwarf cory cats.

As expected, I experienced several problems in the first full week of set-up. Approximately two hours after adding the fish, one of the three marbled whip-tail catfish died. However, other than that, I have had no deaths in the tank in the first week, although there have been at least three molting of the dwarf Cajun crayfish.

Another problem that I have encountered, but did not expect was the very rapid evaporation of the water. As the tank is relatively small, the evaporation of approximately 2.5 cm (1”) of water every three days is very noticeable. In hind-sight, I should have expected this as the aquarium is not covered. The easiest solution (and the most obvious), is that I will need to top the tank up on a regular basis.

An expected problem was the occurrence of “crypt rot” or “*Cryptocoryne* disease”. For those of you not familiar with it, with crypt rot basically the stems of the crypt’s leaves rot or dissolve, resulting in the loss of many if not all of the leaves. As mentioned, I fully expected this to happen. In fact, when I ran this tank in the ad-hoc mode, all of the plants I transferred from my main tank rotted, but with-in two weeks they were throwing new sprouts. Interestingly, only about half of the *Cryptocorynes* I placed in the tank after the auction are succumbing to this. Most noticeably the smaller crypts, *C. nurii*, *C. parva* and *C. wendtii*, seem to have some loss of leaves, while the *C. walkeri* is doing fine, and the *C. cordata* is having no problems whatsoever.

As mentioned, I also had added an *Anubias barteri* and an *Anubias hastifolia*. While the *A. hastifolia* is doing incredibly well (with one new leaf that was in the process of being formed now fully evolved), the *A. barteri* rotted completely off the rhizome. I experienced this once before in another tank and no one has ever been able to explain why this happened. In this case, the rhizome dissolved, and the leaves completely separated. As a result, I removed the remains of the *A. barteri* and replaced it with an *Anubias barteri* “*coffeefolia*” that I had in my main tank

## Week Two



During week two I had no deaths in the tank whatsoever. The new leaf of the *A. hastifolia* continues to develop nicely. The crypt rot continued, although at a lessened pace. I have been using a turkey baster to remove the plant detritus. (Basically, you use it as a siphon. I return the water to the tank by squirting it through a strainer. The water returns to the tank, but the plant detritus remains in the strainer.)

The *A. barteri* “*coffeefolia*” seems to be doing well, but one thing I have found is that as the tank is not covered, the humidity over the tank is not high. This has led to dryness of the leaves of the *A. barteri* “*coffeefolia*”. In an attempt to overcome this, I have created a “rain-maker”. I took a small pump from a desk-top water garden, and hooked it up to five small air-tube stones with standard aquarium tubing. This results in the water being pulled from the tank via the pump, and being forced through the air-stones. As a result, water (instead of air) now flows from the air-stones. I mounted the air-stones over the *A. barteri* “*coffeefolia*”, and this results in water dropping (like rain) over the *A. barteri* “*coffeefolia*” and keeping the leaves constantly moist.

### **Anagram for May**

*Example:*

*An anagram for this creature is: alpine alps*

*The creature is: applesnail*

**An anagram for this fish is: I did check holly**

**This fish is: \_\_\_\_\_**

Answer will be in the next newsletter.

## Week Three



I’ve experienced a problem with the *Anubias barteri* “*coffeefolia*”. Apparently I have not had enough humidity in the air, even with the rainmaker in place. While it has not died as of yet, it is not doing so well, and I am contemplating replacing it with another *Anubias* sp., possibly one already grown emersed. Vandemeers currently has some.

There have been no deaths in the tank, and the dwarf Cajun crawfish seem to be exploring more.

The various crypts are doing well, and it appears that the crypt rot has finished. Some of the unidentified crypts are beginning to send out new leaves, and a new leaf has appeared on my *Cryptocoryne cordata*.

*This article was previously published in Tank Talk, a publication of The Durham Region Aquarium Society.*

**All photos by Derek Tustin**

**Series continued next month in The SCAT**

Answer will be in the next newsletter.

**April’s answer: Lawn Mower Blenny**

Fishy Anagrams provided courtesy of





# Crossocheilus siamensis – a truly remarkable algae eater

By Tom & Pat Bridges



Crossocheilus siamensis



Finishing touches 1



Finishing touches 2



Algae covered slate



Cleans logs too



Partly clean 1

We think these fish, sometimes called ‘Siamese Algae Eaters’ or ‘Siamese Flying Foxes’, are worth their weight in gold. But, be careful to get the right species because there are some similar looking fish that just can’t do the job.





# Give them a taste of the good life.

**Nutrafin Max** has evolved and adopted the new Nutrafin family look. It's bold, it's tasty and it's packed with quality nutrition to help ensure your fish are colorful, active and able to remain that way.

The new generation of Nutrafin Max features Advanced Yeast Extract, an important addition that naturally helps your fish stay resistant and vibrant. There are new and enhanced formulations, more beneficial natural ingredients, no artificial colors, more flakes in every container, new dosing caps and more.

What are you waiting for? Try the new Nutrafin Max and give them the taste they crave.



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