



Marine Aquarium Society of the Carolinas



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An Update on Chad Bryant's 'Monster' Tank

BY KEITH STILES

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As many of you know, Chad Bryant, the owner of Reefscience (<http://www.reefscience.com/>), is installing a huge new tank that will house his growing personal reef aquarium. This article is the first in a series detailing the building of this new system. I am sure everyone will enjoy watching this system evolve over the next few quarters.

The tank is eight feet long, six feet wide, and thirty-two inches deep, or approximately 1,000 gallons. The aquarium is composed of Starphire® glass, the most optically clear glass available that is basically a crystal clear soda-lime glass that avoids the green tint of lesser grades of glass of any thickness. This tank weighs in at an amazing 2,500 pounds. The tank is braced by a glass perimeter and powder-coated steel cross braces. The stand is made of tubular steel with powder coating and has forklift slots. Did I say this is a 'monster' tank yet?

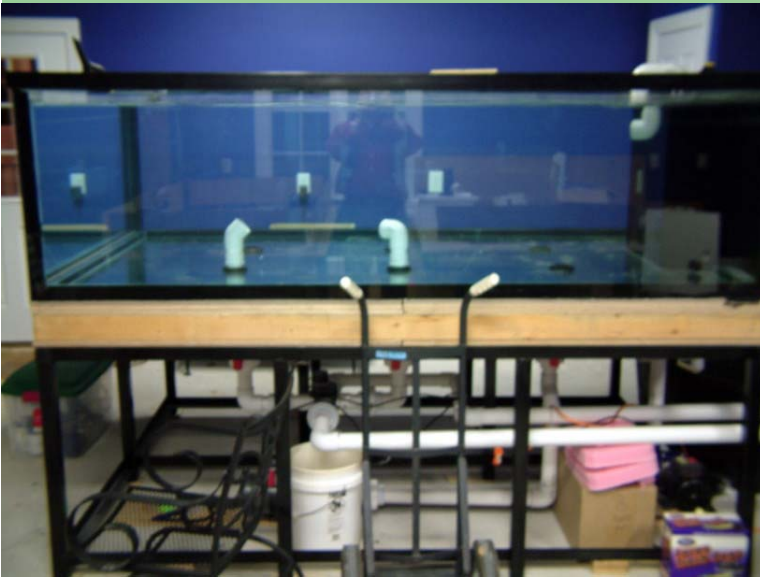
Currently, Chad plans to light this system with eight 400W Metal Halide bulbs. Water circulation will be provided by two Sequence® 4800 closed loop pumps with a Sequence® 3200 for main circulation. Sequence® pumps are manufactured by MDM Incorporated. To read more about these pumps, visit their website at: http://www.mdminc.com/Sequence_Pumps.htm. The closed loop uses two Ocean's Motions™ 4 Ways. The 4 Way comes with "a heavy duty motor and inlets and outlets of your choice, 2" in and 1.5" out or 1.5" in and 1" out." These devices are designed for use with four revolutions where the "water is sent to 3 outlets at the same time" while the center drum "prevents water from entering one of the outlets which in turn allows the 'next' revolution to index to a new position"

(<http://www.oceansmotions.com/>). With each revolution, the outlet changes to a different angle giving a constant changing wave pattern through the tank. Check out their website to see this state of the art device! Filtration will be provided by a Euro-Reef™ RC 1000. According to Euro-Reef™, the RC series of skimmers are "the premier line of protein skimmers in the aquarium industry" (<http://www.euro-reef.com/products-rcseries.shtml>).

Stay tuned for more details in future series on this tank. It will not only be a technological marvel, but knowing Chad, a living marvel as well! More pictures of the tank, stand, pumps, and plumbing follow on the next page. Enjoy your first look at this new reef system.



A Side View of Chad's New 1,000 Gallon Tank Displaying Multiple Water Returns.



A Side View of Chad's 1,000 Gallon Reef Tank Made of Starphire® glass.



One of the Sequence® pumps plumbed to an Ocean's Motions™ 4 Way Wave-Making Device.



The Powder-Coated Steel Braces Are Visible in This Picture of the Tank Along With a Clear View of the Water Turbulence at the Water's Surface.



An Impressive Display of Plumbing Runs Underneath the Tank (above). Another View of the Tank Taken from A Different Angle Showing a Different Aspect of the Water Returns (below).



