

# ST. CATHARINES & AREA AQUARIUM SOCIETY NEWSLETTER: "The Scat"



APRIL 2017: Vol. 29 #08



## My Life as a Career Woman and a Single Seahorse Parent

For a long time now, I have kept freshwater fish, invertebrates and am currently keeping four reef tanks with all sorts of marine life. The Lined Seahorse (*Hippocampus erectus*) is a relatively new and fun addition to my fish room. The genus term "*Hippocampus*" is derived from the Ancient Greek word "*hippos*" which translates to "horse" and "*kampos*" which together mean "sea monster". (1) Let me tell you the story of balancing my busy work life, two children and raising my very own baby sea monsters.

Generally, in terms of seahorse husbandry, the medium-large Lined Seahorse is a “simpler” seahorse species to maintain in the aquarium environment in that they are robust and not complicated to feed. They are also a lot of fun because they are social creatures--- interacting not only with each other, but also with you. This particular species offers the widest range of colours, as they “mirror” the colours of their environment, including their preferred hitching posts (i.e., objects they cling to) and one another. Their colour spectrum may range from duller browns and greys to varying unique shades of green, brown, yellow, white, grey, orange, pink and red. These seahorses grow to about 20cm (~ 8”) and “prefer” water temperatures of about 21 °C (~70°F) but, in the wild, live in sub-tropical to temperate waters. This species is native to the Atlantic Ocean from Nova Scotia, Canada down the Eastern seaboard of the USA, the Caribbean Sea and beyond to Uruguay, South America. (2) In captivity, a 30g tank would be the smallest tank in which to suitably house a pair. Seahorses are vertical swimmers, so the tall tanks are best for them and, as they are neither strong swimmers nor competitive feeders, they are perhaps best kept in a species only tank, but with careful research compatibility, they can be housed with others. I keep mine with some pipefish which resemble elongated seahorses (*see photo below*). (3)

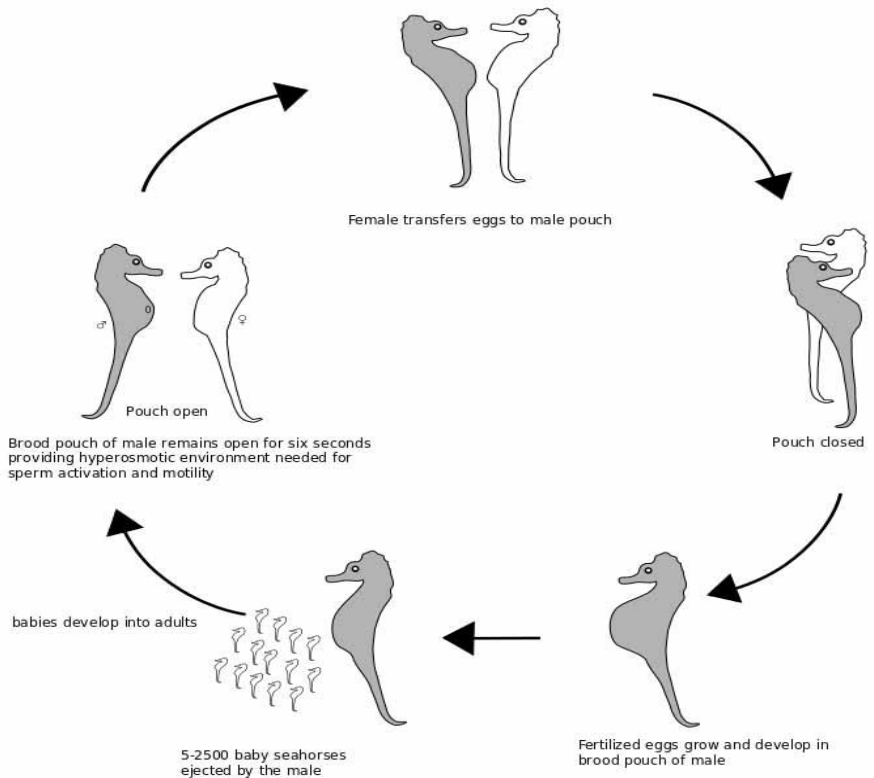


I was enthusiastic to breed my seahorses again, but had become well aware of the massive time commitment involved from past experiences. There is a learning curve. I now feel I have acquired enough experience breeding them such that I can offer some useful advice. My male has given birth before but if you are not home at the time of birth, the results may well be dismal in that the fry may be sucked into the filter. Counter-intuitively, I find the more babies he has, the less survive. This may be because a smaller batch results in healthier fry or because too many fry in the grow-out tank leads to overstocking issues. I feed my mature seahorses small live grass shrimp and believe this also leads to healthier specimens and offspring. While raising Lined Seahorse fry is by no means simple, and there are many ways to raise them, my personal challenge was to devise a process that would dovetail with my demanding work schedule as I work 12 hour nightshifts, 7 days consecutively.

Seahorses are unique aquatic creatures in that they remain with the same mating partner for life. The seahorse couple charmingly nuzzle heads every morning as a means of reaffirming their relationship to one another. (4) Sexing a seahorse is as simple as establishing the presence of a brood pouch. Only males have a pouch visible in the lower front of the abdomen below the anal fin. Breeding them is not difficult provided they “like” each other. In wintertime, you can leave the tank lights on longer to simulate spring as a means of encouraging mating (See mating dance

<https://www.facebook.com/St-Catharines-and-area-Aquarium-Society-565883823470381/>). My pair mated before long and the female accomplished the transfer

of her eggs to the father. Often her aim is terrible and she misses the male’s pouch and I’ll find the eggs on the substrate. When successful, the gestation period of the Hippocampus Erectus male is about 18 days, but this may vary. (5) See the overall lifecycle of the seahorse at right (6) or have a detailed look at the following slide show: <https://prezi.com/wsw27scdna4x/life-cycle-of-a-seahorse/>



When the seahorse father expelled the babies from his pouch, I immediately turned off the filters and pumps in the parent’s tank to calm the current for them as they are not strong swimmers (see a seahorse birthing video [https://www.youtube.com/watch?v=-zaBOTjo\\_zk](https://www.youtube.com/watch?v=-zaBOTjo_zk)). He gave birth to 32 fry and 16 survived. Filters, wave makers, and protein skimmers are all dangerous to the frail tiny fry. While the seahorse parents don’t seem to be a risk to the fry, my pipefish were certainly trying to eat them. Pipefish are slightly more aggressive than seahorses and excellent hunters. I proceeded to scoop out the babies with a plastic cup and removed them to a 5 gallon bucket. I had planned ahead and set up a 10 gallon grow-out tank which was cycled and ready to go as part of my design to streamline the efficiency of breeding the seahorses. This 10 gallon tank is bare bottom (no sand) for ease of frequent cleaning, with plenty of live rock and blade grass (*Caulerpa prolifera macroalgae*). Macroalgae (i.e., large aquatic photosynthetic plants) grows on the live rock and offers the babies many places to hitch on to right away. I also incorporated a variety of plastic tank décor in the fry tank for this purpose. All seahorses, from the beginning of their lives, need “hitching posts”; that is, something to cling to while they are resting. Not having these resting places is actually stressful for them. Additionally, both the live

rock and the macroalgae serve to keep the tank water clean over time. I would need every bit of help to ensure very clean tank water. The smaller fry tank makes it simpler for them to find their brine shrimp food and there are harmful pests (i.e. hydroids and/or aiptasia - a nuisance anemone) that can hitchhike on the brine shrimp eggs. You would not want these pests in your display tank but they are more easily controlled for in the fry tank. I treat the 10g tank with *Fenbendazole* (brand name of *Panacur*) when those pests start showing up (and they will) at a dose of 1mg/gallon every other day x 3 doses.

