

Fish 'N' Chips

A Monthly Marine Newsletter
December 2000 Issue

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From Liz

By Elizabeth M. Lukan 12/28/00

One More Chance! I only got one reply to my "Your Favorite Non-Reef Book?" Survey. Come on everyone, send in those responses and help out your fellow hobbyists get started right. Here's that survey again...

Your Favorite Non-Reef Book? Time for a little survey. I plan to publish your responses starting in 2001 in review type articles to help other hobbyists find the perfect reference book (or at least get them started on their own research!). Here's the questions:

- What is your favorite non-reef marine critter reference book?
- Who wrote it?
- Why is it your favorite?
- Is it ok to include your name in the article I write on the subject?

Articles Wanted! Following is a list of some of the article ideas I've come up with or been asked to write about. Since I barely have time to get an issue together some months, anybody who'd like to tackle one of these should let me know. It would be appreciated! This is by no means the be all and end all of articles wanted. If you have an article you'd like to submit, just email me (fishnchips@mail.com).

- Information on the importance of quarantine.
- Follow-up on setting up a quarantine tank.
- Methods of parasite control.
- Information on dealing with your local fish store (LFS).
- Information on the different styles of filtering systems/tank setups.
- Critter Article on Brain Corals (open and closed types).
- Article on CITES (Convention on International Species of Wild Fauna and Flora), <http://www.fws.gov/international/cites/cites.html> (updated 10/05/05).
- product/hardware/website/service reviews and descriptions (always wanted)
- tips (always wanted)
- DIY projects (always wanted)

No More Tank Showcases. Last month was it folks, unless someone out there wants to send me pictures of their tank. If you want this part of Fish 'N' Chips to continue, please submit your tank photos and descriptions so I can give your tank it's day in the sun! Just send them via email to fishnchips@mail.com.

Tank Showcase Library. I've added all the past Tank Showcases to the Fish 'N' Chips site. Check them out!

Happy Holidays Everyone!

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The Tao of Marine Aquaria **Tips for Our Hobby and Life** **Lessons Eight to Fourteen**

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Edited By Elizabeth M. Lukan 12/6/00

Lesson Eight: Patience is a Virtue

In all the hustle and bustle of modern life, the value of patience is often overlooked. It took Nature millions of years to create the imponderable complexity and beauty of the coral reef. We should take a tip.

The concept of patience must be properly understood and bounded to be useful. Figuring out the bounds of patience comes with experience, but experience can't be built without patience. This paradox is the principal challenge to attaining a proper understanding of patience. Confused yet? Well, I'll try to explain...if you'll be patient.

At the very beginning of your quest to become a successful marine aquarist (and this moment can occur at any time in your career of fish or reef keeping), you have to come to an understanding of the time scales involved in the hobby. Trying to keep a slice of the ocean alive in your living room or den is not an afternoon project. If you don't intend to stay in the hobby for a very long time (a single fish can live for twelve years and a properly maintained coral will outlast you for centuries), don't start. If, on the other hand, you think you have what it takes to embark on the incredible journey of living with a marine aquarium, then accept that it (and you) will grow and improve over the years. Given that fact, you have plenty of time to go slowly, learn as much as you can, and build your system gradually and carefully.

Stop and think about what you just read. Can you feel all that time stretching out before you? Can you feel the pressure to perfect your system this afternoon melt away? Are you feeling calm, yet determined to do your best and immerse yourself in the beauty of your aquarium? Good. You have learned the first lesson of patience.

Now that you've put your hobby into the proper temporal perspective, you probably realize that you have plenty of time to read all you can, talk to anyone who will listen, and set up your system right the first time to house the animals you really want and who will get along with each other. Ah, the animals; the whole point of the endeavor. Don't rush them, either. Establish the system, then add the animals slowly--after a proper quarantine, of course. Don't jump ahead of your plan and buy impulsively. Instead, use your time to observe what you already have. Does everyone have a hiding place? Are they eating enough? Is their color good? Any spots, frayed fins, or odd behavior like scratching? No? Good. Make this careful observation a daily habit, because one day, as sure as the sun will rise, something will be amiss and it will be time to learn another lesson about patience.