***Watch for More Details
About Chad's New Tank
In the Second Quarter
Newsletter!***

Spotlight Species

The Yellow Tang (*Zebrasoma flavescens*)

BY SCOTT THOMAS

Other Common Names: Hawaiian Tang, Hawaiian Yellow Tang

Introduction

The Yellow Tang, also known as the Hawaiian Tang, is one of those fish whose owners often ask, “Why doesn’t everyone have one of these?” The striking yellow color almost seems to glow under the intense power of metal halide and actinic lighting. One of the first things that struck me when I first saw a Yellow Tang in person was how the skin of the Yellow Tang almost appeared to be completely smooth. This is because their scales are so small they are almost invisible, giving most tangs this ultra-smooth appearance.

Tank Parameters:

pH—8.0-8.4

Temp—72-78° F (22.2-25.6° C)

S.G.—1.020-1.025

Feeding—Herbivorous (see feeding section)

Maximum Size—8 inches

Safe for Reef Tanks

Can exhibit territorial aggression toward the same species as well as some other similarly-shaped tangs.

Their generally docile nature is welcome in nearly all marine aquaria. They do however become territorial in the presence of another single specimen of similar species. A Blue Tang might be okay in a tank with a Yellow Tang because of the longer body shape of the blue, but if you have a large enough tank to house many fish and plan on getting more than one of the same or similar shaped species, like a Purple Tang, be sure to get a number of them to prevent any one from establishing a territory. They are generally good with invertebrates and corals, although I have read of people having problems with them occasionally. But, I cannot attest to that because I have had no issues with mine.

One aspect of this fish that I found disappointing is that the species has not been successfully bred in captivity, so specimens in stores are all wild-caught. There have been reports of a few breeder successes in Hawaii, but these are only rumors, and even so, it may be a long time until this species can be purchased as captive-bred specimens.

Tangs, also known as surgeonfish, are/were called surgeons because of the two thin blade-like projections that run along the sides of their dorsal fins. Under stress or threat, they will use these to slash at the attacker, and sometimes even the unwary fishkeeper. These ‘scalpels’ are very sharp, and can inflict a pretty nasty cut, so bear that in mind



The Yellow Tang—*Zebrasoma flavescens*



The Sharp Scalpel of the Yellow Tang

the next time you decide to put your hands in your tank and wave them around.

Early on in my tank planning, I wanted to get a blue tang for that Finding Nemo tank that my 2-year old daughter could associate with, but friends recommended that I not. I was told that blues can be aggressive, can sometimes nip at corals, and get too big for my 90 gallon tank, so I chose the yellow begrudgingly.

I personally own the tang pictured in this article, and I would have to say that he quickly became my favorite fish. “Yellow Fish,” as my 2-year old calls him, always seems curious about whatever I am doing when I am around the tank, and follows

Spotlight Species—Cont.

me back and forth when I am cleaning. At times, I am even afraid that I am going to hit him with my Mag-Float when I am cleaning the glass because he gets so close to it.

Feeding

Books, magazines and internet searches will tell a potential Yellow Tang owner to get plenty of greens (lettuce, broccoli, spinach, etc.) and veggie-clip it to your tank. While this is all well and good in theory, sometimes it just does not work. My tang, in particular, seems to be afraid of things stuck to the side of the tank, and will avoid a veggie clip as though it were *Jaws*.

What to feed my tang became a topic of much discussion among my friends and me. Initially, I bought loads of red and green *gracilaria*, as well as *ulva*, from Florida Aqua Farms and kept it alive in my sump. The problem was that every time I tied it to a rock and dropped it in, my tang would eat a bit, leave, and then come back a little while later and eat a little bit more. Tangs tend to be grazers, you see. In the meantime, every snail in the triangle seemed to come over and take a seat at the tang's table. By the time I got home in the afternoon, I had an empty rock covered in snails, and a hungry-looking tang.

I devised several ways to limit or eliminate this, but none seemed effective. It seemed something akin to trying to keep the squirrels out of my bird feeder. (I swear that they have some ninja grandmaster teaching them how to defeat me.) At one point, I even suspended an algae-



A Yellow Tang Grazing on Algae in Scott's Reef Tank



Yellow Tangs Like Many Different Varieties of Algae and Each Specimen Will Prefer Something Different. Experimentation Is the Norm When Acclimating a New Tang to Your Tank.

covered rock in mid-water by some fishing line, which worked for a while, but got annoying when the rock came loose and fell to the bottom of the tank requiring me to slosh my hands down in the tank to retrieve it before the samurai snails pounced. And of course, it was not the most aesthetically pleasing thing to see a seaweed-covered rock hanging in your tank. I got frustrated because all the while, when I would feed my other fish frozen cubes that I had thawed in some tank water, my tang would go nuts eating mysis shrimp, brine shrimp and whatever else was in there. I started noticing how much money I was spending on feeding my snails, and how much micro algae they were not eating, so I decided to get some nori and stick with that for a while.

