

MASWA Newsletter

(March 2000)

ATTENTION: This month's MASWA meeting is **Wednesday** 29th March. Check your calendar, because it could be today!!!

This Month's Meeting

The meeting will be held at Jan Anderson's house. Jan set up his tank not so long ago and has just got it to the point where he feels reasonably happy with it. Jan has never shown his tank before, so this will be the first time he has hosted a MASWA meeting. The address is 50 Lafayette Boulevard, Bibra Lake. The meeting will begin at 7.30pm.

Last Month's Meeting

February's MASWA meeting was held at Grant Magill's house in Forrestfield. Every meeting at Grant's place finds something new and interesting in his tank. This time Grant had two or three colonies of large hydroids. No-one had seen hydroids that large before (approx 5mm diameter polyps) and they were amazing to watch. Grant also had a small unidentified goby in his tank. It had come in with his live rock...the rock was dry when Grant had bought it. That's one hardy goby!

David Bloch gave a presentation on skimmer design. Qualities to look for in a good skimmer were explained. David's presentation will definitely help all those at the meeting to make an informed decision when faced with choosing a skimmer from the various models that are available these days.

Hydroids...briefly

Before we get everyone asking what a Hydroid is, here are some brief details:

Hydroids are a member of the phylum *cnidaria* (~15,000 species including corals, anemones and jellyfish). They are further categorised under the class *hydrozoa* (~10,000 species including fire corals and *siphonophorans*, eg, the genus *Physalia* (such as the Portugese Man-of-War or Blue Bottle)) and are further classified under the order *hydroida*. Hydroids tend to have prominent polyps which are usually less than 2 mm in diameter and 5cm in height. Most species form colonies and grow in encrusting, turf-like mats. The order also tends to reproduce via a medusa or "jellyfish" stage. These "jellyfish" are usually what hobbyists are referring to when they say they've seen jellyfish spontaneously appear in their aquarium.

Membership Dues

MASWA membership donations are past due! Unfortunately, those who haven't paid will not be receiving the newsletter any more, so if you know any of them and they complain about not receiving it, please let them know why.

Raffle Time

Last meeting

Four main prizes were up for grabs at the January meeting; a 250mL Seachem Reef Complete (\$15.70*), a 250mL Seachem Matrix Carbon (\$14.42*), a 250mL Seachem SeaGel (\$13.30*) and a 68g Nutrafin Max Marine Complete fish food (\$9.73*). Grant Magill also donated some corallimorphs from his tank as a fifth prize selection. Corallimorphs are typically sold at aquarium stores for something like \$9 per polyp these days!

Grant's ticket was the first pulled out and he chose the Reef Complete. Jan was second place getter and he chose the corallimorphs donated by Grant. Sean took the Matrix Carbon as third-place prize, Nathan chose the SeaGel for fourth place and David took the remaining prize of the fish food.

This meeting

This month's prizes will be a 115mL bottle of "Kent Zoe Marine" vitamin and mineral supplement for food (\$21.26*), a 250mL bottle of "Seachem Reef Calcium" calcium restoration (\$16.14*), a 250g jar of "Kent Marine Superbuffer dKH" buffer and KH builder (\$15.29*) and a "Kent Pro.Scraper1" algae scraper (\$12.12*). A \$2 raffle ticket puts you in the draw to pick one of 4 prizes with a total value of nearly \$65!

(* Prices in brackets are Reefs Downunder retail prices. Due to Reefs Downunder's low retail pricing policy, they are probably not representative of prices in other stores. All main prizes were supplied to the society at cost-price by Reefs Downunder.)

This Month's Presentation

Nathan Cope will be giving a demonstration of the different tools available for removing algae from glass. Tools demonstrated will include the new Kent Pro.Scrapers and the Tunze Algae magnets. Hopefully Jan has left some algae on his aquarium glass for the demonstration.

Sand Beds: Good, Bad or Indifferent?

By Nathan Cope

Despite the length of time that sand beds have been used in the marine aquarium hobby, there is still some contention over whether they have a place in a marine aquarium or not. There are people who think that a sand bed will cause endless pollution problems and those that believe that a sand bed is the answer to all their problems. How could there be two radically opposing views for the one medium?

To the new hobbyist attempting to research all he can about the best way to set up a marine aquarium, this is a particularly relevant question and one that draws a lot of emotional responses from your typical local aquarium shop (LFS). Occasionally it is possible to find a knowledgeable LFS staff member who will tell you that there are characteristics both for and against sand beds and the reasons why one method is suitable over another in different situations.

From personal experience, I know that LFS staff members such as those described above are so rare as to be almost considered mythical. Therefore, to stop the hobbyist having to set out in search of this hobby's version of the Holy Grail, I'm going to attempt to explain the subject myself.

What is sand?