Before adding the seahorse babies, I took out half of the water in my 10 gallon fry tank and replaced it with some water from their parent's tank. If you do not have a 10 gallon aquarium set up in advance, simply fill a 10 gallon tank with water entirely from the parent's tank. In my experience, the babies



develop better in established water from the parent's aquarium when they are first born than they do with freshly mixed saltwater. When the babies are newly born they are quite tiny and don't cope well with currents. For that reason, I relied on two air lines with only hard tubing to aerate their tank and waited until the babies became larger before adding small sponge filters to these air lines. The grow-out tank was equipped with a T5 light on the top to keep the blade grass growing.

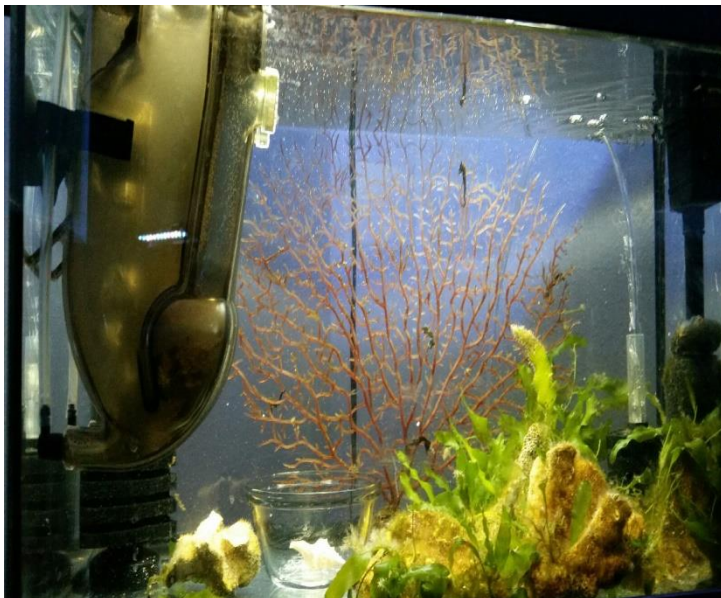
Seahorses do not have stomachs and it is recommended that they are fed four times per day and at a minimum twice a day. Many seahorse breeders vacuum the fry tank after each feeding of live food to maintain water quality. The small volume of water in the fry tank means that any frozen food not eaten will rapidly translate into a dangerous spike in the ammonia level. Pristine water quality is vital.

Both feeding and ensuring excellent water quality are demanding of your time as the breeder. To simplify feeding the fry and meet their need for four feedings per day, I used a *TOM Continuous Hatch 'N Feeder* brine shrimp hatchery (see hatchery video [https://www.youtube.com/watch?v=pCVe\\_ikNeVA](https://www.youtube.com/watch?v=pCVe_ikNeVA)). It provided a constant supply of brine shrimp in the aquarium for 12-13 hours per day while I was away at work. To keep the hatchery working, I only had to add a scoop of brine shrimp eggs daily. It is preferable to have two hatcheries ready to use because when one becomes dirty it can be removed and the other one can take over. Ensure you start the new clean hatchery 24 hours before you remove the dirty one such that the fry are never wanting for food. Each hatchery typically required cleaning every 3-4 days.

At 8 weeks of age, I started converting the fry from the brine shrimp diet to frozen mysis. To accomplish this, I set a small clear, glass bowl with high sides in the centre of the tank and used a large hard plastic tube with a turkey baster to place the finely chopped up mysis shrimp into it. Soon a baby seahorse would find and sample the mysis shrimp and the others would follow suit. The transition to eating mysis should be a gradual process, so I continued to offer brine shrimp in the tank all the while. The small bowl was instrumental when used as a feeder station instead of sprinkling the mysis around the aquarium as this served to keep the tank clean by enabling me to easily remove the bowl and any



uneaten food. I would put the mysis shrimp in the bowl in the morning and remove both the bowl and any remaining uneaten food in it in the evening.



Generally, my fry tank required cleaning minimally twice a week. I would clean the tank and restock the shrimp hatchery right before “lights out” at night. That way the shrimp hatchery would have time to work overnight and create more brine shrimp for the fry to eat the next day. My procedure for cleaning the grow-out tank involved two 5g buckets. One bucket housed the items in the tank such as the hatcheries, rocks, plants and sponge

filters that required scrubbing. The other bucket would be filled with 5g of water siphoned from the fry tank to temporarily house the babies. The fry were removed carefully with a plastic cup to the housing bucket and later placed back in their grow-out tank by the same means after cleaning was complete.

I would scrub all the items and even use my fingers to clean the macroalgae. All the old water would be emptied out of the tank and the aquarium would be completely scrubbed down. After the grow out tank was clean and the décor, rocks, plants, hatcheries, air lines, and sponges set back in place, it would then be time to add back about 5g of water. Now, if the fry are younger than one month of age, my recommendation is to add 5 gallons of water siphoned from the parent's tank. If they are older than a month, you have the option of mixing new saltwater (**S.G.** 1.020-1.022) to add to the grow-out tank (*Editor's Note: Specific Gravity or S.G. measures the relative salinity or amount of dissolved salts in the tank water versus pure water. Most hobbyists use a simple hydrometer or a refractometer to measure salinity*). When the aquarium is half-way full with new water, the seahorse babies, and the water they have been temporarily housed in, may be added back to fill up the remainder of the tank.



When the babies grew larger and were completely converted to frozen food, I transferred them to an established 45g aquarium. The 45g has a sponge cover on the intake of the filter and the filter is the only water movement for this tank. There are no wave makers or pumps whatsoever to prevent over-agitation. I do not use brine shrimp as food in the 45g so as to prevent any pests like aiptasia (i.e. a nuisance anemone) or hydroids from invading via the brine shrimp eggs. The *Fenbendazole* treatment to control the pests will harm my invertebrates and corals so I do not use it in the 45 gallon.

Keeping seahorse adults is not complicated. I don't find them as difficult as puffers –let's face it-- puffers are messy eaters! The experience of raising the fry was thoroughly an enjoyable challenge, and it was a special moment to re-introduce them to their parents at 4 months of age. The parents seemed to rejoice and the father carefully examined each baby (see video <https://www.facebook.com/St-Catharines-and-area-Aquarium-Society-565883823470381/>). Seahorses are very social and it seems the more the merrier they are. I've become attached to them and it will be difficult for me to rehome them, but a necessary step. I plan to keep ten of which three are breeding pairs. I've grown especially fond of one I named "Fuzzy-Wuzzie" (above) – she has a home, not only in my aquarium, but also in my heart.

