MASWA Newsletter

(May 2001)

ATTENTION: This months MASWA meeting is on Wednesday, **30th May**. Check your calendar, because it could be the day you receive this!!!

This Month's Meeting

By Nathan Cope (Secretary)

The meeting is to be held at **Frank Krause's** house. The meeting will be held at Frank Krause's house. Frank has had quite a few meetings at his house before. Frank's tank is known as the cleanest tank in town and has been for quite some time now…usually you won't even find a speck of algae growing on the silicon joints of the aquarium…these days he has competition from his son, Ben, as he has also set up his very own reef tank! This is a bonus for members because we all get to look at two great tanks in one night. Frank's and Ben's tanks have been running for quite some time now, so these are good ones for beginners to look at to see how to achieve long-lived success in this hobby. On the night, Frank and Ben will give a run down of just what it is they do to keep their tanks so clean
The address is **31 Blackwattle Parade, Padbury**. The meeting will begin at **7.30pm**.

Last Month's Meeting

By David "Speckles" Bloch (Treasurer)

Last month's meeting was at **Grant Magill's** place in Forrestfield. From memory this was the forth meeting we have had at Grants house (I could be wrong though – Tony's salinity, or is it senility? must be catching!). The turnout was very poor with only four members, including Grant, turning up. The weather wasn't the best however and it was also a public holiday (can't remember which one – senility again!) Once again I bumped my head (this may account for the senility) on Grant's lovely living room light! For anyone who has been to Grant's place before, you will know the one I am talking about! At least I only bumped my head once this time, because at the last meeting I smashed my head at least three or four times! Now to the tank…

Grant's tank was looking great although he was a bit SLACK with the cleaning and I noticed many patches of algae on the front glass… you might want to have a chat with Frank this month for some algae vaporisation techniques. Like most of us, Grant has battled many of the reef aquaria "enemies" such as algae blooms, fish incompatibility and problem anemones (he hit the jackpot at one point with a plague of both *Aiptasia* and *Anemonia* spp. at the same time) and has now got to the stage where he has almost conquered them all. All that's left are a bloom of *Caulerpa* sp. macroalge, that his tangs refuse to eat, and a few of those pesky plague anemones which are being taken care of by a longnose butterfly!

Grant's tank is a 4 x 2 x 2 glass tank. It is set up with live rock and a thick, healthy bed of live sand. Filtration consists of a Red Sea Berlin protein skimmer (run by an Eheim 1060) that it situated in the sump. Water is returned from the sump to the tank by two Quiet One external water pumps and additional water circulation within the tank is achieved by an Aquaclear 802 powerhead. Lighting consists of a single 250 Watt GE Kolorarc 6000 Kelvin Metal halide bulb and three 4' fluorescent tubes (two Actinic 03's and one Marine Glow).

In this aquarium Grant has about twelve fish: a Yellow Tang, a Brown Scopus Tang, a Long-nosed Butterfly, 2 x Black Ocellaris Clownfish (a pair), a Chromis, 2 x Black-spotted Cardinals (which are far more hideous than my Sail-fin Cardinalfish!), a Sleeper Goby (can't remember which species!), a Bi-colour Dottyback, a Brown Dragonette and an unidentified Goby that unbelievably came in on some live rock. There are also quite a few corals in this tank including Corallimorphs, *Anthelia*, *Sarcophyton*, *Goniopora* (the naughty boy!), *Sinularia* and *Duncanopsamia*. Grant also has numerous *Turbo* snails in his tank that actually breed quite often, plus some hermit crabs and a Coral Banded Shrimp.

Lastly, I must also mention how nice the party pies and sausage rolls were that Grant provided as snacks on the night. I think these may have to be a requirement for meetings in the future!

Desperate Request for Aiptasia!

By Nathan Cope

I'm sure all of us feel cursed when an *Aiptasia* sp. anemone shows up in our aquarium, but I've recently learnt of someone who actually wants hundreds of them! Tennille is currently doing an Honours Degree in Marine Science at Murdoch University and is examining the relationship between temperature and bleaching in Anthozoans. Anthozoans are the solitary and colonial, polyp-shaped cnidarians such as sea anemones, corals and sea fans. For her experimental study titled, *Adaptation and Acclimation in an Anthozoan Symbiosis*, she has chosen to use *Aiptasia* sp. anemones as they are easy to come by, generally hardy and readily multiply.

Not only does Tennille seem a little unique in actually wanting *Aiptasia*, but I reckon she's got another unique skill that we all wish we had – she managed to kill a few hundred *Aiptasia* in just one night with practically no effort! Unfortunately for Tennille, the deaths were due to some equipment malfunctioning and the recent loss is actually jeopardising her thesis. Consequently, she is now desperate for more *Aiptasia*.

If you have plenty of *Aiptasia*, maybe you can help her out. Tennille needs the *Aiptasia* to be easily removed from the tank. If they are growing on your glass, that is the best, because she can collect them with minimal damage to the animals (I was quite happy for her to remove around 200 of them from my overflow box). Tennille is also happy to take *Aiptasia*-covered rocks but only if you are happy to have them removed from your tank for the duration of the experiment. If you think you can help out Tennille, she would be very appreciative of you giving her a call during the day on **0411 55 6362** or at home on **9364 7771**.