I ultimately started feeding my entire tank San Francisco Bay Brand™ 'Emerald Entrée' frozen cubes in the morning, and everyone seems happy and healthy. I do supplement the Yellow Fish's diet with some nori that I soak in a vitamin and lipid supplement in the afternoon, and he gobbles that up like he has not eaten in days. At one point, I even bought some dried seaweed at an Asian food store (the kind you sometimes see floating in your miso soup), and rehydrated that using a diluted vitamin solution. This was not a big hit with anyone but the snails, so I will stick with what works.

One thing of note about feeding is that tangs tend to be prolific grazers, which is why most every time you see them, they are in the LFS's live rock or coral tank. They can completely strip a tank of algae, so bear that in mind if your particular specimen does not care for the types of food that mine does.

Spotlight Species—Cont.

Tank Size

Since Yellow Tangs, like most members of this family, grow to be fairly large (up to around 8" long), a suitably large tank is necessary for the almost constant back and forth swimming that tangs tend to do. Whether it is just searching for food, or getting exercise as my wife likes to say, the Yellow Tang should be housed in a tank that will allow it room to grow. Recommendations range from 55 to 75 gallons as minimum tank sizes. As this species is not overly large like the blue tang (noted up to 14 inches in the wild), the tank size ultimately depends on the layout of the tank. If the tank is a 55 gallon with little rock and coral, this should be sufficient for a Yellow Tang, while even a 125 gallon that is packed tightly with every coral species imaginable and hundreds of pounds of live rock may be too small. When dealing with this species, use common sense, and you will be fine.

I have, however, seen message boards with hobbyists keeping tangs of various species in nano tanks, tanks that are usually smaller than 20 gallons. This shows extremely poor judgment, or shows that the hobbyist has been misinformed by an unscrupulous LFS or internet retailer. If you are planning on putting a tang in your tank, ask around. People will offer you all the advice you can stand.

If you do have a smaller tank with limited rock, be sure that you have provided some hiding places for this fish, as they become stressed without them, and can inflict those nasty wounds mentioned previously. They do retreat to the safety of the reef at night, so crevices in the rocks provide both a hiding place and a sleeping place.

Conclusion

Something else I enjoy about this fish, which may be more due to the other members involved, is the fact that Yellow Fish lets my blue neon goby and my skunk cleaner shrimp clean him. The first time I saw that, I was flabbergasted, but it's become a regular occurrence, and I really enjoy watching it.

While the Yellow Tang did not start out as being a favorite fish of mine, I would have to say



The Yellow Tang , a Bright, Graceful Beauty

that he has become the one fish that I must admit will be the one I will miss when his time is up, and he is gone. Perhaps I just got lucky with my individual specimen, but I would have to say that this has changed the way I look at my tank, and perhaps a Yellow Tang could do the same for others out there as well. I would also like to point out that from now on that any marine tank I set up will most likely have a Yellow Tang in it. If that does not say how much I like this fish, I do not know what else will.

Additional References of Interest

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A Review of Calfo & Fenner's Reef Invertebrates: An Essential Guide to Selection, Care and Compatibility

BY KEITH STILES

More and more books dedicated to reef aquarium keeping are helping reef aquarists gain a greater understanding of the livestock living in their tanks. Anthony Calfo and Robert Fenner's first volume in *The Natural Marine Aquarium Series* says that their aim is to support the hobbyist "in seeking out the best available, and most appropriate marine livestock for [their] study and enjoyment" (9). The authors indicate that the series aims "to detail strategies of natural aquarium husbandry for the modern aquarist that are closer to the wild, infinite

Title: Reef Invertebrates: An Essential Guide to Selection, Care and Compatibility.

Publishers: Reading Trees and Wet Web Media publications.

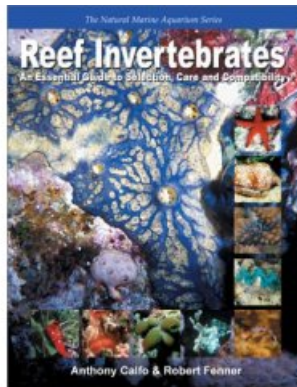
Copyright: 2003.

Type: Softcover Book.

ISBN: 0-9672630-3-4.