Having taken the time to learn about your aquatic housemates, you'll be able to detect early on when something doesn't look right. You'll want to take action right away, but remember to be patient. Be sure you have properly diagnosed the problem before you act. A wrong remedy can be worse than no remedy at all. A scratching fish may have parasites, or it may be scratching an itch. One calls for a stressful treatment with copper; the other for a shrug of the shoulders. So, as agonizing as it may be, take the time to confirm the real situation. Be sure, then act swiftly. Also, discriminate between what has to be done immediately to keep your animals alive and what only hurts your pride to postpone. If the sides of the tank need cleaning, but

your significant other is complaining that he or she hasn't seen you in days, clean the tank tomorrow.

With time, the boundaries of patience will become better defined and your understanding of the virtue will become more complete. When it has, pass it on to a beginner; but remember, be patient!

Lesson Nine: Buyer Beware

Have you ever marveled at the endless variety of solutions marketed in stores and catalogs for every aquarium product you've ever heard of? There are products to stop ich, eliminate hair algae, break down nitrates, and increase the carrying capacity of your tank. With all these miracles and so many store owners offering them to the hobbyist, why isn't keeping a marine aquarium a simple, care-free, and *trouble-free* pastime? Because most products don't work and most sellers don't care.

Our capitalist society is responsible for our freedom and our high standard of living, but it has a dark side, too. Just as a lion on the savanna must kill antelope to survive, citizens in the countries of the free world must sell something in order to eat. A person hungry enough (or greedy enough) will sell anything, whether it has any intrinsic value or not. No one is forcing you, the consumer, to buy worthless products, so the sellers can go to sleep with a clear conscience. They offered a line of products that might have helped, and you chose to buy them. If you were wronged by anyone, you did it to yourself. Shame on you, you silly antelope!

Nonsense, right? You came to the store or opened the catalog in a desperate search for salvation for your pets. Realizing you were in over your head, you threw yourself on the mercy of the vendor and relied upon his or her superior knowledge about the hobby. Well, guess what? Stocking a warehouse or taking care of hundreds of fish and corals for the week it takes before they are sold is a vastly different endeavor than keeping the same six fish alive for twelve *years* or keeping the same coral colonies alive indefinitely. Would you ask a dog owner how to care for a pregnant iguana? Then why ask a large-scale fish holder or dry-goods retailer how to maintain a small, stable, aquatic environment?

Now, obviously, these criticisms do not apply to all vendors of aquarium supplies. I would venture to say, however, that the description applies to most of them. So, how do you protect yourself? With knowledge. *You* need to become the expert and let the motto, "Buyer beware!" reverberate in your head every time you walk into a store or open a catalog. How does the store smell? Is it clean? How many "floaters" do you see? Are any of the fish scratching? Are ten competing lines of products, each claiming to be "the best," arrayed side by side on the shelves or pages, or has the owner done some experimentation so that he or she

knows what works and can make recommendations based on personal experience?

Evaluate the knowledge and skill of the salespeople before you ask for or take their advice. Talk to other customers in the store. Do they seem to know what they are doing, or do they patronize the store because of the "great deals" they get on all the latest "stuff?" To beat a dead horse, continue your education by reading everything about the hobby you can get your hands on. Join a local club so you can talk to fellow hobbyists and not people who depend on your purchases to support their families. Soon, you'll realize that you know more than the majority of store owners and you'll be able to see through the smoke screens. You'll then be able to discriminate between innovative new products and new marketing schemes designed to separate you from your paycheck.

Lesson Ten: Pet Rocks Were Dumb

Let's face it: unless you were the marketing genius behind them, pet rocks were dumb. Most fads are equally devoid of value. The opposite of a fad is a tradition or a sound practice. The challenge in evaluating new products and techniques is to determine on which side of the line they fall. Are you witnessing the dawn of a new era in marine aquarium keeping, or are you seeing a brilliant marketing strategy to get rid of surplus stockpiles of chemicals or plastic? Are you reading about a discovery that will really improve the lives of your pets, or are you lapping up the untested, quasi-scientific ramblings of someone who wants their name or product to become a household word?