Vitamin C for Your Herbivores

By Nathan Cope

Most hobbyists assume that the majority of the fish they keep are carnivores. In fact a great deal are omnivores and then there are the obvious species that are essentially totally herbivorous. Unfortunately for the omnivores and herbivores in our tanks, they are usually forced to adapt to a completely carnivorous diet. Even though most species don't seem to develop any obvious negative side effects from the unnatural diet, it is quite probable that at a minimum, their lives are shortened as a consequence. Faded colouration may also be linked to the lack of vegetable matter in the diet. For some species such as those in the Surgeonfish family, though, it is obvious that the lack of greens in the diet reduces the effectiveness of their immune systems and increases susceptibility to parasitism and infection - Surgeonfish aren't called "Ich (White Spot) Magnets" for nothing.

The lack of vegetable matter most likely effects the immune system through a deficiency of vitamin C. Herbivores can't synthesise vitamin C, and in nature don't need to because their natural diet has plenty of it. The ideal solution would be to grow macroalgae in our aquariums for the herbivores to munch on, but if you have enough of these animals, you will find this practically impossible as they seem to crop it off the rock before its growth ever really gets started.

A lot of us have turned to dried seaweeds such as Nori, in order to give the animals some vegetable matter in their diet but while this is better than nothing, unfortunately, the drying process destroys the majority of the vitamin C. Lettuce is another alternative, although it has practically no nutritional value and generally passes straight through the gut of herbivorous fish with little apparent digestion. This may be due to the notion (I don't know if this is true or not) that plants (as opposed to algae) have tough cell walls that are extremely difficult to break open in a herbivorous fish's gut. The solution has been to freeze or blanche (to plunge in boiling water) the lettuce before feeding it in order to burst the cell walls, but it is hard to separate the leaves of a frozen lettuce and blanching, as well as being messy, also removes vitamin C from the plant.

What is the answer? Well, I just happened to have a diet book, that listed foods high in each vitamin, so I thought I would look up what foods had the most vitamin C. There are plenty of fruits such as oranges, lemons and capsicum that are full of it, but I doubted that the fish would like the taste of citrus or if the anti-feedants in capsicum were safe for them. Besides, something with a roughly leafy-shape would be easiest for the fish to nibble on and probably be something they would easily adapt to taking from a "lettuce clip". I also needed something that was going to be easy to separate after freezing so that I could just thaw small bits at each feeding.

Out of all of the fruits and vegetables I looked at, broccoli turned out to be the most likely candidate for a leafy-shaped, easy freezing, a high vitamin C content food. But having worked in the “fresh” produce department of a major supermarket chain when I was a teenager, I can tell you that the fruit and vegetables there are often not particularly fresh. Vitamins begin to degrade in most fruit and vegetables as soon as they are harvested. Now consider what happens to a vegetable from the time it is harvested to the time you eat it: the vege’s are packed in crates, trucked to a wholesale market, sit on display until they are selected by the supermarket produce purchasers, then they are trucked to the supermarket and finally they may even be out on display at room temperature for a week or more before you buy them (most are stored in a cool-room at night, though). All this means low vitamin content by the time your so-called “fresh” produce is eaten.

Several recent studies of the vitamin content of frozen vegetables versus fresh vegetables have shown that frozen vegetables actually turn out to be more nutritious than their fresh counterparts. The reason for this is that freezing the food slows the vitamin degradation process. And luckily four us and our fish, frozen vege’s are usually snap-frozen very soon after harvest and therefore retain most of their vitamins until consumption.

The great thing about broccoli is that you can buy it in bags of snap-frozen florets. The florets are the perfect size to fit in a lettuce clip (and lets face it, just about all of us must have won at least one of these at the MASWA raffles) and it is very easy to separate individual florets from the rest of the contents of the bag when frozen.

I tried them out in my tank. After discovering that a full floret in a lettuce clip rubs against the glass which would make it impossible for the fish to get at half the floret, I cut the floret in half along the axis of the stalk and then put it back in the clip so that the cut side faces the glass.

My first surprise was that the tangs pounced on it immediately – I thought they may take a little time to get used to it, but no, they seemed to know exactly what it was and they were relishing it. My second surprise was that my damsels started eating the bits of broccoli that flew off in to the water as the tangs tore into the floret. I thought they may just be sampling an unfamiliar food and wouldn’t do it again, but they have continued to do this every time I put it in the aquarium. My third surprise was that my little male Fairy Wrasse actually went up to the broccoli and started yanking off bits and eating them! This was a shock as the popular hobby literature says these fish are exclusively micro-crustacean/polychaete predators.

While all my tangs have eaten Nori before (some take longer to get used to it than others), I have never seen any other fish, except for a blenny, respond to it at all. The fact that so many of my fish immediately started eating the broccoli, not only shows that this vegetable was a good choice, but that more of the fish that we keep probably require greens in their diet than we think.

So, why not do your fish a favour and try some frozen broccoli florets in your aquarium, too.

Upcoming Meetings

May 30th:	**Frank Krause**
	31 Blackwattle Parade, Padbury
June 27th:	David Bloch
July 25th:	Wayne Mothershaw
August 29th:	Darren Collins

MASWA's World Wide Web address
The website is temporarily offline.

Newsletter and General Inquiries
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MASWA Membership
Currently MASWA requests an annual $22 donation from adult members, $11 from 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.

Friends in Common
Jan Anderson, Lissa Beaufond, David Bloch, Darren & Raqual Collins, Nathan Cope, Andy Dolphin, Tony Fiorentino, Paul Groves, Sid Harrison, Robert Harwood, Simon Hawke, Frank & Ben Krause, David Lee, Grant Magill, Phil & Caron Melvin, Wayne Mothershaw, John Ryan, Phil Searle, Ronald Tan, Paul Tayler, Greg Weryk.
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 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.

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