

The Fishmonger

Reminders:

Our next club meeting is Wed February 6th, 7:30pm, at the Vancouver Aquarium Marine Science Centre in Stanley Park.

Our meeting will be in the Marilyn Blusson Learning Centre. We'll meet at the door at 7:15 and the meeting will start at 7:30.

Please mark all your auction items clearly with your membership number. Those not marked cannot be auctioned.

Only paid up members will be able to participate in the auction. If you have not renewed your membership for 2008, please do so. Renewal forms are included on page 8.

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The official newsletter of the VAHC

www.fishopolis.com/vahc

Volume 8, Issue 1

Happy New Year from the VAHC!

2008 is here and it promises to be a good one for the VAHC. We're always looking for volunteers to help out where they can with club activities. For more info introduce yourself to a steering committee member at the next meeting or drop me a line.

As most of you know the club supports project PIABA, encouraging environmentally sustainable fish harvesting practices in the Amazon rainforest (the lungs of the world). Most of our auction proceeds go to this cause and last year we donated a record \$4000 to PIABA. I think we should all be very proud of this.

I'd like to hear from member's about their fish related New Year's Resolutions. Are you planning on breeding something new,

adding a new tank (maybe a planted one with CO₂) or finally trying a salt water tank?

For 2008 we're going to continue with shorter Fishmonger's on a monthly basis and we'll mix in a few longer ones packed full of fresh articles written by our members (hint hint).

We're still doing the "Write to Win" promotion so please send you articles, photos, etc. to me at editor@fishopolos.com or to Patrick at ptamkee@hotmail.com. Details on the next "Write to Win" prize are in the December 2007 Fishmonger.

Have you renewed your membership for 2008 yet? A renewal form is attached at the end of this newsletter or you can sign up at the February 6th meeting.

Ever wondered how to fix a leaky or broken tank? Our February 6th club meeting will feature a tank repair clinic. We'll also be having our regular Q&A session, and our monthly mini-auction of plants and fish.

This edition of the Fishmonger features a couple of original articles by VAHC club members. Thanks to everyone who took the time to write something for the newsletter in 2007 and I look forward to an inbox full of new articles in 2008.

I look forward to seeing you at the meeting in February.

Ron Guenther

editor@fishopolis.com

Looking for more information on the VAHC?

Remember to check out the VAHC website @ www.fishopolis.com/vahc for the latest club news & events as well as Fishmonger archives and all kinds of other useful information. If you have any questions about this newsletter, please mail Ron at editor@fishmonger.com

December Meeting: Q&A Recap

By Bart Van Dijk (an original article for the VAHC newsletter)

Question and Answer December

The discussion at our December Question and Answer period was as usual a very lively one and we covered many aspects of a well managed aquarium. Once again the always returning problem is, algae and how to control them or at least learn how to live with them.

The main approach seems to be : make conditions such that algae simply can not grow. And here we go again, right back into all the different cycles, which are happening in all of life and thus in our tanks.

All animal food is, as a first step grown as plants. Plants charge up carbon dioxide and water by combining them to make sugars and by combining carbon dioxide with water and nitrogen to make proteins using lots and lots of sun energy. You could call it "un-burning" the carbon and sure enough lots of oxygen comes free.

Animals then use this sun energy, by breaking these large molecules apart, using oxygen to "burn" them and the cycle is almost complete.

Almost, because the sugars readily burn down to carbon dioxide and water, but the proteins only partially burn down to carbon dioxide, water but the nitrogen remains attached to hydrogen and we thus have a lot of ammonia to content with.

This ammonia is highly toxic to fish and we are forced to set up a further breakdown facility to get rid of it. Fortunately ammonia still contains quite a bit of the original sun energy and two different groups of bacteria are only too happy to use this energy.

The first group breaks it down to nitrites and the next group down to nitrates

and all they need is the ammonia and a large surface, where they can attach themselves (it does not have to be flat e.g. all the sides of

lots of grains of sand or an open sponge will do fine.)