If you live by the sea, go take a look at it (if you aren't close, take the trip in your mind-it will do you some good). Tomorrow, go there again. Tell me if you see any new filters purifying the water. My guess is you won't. When Nature finds something that works, she sticks with it. You should do the same. Are all of your aquarium friends tearing down their tanks to install nitrate-reducing plenums? Are you feeling left out and left behind? Why? Are your nitrates completely out of control? Are your fish and invertebrates unhappy? If it ain't broke, don't fix it. Let other people disrupt the lives of their animals to try out the new fad. If, after a year or more, everyone's results are excellent, the maintenance requirements appear to be low, and no one has suffered any *long-term* problems with a nitrate bomb sitting at the bottom of their tank, then consider setting up your next tank that way. But let other people experiment with *their* pets and *their* money. Don't chase after a fad until it has matured into a well-documented practice.

Does this mean that you should shun all new ideas and forms of artificial filtration? Of course not. We do our best to recreate in our homes a very complex ecosystem. Many problems are simple to handle, like nitrogen cycling with live rock and live sand or macro algae. Others, like the accumulation of organic compounds, are more difficult. A simple solution, foam

fractionation (or "protein skimming") was invented to take advantage of the fact that dissolved organic compounds are surfactants, i.e., they are attracted to air-water interfaces. Make a lot of interfaces (bubbles), and you collect a lot of organics. It was a sound idea, but, in practice, many of the first skimmers weren't very effective. They have now been refined to the point that they really deliver on their promises. The first attempts were a fad; the best models currently available today are a tried and true aquarium tools. See the difference?

There is another type of fad: the bells and whistles variety. You needn't look far in any aquarium magazine to find complex pieces of equipment that attempt to replicate the biological processes found in the wild. They are intriguing and fun, but they are also expensive and largely unnecessary. That isn't to say that they don't have their place in the hobby, but don't let anyone convince you that you need one. Why? Read on.

Lesson Eleven: Mother Nature Knows Best

It has taken the Earth billions of years to evolve to its current state of perfection. The seas have risen and fallen, warmed and cooled, and even swallowed a meteorite large enough to wipe out entire prehistoric species. Now that's resiliency! We should respect the system that has developed.

When you try to recreate something that awes you, you should try to emulate it in every way possible. Yet, as humans, we tend to let our egos get the best of us and convince us that we can improve upon the real thing. We believe that we can take the elements of nature that most excite us, then design our own world for them to live in. In so doing, we second guess the Creator or forces that made the original. As soon as we do, we begin to run into trouble.

Take wet/dry trickle filters, for example. We see gorgeous fish on a reef that we find tantalizing. So, we take the fish and ignore the reef. We put them in a small box full of an approximation of sea water, some coral skeletons, perhaps, and, god forbid, a bubbling deep-sea diver standing over a treasure chest. Then the fish start dying and someone figures out it's from their own toxic waste: ammonia. Experts from the sewage-treatment industry are consulted and the solution offered is a wet/dry trickle filter in a sump. Everyone rushes out and buys expensive acrylic boxes full of bits of non-porous, hydrophobic (water repellent) plastic in various shapes. The plastic forms are colonized by bacteria, and soon the ammonia and nitrite problem is a thing of the past. But now the nitrate level grows to the point that the animals begin suffering again and undesirable algae chokes out your tank.

Next, the stores start selling expensive gizmos to reduce your nitrates electronically while the magazines fill their pages with anecdotal evidence that building a hollow space (a plenum) under your substrate will solve all your problems. Money changes hands faster than that lion

chases down an antelope. Meanwhile, what's been going on back on the reef? Has Mother Nature gone out and bought thousands of cubic miles of plastic bobbles? Nope. The reef is still just plodding along in its pitifully low-tech way, still supporting many more forms of life than we can imagine in a perfect and ever-balanced harmony using nothing but microbes and algae. The reef should be ashamed of itself. It's dazzling, pristine self.