Technically, sand is a group of unconsolidated sediments with a grain size between 0.063 mm and 2mm in diameter. A geological breakdown of sediments appears in the following table:

Grain Size (mm)	Sediment Type	Sediment Group
> 256	Boulder	Gravel
64 – 256	Cobble	
4 – 64	Pebble	
2 – 4	Granule	
1 – 2	Coarse sand	Sand
0.500 – 0.990	Sand	
0.250 – 0.499	Medium sand	
0.125 – 0.249	Fine sand	

0.063 – 0.124	Very fine sand	
0.008 – 0.062	Silt	Mud
< 0.008	Clay	

In the marine environments we are concerned with, the bulk of the sand found there is typically made up of either one of two elements; silicon or calcium.

Siliceous Sand

Siliceous sand is mostly silica (SiO₂ – silicon dioxide). There is some debate over whether there are any inherent problems with using silica sand as a substrate. Silicate (SiO₄) and silicic acid (H₂SiO₃) are silicon-based compounds that are also nutrients for diatoms. Diatoms are the protozoa that form golden-brown films on aquarium surfaces, particularly the glass. Silicate and silicic acid must be dissolved in the water for diatoms to be able to utilise them but silica sand typically does not readily dissolve and therefore should not be a contributor to dissolved silicate and silicic acid levels. Biogenic opal is apparently a relatively soluble form of silicon dioxide, though, and it may be found in silica sands. If it is present in large proportions in silica sand, it may produce silicate or silicic acid and therefore boost diatom growth.

Diatom growth is the only potential problem likely to result from silica sand, but not everyone views diatoms as a problem. In my aquarium, a lot of silicate and silicic acid is introduced through my top-up water and I get a strong enough growth of diatoms on my glass, that I need to clean it once a week or I have difficulty seeing through it. I often leave the diatoms on the glass though because they are an important food item for some animals found in our aquariums. Silicon is an important component of the radula (rasping “tongue”) of herbivorous snails, such as Trochus and Abalone. One end of the radula slowly wears out through use and consequently the other end is continuously growing to make up for that wear. If herbivorous snails don’t have access to diatoms, their radula does not properly grow and eventually the snails die due to starvation. About half of the sponge species found in the oceans use silicon for building their skeletal spicules and without silicate in the water, they will not live long, either.

Calcareous Sand

Around tropical reefs, the substrate is usually calcium-based as it is typically formed from eroded coral skeletons and mollusc shells. Calcareous sand is usually calcium carbonate (CaCO₃) in the crystalline form of calcite, but may also be in the crystalline form of aragonite. Another calcareous compound that you may hear mentioned is dolomite (CaMg(CO₃)₂ – calcium magnesium carbonate). Dolomite is not recommended because as it dissolves, the high magnesium component can increase the magnesium level in your aquarium water past the safe level. Magnesium is an important component of seawater, but high levels are used in the laboratory as a muscle relaxant for aquatic organisms and at a high enough level, will kill them.

The benefit of calcium sand is that it is quite soluble compared to silicon sand. Over time, it will slowly dissolve in an aquarium and therefore provide some buffering capacity, add calcium ions and perhaps even some trace elements to the water. The dissolution rate is likely to be too slow to rely upon the substrate as the sole source of calcium and buffer maintenance, though and supplementary measures such as “kalkwasser” are still necessary.

Upcoming Meetings

March 29th: Jan Anderson
50 Lafayette Boulevard
Bibra Lake
April 26th: **Darren Collins**
May 31st: Sid Harrison
June 28th: Tony Fiorentino

MASWA's World Wide Web address

<http://www.wantree.com.au/~conquest/andy/maswa/>

Newsletter and General Inquiries

to Nathan Cope E-mail address: copen@one.net.au
or phone on (08) 9367 9251 a/h or 0416 09 2000 b/h

Membership and Treasury Inquiries

to David Bloch E-mail address:
aquatech@opera.iinet.net.au
or phone on (08) 9375 2438 a/h

Friends in Common

Jan Anderson, David Bloch, Dennis Bozil, Darren Collins, Nathan Cope, Andy Dolphin, Tony Fiorentino, Jim & Gloria Fletcher, Paul Groves, Peter Harris, Mike Hudson, Frank Krause, Craig Lawrence, Grant Magill, Phil and Caron Melvin, Peter and Marina Olive, Steve Tofts, Greg Weryk, Rick White.

If you've paid your money and your name is not on this list, tell David! Members on the web should check they are on the web site members list.

If you've paid your money and your name is not on this list, tell Andy! Members on the web should check they are on the web site members list.

If there is anything you would like to know more about or anything you would like to add to the newsletter, call or send comments to the current editor, Nathan Cope. Remember, this is your newsletter.

MASWA Membership

Currently MASWA requests an annual \$20 donation from members, \$10 for Junior members. This covers the cost of newsletters, drinks, nibbles and other costs associated with the society. Members will receive information sheets and discounts on some products.

DISCLAIMER

The Marine Aquarists Society of WA is a name that we, as a group of friends with like interests have applied to ourselves for the purpose of information exchange. No one person, nor the group as a whole, can be held responsible for liabilities, injuries or other that may result either directly or indirectly as a result of our gatherings or the information exchange therein. The same applies to the information contained in this newsletter.