### Article & Seahorse Photos By: Darlyn Kerner

1. Duvernoy, HM (2005). "Introduction". The Human Hippocampus (3rd ed.). Berlin: Springer-Verlag. p. 1. ISBN 3-540-23191-9.
2. Bester, C. Hippocampus erectus, Florida Museum of Natural History, University of Florida, 2017
3. Childs, S. Pipefish Photo Creative Commons, Attribution 2 Generic, Uploaded from <http://flickr.com/photo/11076453@N00/2651565681>
4. Animal Diversity Web (January, 2007) [http://animaldiversity.ummz.umich.edu/site/accounts/information/Hippocampus\\_erectus.html](http://animaldiversity.ummz.umich.edu/site/accounts/information/Hippocampus_erectus.html)
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- 6 Seahorse.Lifecycle based on - Look, Katrien J. W. Van; Dzyuba, Borys; Cliffe, Alex; Koldewey, Heather J.; Holt, William V. (2007-02-01). "Dimorphic sperm and the unlikely route to fertilisation in the yellow seahorse. Journal of Experimental Biology 210 (3): 432-437. (CC0 1.0)

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## Much Ado About Fish: Upcoming Events

- **\*CAOAC EVENTS** <https://www.caoac.ca/calendar.html>
- Apr 2 Barrie Region Aquarium Society Auction <http://www.1brass.com/>
- Apr 9 Durham & Region Aquarium Society Aquariama
- Apr 14-15 Pet Expo
- Apr 22 Sarnia Aquarium Society Auction
- Apr 30 Montréal Aquarium Society Auction/ Société d'Aquariophilie  
<http://aquasam.qc.ca/?p=1766>
  
- May 7 London Aquaria Society Auction
- **May 19-21 CAOAC Aquatic Expo 2017, hosted by Hamilton & District Aquarium Society, at Holiday Inn Burlington Hotel & Conference Centre. Excellent speakers.**  
For tickets & more see <http://hdas.ca/convention>  
**(DETAILS PAGE 17)**
- Sept. 22-24 Cataclysm 2017 (Mid-West Catfish Show), <http://catfish-cataclysm.com>
- CAOAC Newsletter <https://www.caoac.ca/newsletter.html>

### SCAAS Meetings & Programmes Spring 2017:

- April 3 **"The Art of Aquascaping"** by Art Commisso
- May 1 "Pondemonium: Designing an Oasis of Tranquility" by Sasha Hunter Certified Landscape Designer
- June 5 **"Annual Elections for SCAAS Executive"** & Summer BBQ-Potluck





## Monday March 6 “The Art of Aquascaping”

The St Catharines and Area Aquarium Society presents all aspects of “The Art of Aquascaping” by talented and competitive aquascaper Art Comisso April 3. This speaker incorporates a live demonstration on various aquascaping and planted aquarium layout techniques. It greatly surpasses a basic lesson on how to begin using real

plants, by focusing on how to aquascape with visual impact, advice to design your own aquarium to strike a harmonious and cohesive whole result considering balance, depth, scale, suitability of plant life, use of colour, effective use of space, and hardscape materials. Art, with 2 team mates, won “Best in Show” at last November’s Aquatic Experience International Competition in Chicago for their aquascaped tank. The “above winning tank” took about 8 hours for the 3 competitors to create together (see link). <https://www.youtube.com/watch?v=OTFzpNBjp8o&feature=youtu.be>

The April meeting will also feature a beautiful 25cm cube tank, light, and wood which Art will use in his hands-on demo. The tank was generously supplied by Aqua Inspiration (see upper right). The finished scape will be auctioned off afterwards! Jar Show for April is Anabantids, Gouramis, Bettas and AOV (i.e., All Other Varieties, including plants). For the most up to date data on the St. Catharines & Area Society Events, please like and follow the official page at: <https://www.facebook.com/St-Catharines-and-area-Aquarium-Society-565883823470381/>



We are asking members if they have any suggestions or new ideas for the Executive. Compliments are welcome. Please email your suggestions to Pat Shriner, 2<sup>nd</sup> vice-president and copy to Pat Bridges, membership chair ([gpsriner@cogeco.ca](mailto:gpsriner@cogeco.ca) ; [tp.bridges@sympatico.ca](mailto:tp.bridges@sympatico.ca)). Written comments accepted.



## A Word from the President

Hi All,

It was great to see so many of you out at the last meeting for Zenin Skomrowski's "Filtermania" presentation. Zenin managed to tackle the relatively complex and perhaps "not so sexy" subject of filters and entertainingly shed some much needed light on the various products available in the hobby. The participation in the jar show was outstanding to see and that sort of enthusiasm is truly what helps to fuel the existence of our Club. I extend a special thank you to those who participated and a welcome to the new members that joined the Aquarium Society in March.

This April and May I will be opening the nominations for all SCAAS Executive positions with Tom Bridges, the *Official Steering Committee Chairman* for 2016. The Executive positions of President, 1st vice president, 2nd vice president, Treasurer and Secretary are all positions that must be elected each June.



Members should reflect on whether they know of someone they believe would fill one of these roles well or if they would like to assume one of the Executive roles themselves. Positive, committed team players are required and I invite you to carefully review the details that Tom Bridges has outlined about these positions and the procedure involved on **page 11**.

As most of you know, I am a great believer in the internet, social media and the SCAAS Newsletter to increase awareness of the Society (If you have feedback on how to increase publicity/awareness we ask for suggestions). On that point, our Newsletter Editor Dave Holland proposed a "Crowd Release Policy" that addresses privacy concerns as they may relate to SCAAS members and guests with respect to the Aquarium Society media coverage of meetings and events. I have been in touch with the Executive of other CAOAC Clubs which already have similar policies in effect. This Crowd Release Policy has been approved by SCAAS and I encourage you to read *The Editor's Angle* segment in this issue for details.

I'd like to continue to reach out to new members. If you want to find out the latest information on fish keeping or have a problem that needs a solution, come to our meeting and ask our experts. Maybe you would like to enroll in the Breeder's Awards Programme or the Horticultural Awards Programme. Our friendly environment has attracted many new and experienced aquarium hobbyists. Our group is for those who have one tank to those who have over 40. So, become the next new member, reap the full benefits of membership at the St. Catharines and Area Aquarium Society.



I can't wait for Monday's meeting and the Aquascaping presentation. See you there!

Paul Paradis .