So for fish the cycle is "Food and Oxygen" In, "Carbon dioxide and Nitrate "Out. Hey!, are these not the main ingredients plants need to grow? Here comes our planted aquarium and all our problems are solved, yes! it works good but as per usual not quite all the way.

The fish breath out carbon dioxide and it straight away combines with water and forms an acid and the pH of the water rapidly gets lower and lower (the fish basically tend to pickle themselves). Hey, don't the plants use this carbon dioxide? Yes, but only when they have light and enough of it (as a matter of fact during the night they breath out some carbon dioxide.)

We now have to get rid of this by mechanically stirring our water, so the gas can escape through our (clean) water surface and/or set up a buffer, something like a battery, which will take in the gas, when there is too much and release it again, when there is too little. Natures buffer, for instance the one that tightly controls the pH of our bloodstream is the solution of Carbonic acid and its salt group the Bicarbonates. Hey, we already have the acid and so we only have to add the bicarbonate.

It is a very good buffer, but plants will do almost anything to get their hands on carbon and if there is not enough coming in through our clean water surface our buffer is soon depleted. So we have to steadily resupply it. If we now supply it as baking soda the plants use the carbonate and the sodium stays behind, making our water saltier and saltier.

The other commonly used option is to make sure there is enough carbon dioxide by piping in the gas. The cost of a full proof

system using pH probes and computer controlled valves can easily run into the \$3000.- and up range. So almost everybody tries to use the gas from a very small home-brew, usually in one or more Pepsi bottles. This works so-so at best, but also has many pitfalls. For instance the most common one is: all the fish killed by the brew winding up in the water (the cat tipped over the bottle). And you don't want any gas at night, for even the plants exhale it as soon as the lights go out : you could control this with a three way switch controlled by your light timer, but anyway you try, the whole set up needs lots of attention and most people abandon it after a while.

In comes Potassium bicarbonate, it supplies the carbonate and the potassium is good fertilizer for the plants, so all of it gets used up . I have been using this for about two years and only now start finding some problems, and only, because I am now at the age where control of your blood pressure is critical. Guess what! blood pressure is mainly controlled by the amount of sodium in your diet, so people have switched to potassium and problems have now come up with: too much potassium, not enough sodium, not enough potassium, too much sodium and many combinations there of.

What does it do to our fish? So if you do switch. I would suggest to always make many small additions. Everyday is the easiest and I find a number of eye droppers full of a saturated solution is the way to go.

And last but not least there is that very, very small quantity of iron, that by not being there, manages to make all plant growth come to a complete halt. You can start with some laterite clay under your gravel, a lava rock as decoration or buy and add small quantities of all trace elements.

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December Meeting: Q&A Recap (continued)

But add a little too much and here come the algae, so again a strict regime is required.

I have been fooling around with small length of raw iron chain in (coffee filter) plant pots

to supply the iron and at the same time hold the plants down .Started off with eight links of chain, got lots of algae , sawed the chains in half, still lots of algae, sawed them in half again and am now down to one split link hooked around the roots. You should see

my anubias plants, but I am still fighting some algae.

See you Wednesday

Club Notices

- Thanks to everyone who came out to the December meeting and participated in our gift exchange.
- Our next meeting is Wednesday February 6th. We'll have a presentation, a Q&A session and our usual mini-auction of plants and fish.
- 2008 memberships are now on sale for \$20. Membership renewal / signup forms are on page 8.
- We're still looking for original content for the Fishmonger. Email your articles to Patrick (ptamkee@hotmail.com) and he'll enter you in the Write to Win contest.. The next prize draw will be in mid-20078. Check the December 2007 Fishmonger for all the details.
- New members are always welcome. Should you know anyone who is a keen hobbyist, or someone just starting in the hobby, bring them along to the next meeting.
- Looking for an article from a previous Fishmonger? 2003-2008 editions of the Fishmonger are now archived and indexed in Adobe PDF format on the club website. You can download them to add to your collection at: http://www.fishopolis.com/vahc/newsletter_archive.cfm

Committee Minutes

The VAHC Steering Committee meets most months, on the Tuesday following the club meeting. We get together at members homes to talk about club business and see what the host has going on in their aquariums.