If we put our egos in the closet for a second, we might see that we are making things more difficult for ourselves than necessary. Coral reefs don't have bare glass bottoms or colored pebbles; they have finely-crushed coral skeleton sediment. Reefs don't have a few scattered pieces of dead coral skeleton; they have intricate labyrinths of live rock and living coral. Most importantly, coral reefs aren't packed with fish-it only seems that way because you can see so far through the crystal-clear water (a result of the balanced biological load). Why can't we bow to the master designer and understand that we must try to replicate the entire stage, not just a few of the flashier actors?

If we want our aquariums to thrive, we must acknowledge that Mother Nature knows best. We need a fine crushed-coral substrate at least three inches deep and/or enough live rock to both support an enormous colony of bacteria (to complete the nitrogen cycle) and to give our fish hiding places where they can feel safe. We need a janitorial crew of hermit crabs, snails, and brittle stars (among others) to pick up after our messy fish, and we need to do our best to reproduce the first things that come to mind when we think of a tropical beach-bright sunshine and waves. If we appease our lust for high-tech toys by investing in high-quality lighting, a good wave maker, and an efficient protein skimmer, Mother Nature will step in to take care of the rest-and much better than we could have done ourselves. After all, her way is "*the way.*"

Lesson Twelve: Experts Aren't

Pundits and sociologists claim that we have left the Industrial Age and have entered the Information Age. Until we work out a few of the kinks, I'd say a better description of the new era would be the Misinformation Age. The speed, wide distribution, affordability, and anonymity of the Internet, for instance, enables anyone to reach hundreds, thousands, or even hundreds of thousands of people and sound like an expert. That doesn't *make* them an expert, however. Neither does the ability to qualify for a line of credit, but that's all that's required to open an aquarium store. Even the publishing world can fail us when they flood the newsstands and bookshelves with a never ending stream of mediocre how-to books and unverified articles detailing "stunning discoveries" promising to revolutionize the hobby.

So, where *are* the experts? I think our willingness to ask that question is at the root of the misinformation age. In only a few subject areas do experts actually exist. Everywhere else, there are only students with more years in the school of life. Some of those students have paid

attention in class and can pass as tutors; others have been nodding off or shooting spit balls, and will only get us in trouble if we pay them any attention.

We need to learn to trust ourselves and not be constantly searching for an easy answer from someone else. We need to grasp the significance of our status as students and work hard to learn enough (or more) to pass the final exam: maintaining a thriving aquarium. Studying what others have to say is important, of course, but we must take our investigations further and *think*. We need to ponder the underlying principles at work in our aquariums and strive to perceive the myriad interdependencies that make up the web of life in our microcosmic worlds. Keeping a log book can help maintain a history of problems, help us to determine the causes, and record the effectiveness of our treatments, but it will just be a dead tree covered in graffiti if we never read it again and *think*. We can certainly seek advice along the way from "upperclassmen" in the hobby, but we need to weigh what they say against what we already know. Remember that they haven't worked on your aquatic world like you have and can only offer advice based on *similar* experiences they have had themselves. Learn to observe, think, and take reasonable action, and you'll be more successful than someone who relies solely on other people's advice. And always be wary of anyone who seems overconfident and claims to know all the answers, because more often than not, such "experts" aren't.

Lesson Thirteen: Poor Advice is Free

There's an old adage that poor advice is free. The gist is that those with the busiest tongues (or pens) are more apt to be spewing nonsense or misinformation than those who are more conservative in their pronouncements and who may have put in enough work that they feel they should be compensated (i.e., paid) for their efforts. Such is often the case, and that *was* going to be the message of this chapter--loose lips sink ships and destroy aquariums. But after some more thought, I realized that a more valuable lesson presented itself in a refutation of the old saying. A truer statement is that poor advice is anything *but* free. Here are some examples.

Which costs more, a \$70 book, written by experienced aquarists with verifiable skills that steers you toward the purchase of an expensive protein skimmer, or the free advice some guy on the Internet gives you that convinces you to buy a \$50 protein skimmer that doesn't work, let's your tank become a tangle of algae, and has to be replaced with a more expensive skimmer that really works?