## EDITOR'S ANGEL<sup>LE</sup>



Dear Friends,

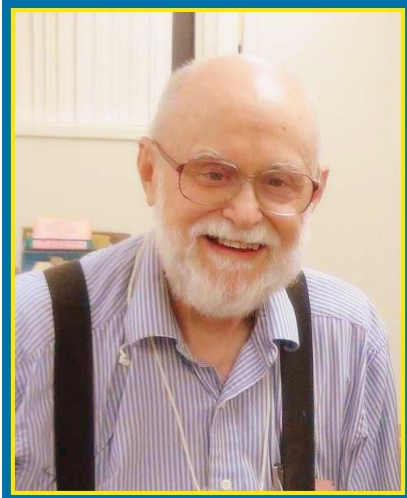
One of the key things the St. Catharines and Area Aquarium Society (SCAAS) has a long history of doing is taking photographs and recording names at our meetings/events of award winners, members and guests. Society officers or Administrators may then use them in the Newsletter and/or post them on various internet and Facebook sites. As a result, the Society often receives appreciative remarks from regular members as well as those unable to attend. This practice also enables us to know and recognise one another better as a group. As such, SCAAS is now following the lead of other aquarium societies and similar clubs and has enacted a Crowd Release Notice. *“By entering and by your presence at any St. Catharines and Area Aquarium Society meetings or events, you consent to be photographed, filmed and/or otherwise recorded. Your entry constitutes your consent to such photography, filming and/or recording and to any use, in any and all media worldwide in perpetuity, of your appearance, voice and name for any purpose whatsoever in connection with the St. Catharines and Area Aquarium Society meetings and events without compensation. These terms will extend to photos submitted to the Newsletter for publication. While we are publicizing this notice in the Newsletter and online monthly, for the record, you are required to notify us in writing of any request to have your photo and/or name excluded from media and, in return, all SCAAS officers will endeavor to reasonably comply on the understanding that no absolute guarantees can be made. SCAAS officers take no responsibility for third party activity.”* Thank you for your co-operation in this matter. Newsletter copyright further stipulates *“material/photos from this Newsletter may be reprinted only for educational use (e.g. by other aquarium societies) and non-commercial entities, which are neither political nor activist in nature, and provided full credit is given to the author/photographer and to St. Catharines & Area Aquarium Society.”*

**As Editor, I would also like to take this opportunity to welcome Les Brady to SCAAS and as the new Club Photographer.** Les will be invaluable to the Newsletter in capturing our Club in action from BAP, HAP Award Presentations, Jar Show winners, events, meetings and of course our auctions. Welcome Les to contributing to the Newsletter and to the Group on behalf of all. I had the opportunity to get to know Les and his aquarium a little better in the Aquarium-side chat segment featured in this issue. I think you will enjoy it.

Cheers,

*Dave Holland*





### Process & Procedure: Executive Elections

Each year our Society (SCAAS), must face and solve the question of which of our members will fill the next year's positions on the Executive. Essentially, we need to elect 5 interested members – one for each of the positions of President, 1st Vice-president, 2nd Vice president, Secretary and Treasurer. These individuals should be members in good standing who have been with SCAAS long enough to understand its nature and purpose, be regular attendees and **be willing to give extra time for necessary and important executive meetings**. This requires some work, and organizational skills, but so does any worthwhile endeavour and, it can be enjoyable.

Before nominating anyone for a position, please ensure that person is willing to run for election. It is also permissible to nominate yourself. Seconders are required, except for members of this past year's executive, who might agree to run again for next year. Nominations will be invited and may be submitted to me at the April and May meetings. Positions will be vacant.

Our club has existed continuously since 1958 largely because of the work of many dedicated executives. Please help me do my job and ensure that it will continue and even thrive in the coming year. The future of the Club could depend upon it.

**Thank You**  
**Tom Bridges, Steering Committee Chair 2017**

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## THE CAOAC REPORT

**What is CAOAC you might be asking?** CAOAC stands for The **Canadian Association of Aquarium Clubs (CAOAC)**. This is a non-profit corporation and composed of member aquarium, reptile & amphibian, pond & water garden, and similar clubs or societies from across Canada and the Northeastern United States. SCAAS is a member of CAOAC.

CAOAC was founded in 1959 (incorporated in 1963) to allow the clubs to work together for their common good and the good of the hobby. Legislative issues, promotion of events, a judging system, national awards, assistance for new clubs, & liability insurance are just a few areas where clubs can work and benefit together. CAOAC meets monthly. Recently, a Fish Rescue Program has begun. This has been developed with outside partners who also have an interest in our hobby and environmental issues.

The following topics were covered during the March CAOAC Meeting:

- An audit has been performed on CAOAC Finances
- Ken Boorman was appointed to be the Chair of the Judges Committee
- Nominations were opened for the CAOAC Executive (<https://www.caoac.ca/executive.html>)  
Anyone interested in running for a position must submit their name to **Peter DeSouza** ([vp@hdas.ca](mailto:vp@hdas.ca)), the CAOAC Steering Committee Chair, by the April 23<sup>rd</sup> meeting
- Volunteers are sought for the "Easter Weekend" to help at the **CAOAC Booth at the Canadian Pet Expo**. If you may help please contact **Lisa Boorman** ([lisachromis@yahoo.com](mailto:lisachromis@yahoo.com))
- **\*\***Club donations for the CAOAC Convention President's Challenge were asked for

I would like to call your attention to the CAOAC NEWSLETTER (please see <http://www.caoac.ca/newsletters/201703.pdf>) which offers greater detail on some of the topics discussed above and the general CAOAC website (<https://www.caoac.ca/index.html>).

If SCAAS members have questions regarding CAOAC or news that occurs at monthly meetings I would be happy to answer them for you as the St. Catharines and Area Aquarium Society CAOAC Representative.

*Sincerely,*

**Phil Barrett, "SCAAS" CAOAC Representative**

## April Jar Show Data, Rules & Jar Show Schedule 2017

\*For the April Jar Show, the feature category will be Anabantids, Gouramis, Bettas and AOV (i.e., All Other Varieties, **including plants!**) - Auction to follow. The jar show categories for the balance of this season will be **May** (Guppies); **June** (Corys and Catfish, including Plecos).

**\*\*JAR SHOW RULES:** *While we appreciate the enthusiasm, members are permitted to enter a maximum of **THREE ENTRANTS PER MONTH** into the Jar Show.*

**\*\*\*Jar Show containers must not be round and have at least **ONE FLAT SIDE**.**

## February & March 2017 Jar Show Results:

*(Points Distribution: 1<sup>st</sup> place – 6 pts, 2<sup>nd</sup> place – 5 pts, 3<sup>rd</sup> place– 3pts and other entries – 1 point)\**

### FEBRUARY JAR SHOW WINNERS:

1<sup>st</sup> place: Shane Eaton

2<sup>nd</sup> place: Shane Eaton & Best in Show

### MARCH JAR SHOW WINNERS:

#### Fish of the Month

1<sup>st</sup> place: Catherine Salmon (Best in Show)

2<sup>nd</sup> place: Ken Brady

3<sup>rd</sup> place: Shane Eaton



**Other entries:** Ken Brady, Shane Eaton and Ernest Biktimirov

### Senior Open

1<sup>st</sup> place : Ken Brady

2<sup>nd</sup> place: Shane Eaton

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## To Salt or Not to Salt? That is the Question.