Our next steering meeting will be in February. Check the website for details or ask a member of the steering committee at the next meeting. The meeting usually starts at 7:30 so if you are a club member and are interested in helping out with the club, be sure to come out. Some of the topics on the agenda include:

- Year end Finances & Piaba Donation
- 2008 VAHC Calendar of Events / upcoming speakers
- Club membership benefits for 2008

For more info email Bart van Dijk at "anneandbart@aol.com".

A Daphnia Experiment—Part I

By Timothy Chu (an original article for the VAHC newsletter)

Daphnia experiment

Daphnia are a great source of food for fish, who can't resist their jellyfish-like spasmodic movement. Their swim patterns call out "look at me, I can't swim fast. Why aren't you eating me yet?"

I've kept daphnia and scuds a number of years, but have only been achieving some level of success with them in the last year or so. I found that they were most successful in two large containers (3 litre) that contained detritus at the bottom, and had fairly large mouths. My water bottle cultures failed to maintain the populations for extended periods of time.

It would be great to be able to find out the best growing conditions for this easy-to-maintain source of fish food.

First, I had to decide what to measure. I have daphnia (*Ceriodaphnia dubia*) and scuds (*Amphipoda Gammaridae*) (scientific names are my best guess at the species—they may be something different).

I also have a bit of an algae problem in some of cultures that isn't present in others.

Measures:

- Daphnia
- Scuds
- Hair algae
- Blue green algae

I decided to measure the daphnia first. I didn't have the number of containers to test all possible combinations of the above.

The possible variables I wanted to test:

Presence of scuds:

I know that they're potentially predatory,

so they may reduce daphnia numbers

Presence of algae:

Maybe the algae provides some kind of nutrients. Best case scenario is if the daphnia somehow reduces the algae.

Type of container used:

I have 750g yogurt containers and empty water bottles. I do have larger containers that are not part of the experiment, but are for merely maintaining my populations.

Detritus :

It may provide infusoria for the daphnia

Water level. :

One water bottle was nearly full, which would limit the dissolved oxygen in the water. I read somewhere that daphnia require much oxygen.

Presence of a ramshorn snail:

I read that infusoria from ramshorn castings can help daphnia growth.

Water bottle colour:

All bottles except one are clear.

I do have a blue tinted water bottle, which might limit algae green

water production.

Presence of duckweed:

I predict this reduces daphnia populations, as the cover reduces oxygen in the water by reducing surface area. Being a floating plant, I'm guessing it's releasing airborne oxygen rather than dissolved oxygen.

The setup:

I collect a high concentration of daphnia from my source, then mix them into a few

separate bottles. I thoroughly mix them to promote uniform distribution. Of course, there are no guarantees on uniformness, and the daphnia do congregate to the bottom of the containers as the water gets agitated. I add about 10 cm (1/4 bottle) of daphnia culture to each container as a base. I add the different variables. I place all the bottles/containers on my east facing window sill with indirect (but bright) sunlight in the morning to promote the growth of green water and infusoria. I intentionally didn't put any green water in them. I figure it'd be easier to measure which environments could maintain their populations rather than measuring which environments could improve their populations. The bottles are not 100% identical in shape. They come from different manufacturers of water bottles. Also, some did start with more algae growth on the sides of the bottle than others. Others had some rather clingy snails in them that refused to be shaken out when I started the experiment. In other words, I didn't bother to keep my controls 100% identical.

The bottles that I have at the end are:

- Control bottle: Daphnia only.
- Daphnia and a ramshorn snail (and some soft, non hair non blue green algae on the sides of the container for the snail to munch on)
- Daphnia and scuds
- Daphnia and detritus
- Daphnia bottle with about twice the amount of water, but because the bottle was smaller, the water level almost reached the top blue tinted bottle of daphnia

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A Daphnia Experiment—Part I (continued)

- Control yogurt container with daphnia only
 - Yogurt container with a cover of duckweed and daphnia
 - Yogurt container with javamoss and blue green algae
 - Uncontrolled bottle where I just threw everything in—a few bodies of crane flies, deposited by a spider experiment I did a few days earlier, about 30 scuds, green water, a ramshorn snail, and of course daphnia. I really don't know what's going to happen in this one.
- I'll wait two weeks and rank the culture size by eyeballing their density. I couldn't be bothered to count them at the start, and I don't think I'll be bothered by counting them at the end.
- (Stay tuned for the results...)