Price: Amazon.com (\$42.95)
Marine Depot (\$36.95)

Website: <http://www.ReadingTrees.com>



'techniques' that sustain reef invertebrates in natural microcosms" (8). This first volume in the series is dedicated to reef invertebrates and how to select and care for these often fragile creatures. The work also offers a wealth of information about what species are compatible with each other. And in keeping with their obvious love of the oceans' creatures, the authors point out the many species that most hobbyists simply do not have the means to sustain in captivity and encourage hobbyists to enjoy these most fragile species in pictures and books.

Calfo and Fenner are not unknowns to the world of reef aquarium keepers. Calfo is a lifelong aquarist and aquarium industry professional. For most of the last decade, he has worked as a commercial coral farmer. Calfo also authored the Book of Coral Propagation, Volume 1. He co-founded the Pittsburgh Marine Aquarist Society with Bob Dolan and provides content for the website, Wet Web Media (<http://wetwebmedia.com/>). Fenner is also well known to reef aquarists. He has worked nearly his entire life in the field of ornamental aquatics. He authored the books the Conscientious Marine Aquarist and A Fishwatcher's Guide to Salterwater Fishes of the World. Currently, he provides consulting and content provision "to the trade, sciences and hobby of aquaristics."

The book contains profuse information concerning reef invertebrates starting with the basic building blocks and moving on to specific species. The book is organized with seven major chapters with sub-chapters within the major divisions. These chapters and sub-chapters are: Living Filters (Live Rock, Live Sand, Defining Refugium Culture, Marine Plants and Algae), Selecting Reef Invertebrates, Reef Invertebrate Husbandry, Feeding Reef Invertebrates, Invertebrate Species and Family Overviews, and Ethos: Serving Life and the Living. The long chapter covering invertebrate species and family overviews

includes sub-chapters on Sponges (Phylum *Porifera*), Marine Worms (Feathers and Fans, Bristleworms, Flatworms, etc.), Mollusks (Gastropods and Polyplacophorids – Snails and Chitons, Nudibranchs – the Opisthobranchs or Sea Slugs, Clams, Scallops, Mussels and Oysters, the Giant Clams – sub-family *Tridacnidae*, and Octopus, Cuttlefish, Squid, and Nautilus – The Cephalopods), Arthropods (Stomatopods – Mantis Shrimp, Shrimp – Cleaners, Dancers, Harlequins, and Pistols, Crabs, Lobsters, and Crustacean Microfauna), Echinoderms (Holothuroids – Sea Cucumbers, Sea Apples, and Medusa "worms", Urchins and Sand Dollars, and Sea Stars – Asteroids, Ophiuroids, and Crinoids), and the Ascidians (Tunicates and Sea Squirts).

The chapters are filled with detailed information on each of the species covered and clearly indicate which species are best left in the sea. Also, the chapters covering refugium culture and marine plants and algae are particularly useful supplying the various strengths and weaknesses of the many types of marine algae for use in refugium culture. Additionally, the chapters dealing with the various invertebrate species are filled with

Book Review—Cont.

comprehensive information describing each creature and offering stunning photographic evidence of the beauty of marine invertebrates. Although a serious work on reef invertebrates, the authors' witty and sometimes out of the ordinary writing style makes this anything but a dry read. The authors evidence a thorough knowledge of reef aquarium husbandry and are obviously aware of and involved in the current state of reef-keeping. The accompanying bibliography offers a large quantity of resources for further reading by the conscientious hobbyist along with a host of web pages offering more detailed knowledge of topics covered in the work.

This book definitely deserves a place on the bookshelves of hobbyists who love reef invertebrates. I found it both a fascinating and enjoyable read as well as being quite educational. One minor concern is some proofreading and editing issues that could be corrected with a new release of the book. However, these minor issues do not damage the overall quality of the text and truly are a minor quibble on the reviewer's part. For those interested in the series, volume two will focus on reef fishes while volume three focuses on reef corals. The authors sum up our role as hobbyists well in concluding their book encouraging all of us to become ambassadors for the seas. They encourage us to show off our "systems to others, speak up regarding the enrichment the hobby brings you, and do consider how it is that you can add to the body of knowledge of aquaristics and science regarding the care and captive reproduction of your charges" (383). Take the opportunity to purchase and enjoy this book!

Stay Tuned for Coming Attractions!

- ⇒ We are working on getting an e-mail interview with the new Georgia Aquarium. The hope was to have it as the feature article of this issue of the newsletter. But, obviously, given the popularity of the new aquarium, it has been hard to get their attention. Stay tuned as we keep trying.

- ⇒ Next quarter, we will have part two of our series covering Chad Bryant's new 1,000 gallon reef aquarium.

- ⇒ Keep watching for news about the annual meeting to be held in August.

- ⇒ And, as always, watch for our next Spotlight Species and another book review.