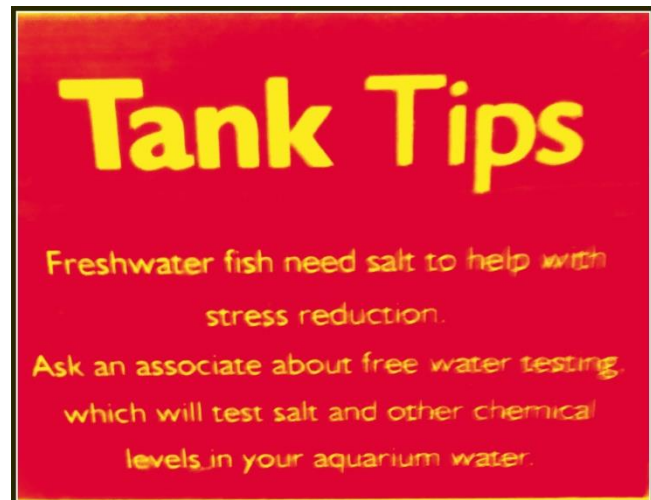


The concept of adding various salts to aquariums has existed almost as long as the hobby itself. There are valid reasons why hobbyists might add different salts to an aquarium such as to medicate, to adjust the water hardness of the water, to reduce stress and of course to maintain a brackish or salt water tank. It has become common practice, however, for employees of big box pet stores to advise their *freshwater fish* customers to regularly add a teaspoon of aquarium salt per 38 litres (10g) as a form of “health tonic”. This is not a practice most accomplished aquarists routinely follow with good reason. Before adding salt to an aquarium, you should understand what kind of salt you are using, why you are doing so, and any possible harmful side effects it may present to your freshwater livestock and plant-life.

Firstly, it should be stated that not all salt is created equal and they are *not* interchangeable. Freshwater aquarium salt is pure Sodium Chloride (NaCl) whereas salt for brackish and reef tanks require marine salt which contains certain “adjusted” trace elements (e.g. magnesium, calcium). Ordinary table salt is not recommended for use with freshwater fish under any circumstances because it contains iodine which is toxic to the fish and some table salt has anti-caking agents. Also important to highlight is that Epsom salt, while used at times in aquaria (e.g. to harden water), actually contains no sodium whatsoever. Epsom salt is really magnesium sulphate (MgSo<sub>4</sub>). There are appropriate and inappropriate uses for *pure* Sodium Chloride (NaCl) or **Aquarium Salt** which constitutes the focus of this article.

Most wild populations of freshwater fish and plants in aquaria originate in rivers and lakes that have very little detectable salt. Freshwater fish are adapted to water with salt content that is measured in parts per million (ppm), versus seawater that is measured in parts per thousand (ppt). For example, assume your local water supply comes from surface water and it averages less than 3 ppm total sodium. That means that out of one million parts, less than 3 are salt. In many cases, freshwater has very low salt content, and in some areas of the world, like tropical rain forests, it can be so minute that it is undetectable.

Plants and certain fish have evolved to live in an environment that has very little salt, and as such, some are very sensitive to it. Many freshwater plants do not tolerate much salt at all. Some species of fish from very soft water, like Plecostomus (Sucker Mouth Catfish) are also intolerant of salt, and the addition of salt with these fish should be avoided. This raises concern when certain pet stores promote the sale of aquarium salt for overall wellness of the aquarium (*Editor's Note: The red sign at right was repeatedly posted in a pet store and the sales agent suggested the use of aquarium salt would generally benefit the tank and a pleco when asked about it*). Scaleless fish and invertebrates are also particularly sensitive to the presence of salt in that they are stressed by it. By religiously adding aquarium salt to your tank, the salinity of the water will creep upwards with consequences. Salt does not evaporate which means that water changes are required to reduce the salinity. Most freshwater aquarists do not have the instruments required to measure salt water which introduces an unknown variable to maintaining healthy conditions in your tank. Long term use of salt in the aquarium can even result in acclimating parasites to salinity, rendering the use of salt as a cure for them



ineffective. (1) Additionally, regular use of salt can lead to an overproduction of slime coat on the fish. (2) This can be problematic because it not only causes discomfort, but may put the fish at risk of suffocation. (3) Finally higher levels of salinity reduce the available oxygen to the tank inhabitants. (4) Any level of salinity is potentially stressful to a non-brackish freshwater fish.(5)

The most important use of aquarium salt is for its medicinal control of certain ornamental freshwater fish ectoparasites (i.e., parasites hosting on the exterior tissue of the fish), but caution and care must be taken even in this application of salt. It has been well established that aquarium salt will treat some of the common parasites such as ich (*Ichthyophthirius multifiliis*), Costia (*Ichthyobodo*), and Anchor worms (*Lernaea*). To treat these parasites effectively, it is necessary to add a fair amount of aquarium salt (i.e. about 1½ cups of salt per 10g/38l) to the tank, not just a teaspoon per 10 gallons. It is best to increase salinity levels gradually so as not to suddenly stress the fish and the salt should always be mixed with water prior to adding it to a tank with inhabitants. (6) Salinity is expressed in units of “**specific gravity (SG)**”. We can say that specific gravity is a measurement of dissolved salts in water.

For parasitic treatment purposes, the specific gravity measured with a standard marine aquarium hydrometer instrument should be between 1.005 and 1.009 or 7 to 13 parts per thousand (ppt). If treating Anchor worms, an SG approaching 1.009 is preferred. This level of salinity must be maintained for at least 3 weeks to eradicate the pest. However, it is important to remember that not all freshwater fish can tolerate this much aquarium salt. In general terms, Central American cichlids, livebearers, African rift lake cichlids, and Koi are able to tolerate these elevated levels of salinity. Saltwater dips are also a common practice for eradicating some external parasites. A saltwater dip with a specific gravity of 1.009 to 1.023 for 30 minutes to 2 hours will treat skin flukes (*Gyrodactylus*). Whenever treating freshwater fish with aquarium salt, the fish must be monitored closely for any signs of excessive stress, and returned to freshwater if necessary. It is normal for the fish to act a little “off-balance” when immersed in saltwater, but they should be able to right themselves.(7) In many cases, treating external parasites with other types of medication will be safer for the species of fish you are trying to cure. The fish’s salt tolerance must be researched and weighed against other treatment alternatives.

A therapeutic amount (1 tsp/ 10g) of aquarium salt may be added to the quarantine/hospital tank for fish that have damaged fins or lost scales. This amount of aquarium salt will aid with osmoregulation by helping the fish maintain the salt level in its blood while the fish’s wound/s heals. This is how aquarium salt is used to reduce stress in fish. Once any wounds have healed, all the salt from the aquarium should be removed with an almost 100% water change. Salt does not evaporate.



Aquarium salt must not be added if zeolites are in use. Recall zeolites are highly absorbent porous minerals, composed largely of silica and aluminum, which are placed in a bag within the filter in special circumstances. Zeolite removes harmful ammonium/ammonia from water, like a sponge when sudden unhealthy spikes occur, thereby decreasing any related stress on tank inhabitants (e.g., when a fish dies). When salt is added to the aquarium, however, it not only prevents the mineral from removing the ammonium/ammonia, but worse, undesirably causes the zeolite to expulse any toxins it is retaining back into the water. Under normal circumstances, zeolite will become saturated with ammonia (depending on levels) within 2 to 4 weeks and require “recharging”. Given this property of salt to purge the ammonia from the zeolite, many aquarists use it to their advantage and soak it in a container of saltwater to rejuvenate and reuse the zeolite in their tank when needed.