For Sale / Wanted

Patrick has a bunch of equipment, livestock, and more for sale. For more information, please contact him at ptamkee@hotmail.com or visit his website at www.canadianaquatics.com

The Fishmonger is looking for articles! Send them to me (editor@fishopolis.com) or Patrick and get entered in the next *Write to Win* draw. Check the website or the December 2007 Fishmonger for details.

Reminders:

- Email the editor @ editor@fishopolis.com or Patrick at ptamkee@hotmail.com to get your listings in the next Fishmonger.
- Copies of all old Fishmongers are available online at: http://localhost/vahc/newsletter_archive.cfm

2007 Monster Aquatic Auction Recap

By Dave Carlson and friends... (an original article for the VAHC newsletter)

Auctioneers Comments:

This years Monster Auction lived up to its name. There was a great selection of fish, plants, equipment and even a six foot long aquarium, stand and canopy. We had a good variety of killie fish, cichlids, tetras, catfish, plecostomus, and African cichlids. A big thank you to the sellers for bringing the variety of items and I'd also like to thank those who brought the African Cichlids to test my pronunciation, I'm getting better and perhaps I'll get them right next year.



Once again I'd like to thank Hagen for sponsoring the event. They covered all the expenses for the event as well as donating enough items to ensure everyone went home with something. This enables us to send a larger donation to Project Piaba.



We also had donations from King Ed Pet Center, Tropical Fish Hobbyist, Bow Tie, Pets Beautiful, and canadianaquariumconnections.com

We had lots of volunteers this year; I'd like to thank everyone who helped out throughout the day. There are a few people I'd like to thank for really helping out. Pat for entering the data in the computer, Mike for assisting with the auctioneering, Jeff for cooking up all the hot dogs, and Tim, Ron and Rick for running the items to the winning bidders.



This year we had volunteers check all the items brought in to the auction, make sure everything was labeled correctly and place them on the tables. This worked well and I think we will have this at next year's auction as well. The hot dogs which were a big hit, this will be a regular feature.



We had a great turnout this year, thanks to all that attended and see you next year.

Dave



2007 Monster Aquatic Auction Recap (continued)

Stats for this year:

- Total of 84 buyers
- Total of 42 sellers
- 677 items were auctioned
- 169 items were donated with all proceeds going to project PIABA
- #96 made (for Piaba which included Shirts and carvings only) is \$485
- #99 made (piaba donations) is \$738
- The buyer who spent the most was #50 at \$613
- The seller who sold the most was #207 at \$660
- The most expensive item sold was the large multi-tank setup for \$470 (sold to buyer #50)

Here are pictures of some of our raffle and prize winners:



VAHC 2008 Membership Application

New Membership: _____ Existing Membership Number: _____

First Name: _____ Last Name: _____

Postal Address: _____

City: _____ Province: _____ Postal Code: _____

Contact Number: _____ Email Address: _____

Individual Membership (\$20.00) Family Membership (\$25.00)

Additional Names (Family Membership Only): _____

My main areas of interest are:

As a club member you are expected to assist with the planning, organizing and running of club activities. I would like to assist with (Check all that are applicable):-

- Monthly Auctions Annual Auctions
- Write an article for the Fishmonger Printing and distribution of the Fishmonger
- Chair a monthly meeting Co-ordinate club membership
- Guest Speaker co-ordination Co-ordinate with fish stores
- Organizing Summer Social Event Let me know what I can do to help
- Other (please specify) _____

YES - I agree to the sharing of my telephone and email address with other club members.

NO - Please do not give out any of my personal details.

(Please circle your response)

Signed: _____ Date: _____

Please submit your payment (Cheques payable to VAHC) to: Rick Ott, 2761 Pilot Drive, Coquitlam, BC V3C 3T6