In conclusion, aquarium salt can work as an effective treatment when medically necessary provided the tank inhabitants you are treating are salt tolerant. For those that are hypersensitive, alternative medications should be used as research will indicate. Salt will be harmful in aquariums with live freshwater plants. Finally, the suggestion that aquarium salt should be added regularly to a freshwater tank as health tonic should be “taken with a grain of salt”.

Article By Tony Griffitts (8)

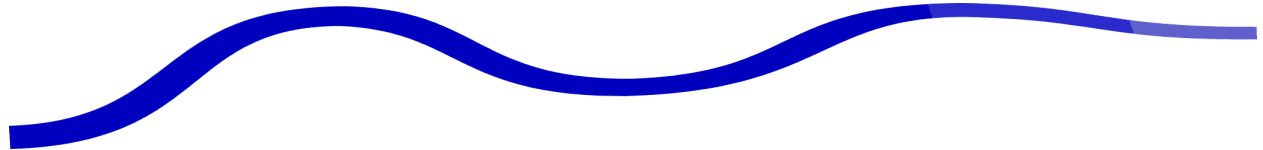
Contributions By: Dave Holland et al. (see other references next page)

Photo of Goliath Tigerfish: Larry Setiawan



**Other References to Article: To Salt or Not to Salt? That is the Question.**

1. Bee, H. Goldfish And Salt Article (2008)
2. Ibid
3. Linquist, Clark Veteran Aquarist, Salt Lake City, Utah, Consultation March (2017)
4. Ibid2
5. Ibid 1
6. Ibid 1
7. Ibid 1
8. "Adding Salt to A Freshwater Aquarium" <http://www.aquaworldaquarium.com> (2017)



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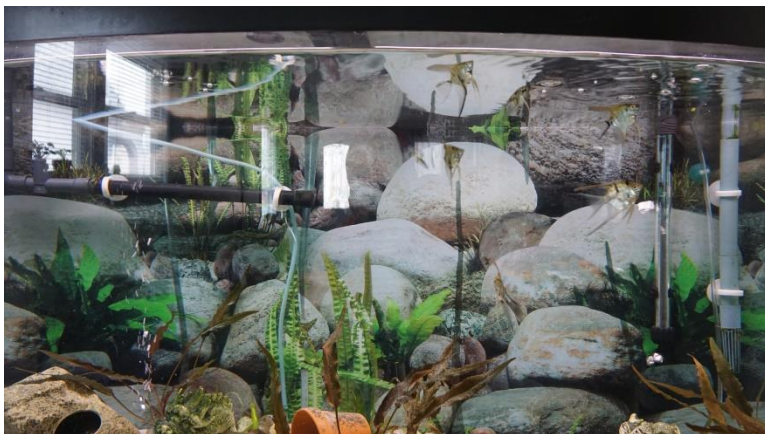
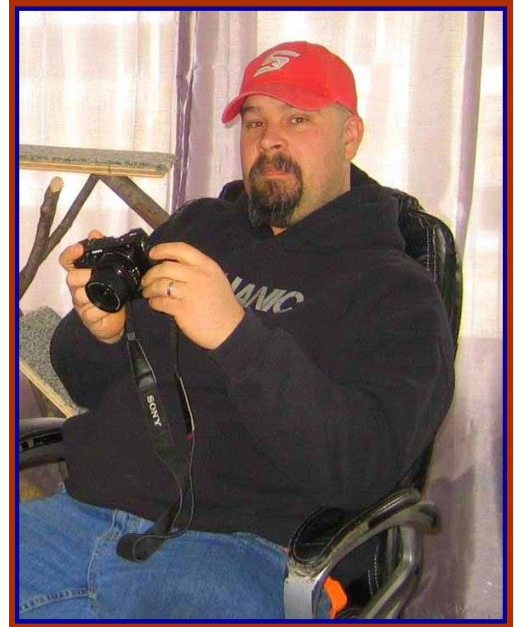
For more detailed information, all updates and news, please visit <http://hdas.ca/convention>



## Aquarium-side Chat with: Les Brady

My interest in keeping an aquarium actually traces back to the beginning of my love for fishing, particularly ice fishing. A friend of my father's had bought a large aquarium to keep the leftover minnows in. At some point, goldfish won at a carnival were introduced to the tank and it wasn't long before we couldn't keep the minnows in there anymore. The goldfish we called *Jaws* ate the minnows before we could go fishing again. I was 5 then and those minnow eating fish were the coolest things I had ever seen.

At 14 I set up my first 10g aquarium stocked with guppies and tetras. Shortly after came a small octagonal tan with a Betta. After moving in with my Dad I tried to keep a couple of Oscars, but inexperience and unhealthy feeder fish took their toll on them. I had more success with gouramis and had one for a very long time with an African Dwarf Frog until my ex talked me into giving them up. I dropped out of the hobby for quite a stretch at this point and didn't have an aquarium again until I married. She came with a 72 g. bow front full of cichlids. I was hooked straight away to this large tank full of colourful, active fish. To be honest my knowledge about the cichlids is minimal, but we had Africans Dinner Plates, a pair of Jack Dempseys and a Green Terror that kept the peace. In retrospect, most of our tank should not have cohabitated peacefully, but oddly they did until the Terrier died. That's when the beautiful Blue Africans took over and decided to kill off the other tank inhabitants. At that point, my wife lost interest and the tank remained "in limbo" for a while.



We made plans in January for a tank of angels and it was decided that the Blue Africans had to be rehomed to someone who liked them as well as the rather destructive Red Head that I had acquired from my friend John (who had also introduced me to SCAAS).

During this time I fell in love with the look of live plants with sand in place of gravel. At this point in time, the 72g.

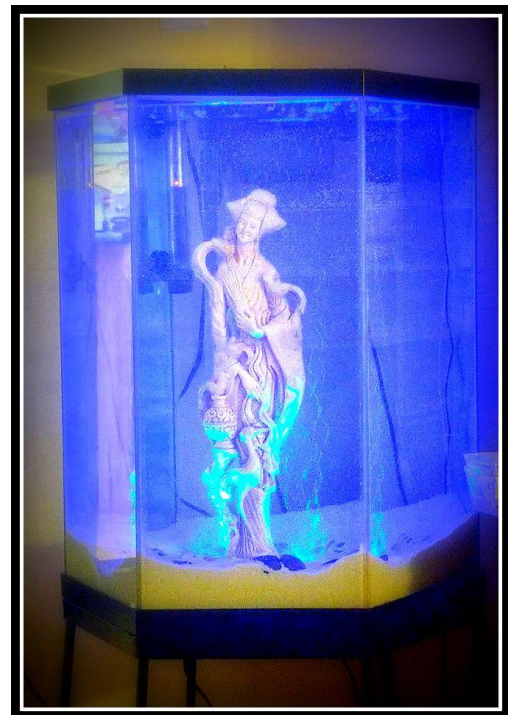
bow front has some corycats, a few "mystery" guppies that "found" their way into the tan, and 8 Angelfish that were purchased at the SCAAS auction when I first joined. My aquarium also features different types of live plants now which I quite admire. ***(Continued next page)***

There was a self-cloning crayfish, but she's been MIA for a while now. I think I currently admire the angelfish the most because I love how majestically they swim and how aware they are of everything beyond the tank.



This is the first aquarium society I have belonged to and I truly look forward to learning more about this hobby from like-minded individuals as well as the speakers that are featured monthly. My friend John has been a member for awhile and is constantly talking about the group, at times like a recruitment officer. After watching his aquariums multiply, often being the one bamboozled into helping move the larger tanks, I realised I wanted to join and learn more about the hobby too.

I find the aquarium relaxes me and I prefer sitting with the tuners on just watching my fish explore the aquarium over watching TV. Next to me at this moment, I have my 72g bow set up and going, and a 30g hexagon sitting on the other wall waiting to be resealed, hopefully by the time this is published the hex will be up and stocked likely with pea puffers, live plants, and other interesting décor or fish my wife and I select – but definitely plants as I am finding I am having success keeping them alive in my tank. *(Editor's Note: It looks great with that statue – couldn't resist adding it for the group to see).*



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### **Ask Larry Lobster!**

This segment offers anyone a chance to pose questions via email submissions to “Larry Lobster” about their aquarium. Opinions will be sought to help answer the question by various resources, from veterans, those with experience and reliable online/journal research. Answers are “friendly opinions” only.

**Dear Larry Lobster:** I’m starting to aquascape a 90g and have begun ordering plants online. I’m interested in trying the Magic Carpet seeds to establish an instant carpet in my tank. It looks easy, fast and fabulous. Is there any special information to know about the seeds before ordering? **Thank you. Jahvontae**

Recently, there has been a lot of buzz swirling among aquascapers about the use of these so called "Magic Carpet Seeds" to grow an instant carpet in the tank. The seeds are purported to be the seeds of *Hemianthus Callitrichoides* “Cuba” or “*Glossostigma elatinoides*.” The principle of **caveat emptor** has never been more appropriate than with this product and you would be well advised not to order these seeds as they are highly unlikely to be what the plants they are marketed as, and most likely not suited for aquarium use in the long run. As tempting as the lush green carpets in the advertisements appear, there is considerable confusion as to what plants the seeds actually come from, and a general lack of solid reference information on aquatic plant discussion forums which creates an economic opportunity for profiteers who are not concerned with the suitability or quality of their products. Let’s explore what is known and why they are not recommended.

Aquascapers and hobbyists from the Far East have already experimented with these seeds, before they were available for export abroad, and found they fail to live up to the hype. It’s been discovered these seeds are in fact from various plants such as *Oxalis corymbosa*, *Trichodesma calycosum*, and even *Ocimum tenuiflorum* (Holy basil).

Consider the rapid growth and propagation the Magic Carpet Seeds are to result in and the science which does not support this logic. Many aquarium plants are angiosperms (seed-bearing flowering plants), however, the probability of them flowering in their **submersed forms (i.e., completely underwater)** is considerably lower when compared to their probability of flowering in their **emersed forms (i.e., when their stems project from the water surface)**. While certain aquatic plants may be grown from seed such as *Glossostigma elatinoides*, then flower and produce more seeds in their emersed form, asexual reproduction of these plants (i.e., reproduction by runners) is much faster than collecting and working with their seeds. It is therefore far more profitable to multiply the plants from the runners. **(Continued next page)**

For this reason, most aquatic plant nurseries grow plants in their emerged forms, not submersed. The amount of work it takes to collect seeds simply does not pay off for traders.

The seeds used in the *Magic Carpet Seed* product will, therefore, need to be obtained from fast-growing, quick flowering plants - ideally some type of garden weeds. Many species of *Oxalis* plants, for example, grow wild in the Far East, and are often considered weeds in this part of the world. They will survive short periods of time underwater after germination, and the sprouts create the much desired pearling effect and vivid green which perfectly accents many styles of aquascaping we see today. This is why unscrupulous traders in the Far East often sell them under the disguise of "*Magic Carpet Seeds*".

One article regarding this issue further mentions that seeds from the *Oxalis* and *Ocimum* family are often used in beauty face masks due to the sticky-moisturizing substance they naturally produce when wet – perhaps more appropriately (*see photo*). The seeds are infused into a cotton wool mask which can quickly turn into what you see in the photo by keeping the mask moist for a few days.



Hopefully this provides some insight for you into these "*Not So Magic Carpet Seeds*". There are currently no easy answers to create an "instant carpet" in aquascaping. Consider investing your money in quality plants from a reputable supplier instead of these cheap seeds.

#### References:

Hua, Y.P. ("Ripple") "The Truth About Carpet Seeds" Freelance Aquascaper, London, UK (2017)

Wang, 水族 | 揭秘“水草种子”骗局！ (Secret "Aquatic Seed" Deception – Source article in Chinese), People's Republic of China

[http://www.360doc.com/content/16/0813/16/25450201\\_582969320.shtml](http://www.360doc.com/content/16/0813/16/25450201_582969320.shtml)

2016-08-13



Ask Larry Lobster at [scaaseditor@yahoo.com](mailto:scaaseditor@yahoo.com)

## Horticulturalist & Breeder Award Programmes & Reports:

**The HAP (Horticulturist Award Program) and BAP (Breeders Award Program)** allow members to collect points at different levels. Not only does this give the participant a goal to strive for, but it allows them to learn along the way. This knowledge can then be shared with other members and even club members. Please consult the BAP or AHAP Chairs for related information and forms may be found at:

<http://www.scaas.info/forms.html>

(\***NOTE:** Any BAP & AHAP Reports for submission to the Newsletter Editor must be emailed 30 days in advance of the next meeting to meet press deadlines or they may be carried over. Reports will qualify as articles for the article rewards programme if they are 600 words or more with a photo).

### **BAP AWARDS:**

No Awards to Report for March

### **OAA AWARDS:**

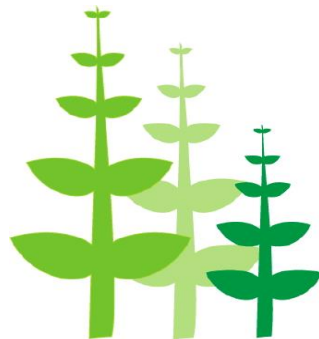
Tom Hillier *Macrobrachium hendersoni* (Red Claw Shrimp) ..... 5 pts

***Congratulations to Tom Hillier on behalf of Tom Bridges, BAP & OAA Chair and the St. Catharines and Area Aquarium Society Council and Members!***

***OAA stands for Other Aquatic Animals*** (mainly invertebrates, but includes vertebrates such as aquatic frogs). \* Please Note: The points may change as we find out more regarding degrees of breeding difficulty. Appropriate certificate forms are available from the OAA Chairperson, Tom Bridges.

### **AHAP AWARDS:**

No Awards To Report for March - Ryan Koch, AHAP Chairperson.



BREEDER'S REPORT: "*Macrobrachium hendersoni*" (Red Claw Shrimp)



*"Macrobrachium hendersoni"* is a species of palemonid shrimp variously referred to as Red Clawed Shrimp, Macro or Freshwater prawn. The name *Macrobrachium* means "big arm" and most of the *Macrobrachium* genus of freshwater shrimps, especially males, are in fact characterised by the extreme enlargement of the claws (called *cheipods*). In the wild, this species is plentiful in rivers from northeastern India, Myanmar and Yunnan province (China). These shrimp are territorial although males normally tolerate the females. A larger tank would be necessary for several mature males. Mine are kept in a heavily planted tank with lots of caves as they are not terribly destructive to vegetation and suitable for planted tanks. Do not use CO2 injection, however, as the carbolic acid created by dissolved CO2 will erode their calcium rich carapaces in the planted tank environment. As a rule, they prefer well-oxygenated water. The plants I use are cryptocoryne ssp, java fern *Staurogyne repens*, *Helanthium "quadricotatus"*, Anubias, and Hornwort amongst others. The eggs in this species are green-coloured and are roughly 1mm in diameter. I keep the population down by housing them in a 25 gallon tank. They will eat the juveniles when they can catch them so only some will grow to maturity. Red Clawed Shrimp will eat just about anything including snails, meat, plant-matter and also will accept frozen forms of food. They are particularly beneficial to the aquarist as they will eat string and hair algae. These are easy to keep and well suited to life in the aquarium.

**By Breeder's Award Participant: Tom Hillier**



**NEW! PARTICIPATE IN THE NEWSLETTER FOR A CHANCE TO WIN A REWARD THIS YEAR!** Members may write articles about their tanks, and subjects relating to aquaria. Tell us about a wide range of your experiences from building your fish room to how you are planning to set up your shrimp tank. We haven't had any articles on shrimp yet and they are popular. Do you own a different fish? What are they like and what type of tank mates do you keep with them? What new creative ideas have you tried in your tank or pond for design? We'd like to hear about it. The Newsletter will accept articles from veteran members and new members of all levels and ages. Please don't worry too much about your writing style, grammar and spelling as the newsletter staff can edit. We request kindly that you include more information rather than less in writing your article as it is easier for editing purposes. To gauge article length, your article or report should be about 600 words long with one photo when submitted in order to qualify for the **Special Articles Rewards Programme**. Smaller articles, reports (less than 600 words) and Aquarium-side chat submissions will qualify for a **secondary reward**. Submissions by email are welcome or if you wish to submit a written article by hand in a meeting that is fine too – priority is given to SCAAS members and to topics that have not been recently covered. Not all submissions will be printed in the month they are submitted. The editor reserves the right to edit your submission for length, spelling, grammar, supplementary content and/or clarity. Images submitted by contributors and any extraneous copyright matters are the responsibility of the submitter and not SCAAS. **Please contact the editor if you have any questions or would like suggestions or feedback on possible article topics. Please submit your articles to me, Dave, at the email address below:**

[scaaseditor@yahoo.com](mailto:scaaseditor@yahoo.com)





## Where and When We Meet

- The St. Catharines and Area Aquarium Society (S.C.A.A.S) meets the first Monday of the month at the Seafarers' and Teamsters' Union Hall, 70 St. David's Rd. E., Thorold, ON. If the 1<sup>st</sup> Monday falls on a holiday, we meet the following Monday (no meetings in July & August).
- The Society is a non-profit educational organization, dedicated to bringing hobbyists of tropical fish and aquatic plants together who are interested in breeding, raising, showing and/or learning more about aquaria, both at the beginner and more advanced levels. Members benefit from lectures, power point presentations, hands-on demonstrations, outings, shared advice, newsletters and monthly auctions. The club has a social aspect and visitors are welcome.
- S.C.A.A.S. is a charter member of the Canadian Association of Aquarium Clubs Inc. (C.A.O.A.C.; [www.caoac.ca](http://www.caoac.ca)) and of the Federation of American Aquarium Societies, (F.A.A.S.; [www.faas.info](http://www.faas.info))
- S.C.A.A.S. does not endorse any products, services or guarantee items sold at auction.
- More news and information about S.C.A.A.S. can be found online at [www.scaas.info](http://www.scaas.info)



*Our membership consists of adults, children and teens. Many are experienced and have been keeping fish for years, and others are just getting started. People of all ages and levels are always welcome. Meet and learn from those who share your interests! Participate in the auctions; find quality, affordable fish and plants. Qualify for store discounts. Speak to our Membership Chair about joining.*



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At some auctions, there are a lot of leaky bags. HERE ARE SOME SUGGESTIONS:

PLEASE KNOT YOUR BAGS, OR USE ELASTIC BANDS.

ABSOLUTELY NO ZIP LOCK BAGS OR METAL TIES OF ANY KIND, EVEN FOR PLANTS.

DOUBLE-BAG FISH THAT ARE PRONE TO PIERCING THE BAG.

DON'T USE STICKY TAPE TO CONNECT TWO BAGS (i.e. a pair of fish), TIE THEM TOGETHER AT THE TOP OR PUT THEM BOTH INTO A LARGER CLEAR BAG.

To prevent almost certain deaths because of a too small bag - USE A BAG THAT'S APPROPRIATE TO THE SIZE OF THE FISH, **ALWAYS WITH 1/3 water and 2/3 air space in each bag.**

\*BAGS ARE FOR SALE REASONABLY AT THE SIGN-IN DESK AT EACH MEETING

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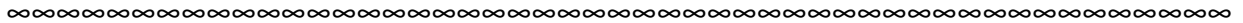
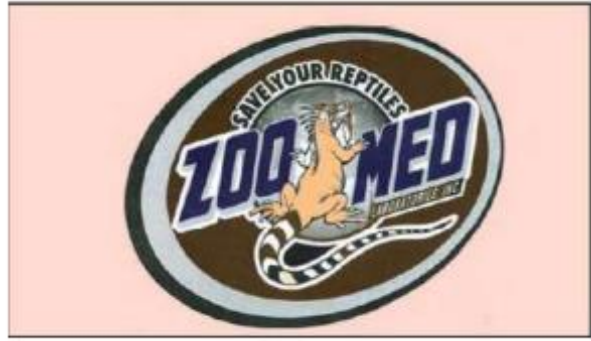
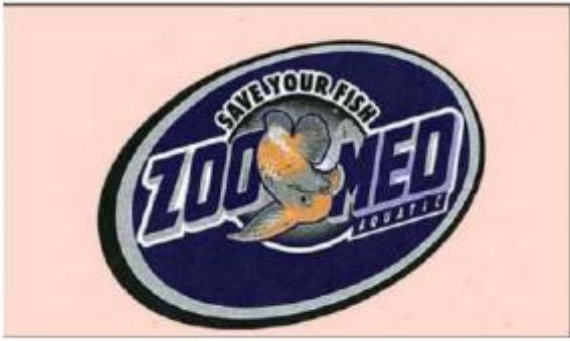
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