Which costs more, 100 pounds of live rock that beautifies your tank, makes your pets feel secure, and performs a complete reduction of biological waste products, or a less expensive wet/dry filter on sale at the pet store that promotes algae growth, doesn't reduce the environmental stress imposed on your pets, and requires cleanings, more frequent water changes, and maybe even additional gadgetry to maintain your water quality?

Which costs more, a ten-gallon quarantine aquarium with some live rock, a heater, and a small filter, or restocking your entire display tank because a sales person said he never had a problem putting new fish directly into his tank and you believed him?

Take the time to ask a lot of opinions, read a lot of background material, and try to see a new piece of equipment in action before making a decision to purchase it. Learn all you can, then let the advice you follow be your own, because poor advice *isn't* free--it's the most expensive kind there is.

Lesson Fourteen: Never Buy Retail

When I was a little boy, my baby-sitter took my sister and me to the corner store. I fell in love with a plastic dinosaur and wanted to buy it with my allowance. My baby-sitter pointed to two dollar bills in my wallet and told me to only give those to the shopkeeper. She then went to chase after my fleet-footed sibling. But what did she know? She didn't run the store. So, I asked the nice man who *did* run the store how much money I had to pay for the toy. He looked into my wallet and said, "This much," removing every bill I had.

Back at home, I told my baby-sitter how wrong she had been about the price, whereupon she told *me* about liars and cheats. I never felt so betrayed and resentful again until the first time I looked at a mail-order aquarium catalog after purchasing my first saltwater setup from a local retail shop. I only got angrier as time went along and I discovered that the setup was not only overpriced by a factor of two, but was outdated technology, as well! Right then and there, I decided to never again buy retail. But buying from catalogs is a double-edged sword. The advantage is that you can get a great price on anything available in the hobby. The disadvantage is that you can get a great price on *anything* available in the hobby--not just the stuff that *works*.

There are two points that need to be made. One is that money represents power and shouldn't be trivialized or demonized. We had to work to earn our money, and when we spend it, it compensates others for *their* efforts. So, the value we accord money is really the worth we ascribe to our own labor and that of others. We should be careful how we spend it, or we cheapen the value of our labor. We should pay a fair price for the goods we receive, but not a penny more. If you know what you want because of careful research and consideration, and can get it for less through a catalog or over the Internet, then you should do it. Trust me, a fair profit will still be made by everyone involved.

The second point to consider is that we seldom pay the true cost of the things we purchase, and we should. We may think that the price of a gallon of gasoline is outrageous, but if we paid

directly for the environmental damage that eventually needs to be repaired as a result of the extraction of the crude oil (we do, of course; it just comes to us hidden in our taxes that then pay for land reclamation, air quality improvement programs, health benefits for those adversely affected by pollution, etc.), we'd think that \$5 a gallon was a deal by comparison. Aquarium retailers can provide a great service to us by researching the items they carry, testing them to verify the manufacturers' claims, and then steering us away from a poor purchase decision. If you are fortunate enough to live near a shop that provides this kind of value-added service, pay for it. It is more expensive to run a store than a warehouse, so they have to charge a bit more to cover their expenses. So, unless you want to see a valuable resource like a knowledgeable aquarium shop dry up and close its doors, support it. In the long run, buying from them with their advice may be cheaper than making lots of trial-and-error purchases from an inexpensive mail-order outfit.

Remember the lessons of the Tao and find the balance. Save money when you can, but don't hesitate to use the power you save to support a good shopkeeper when he or she helps you out.

(Oh, and never say never.)

Editor's Note:

Thanks to Adam Whitlock for allowing me to republish his work. I did nothing to it except reformat it into HTML. Adam's life has taken him elsewhere and these are the only Tao Lessons we have. Still a hobbyist though, we may see future lessons yet. Reply to the below so I can let him know whether you liked his work or not.

Adam would like to know if you'd be willing to purchase such writings in book form. Send me an email and let me know what you think: [Yes, I'd Buy \(fishnchips@mail.com\)](mailto:Yes,I'dBuy@fishnchips.com) or [No, I Wouldn't Buy \(fishnchips@mail.com\)](mailto:No,IWouldn'tBuy@fishnchips.com). I'll pass the results on to Adam and I promise you'll remain anonymous. Feel free to include comments.

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Feedback on The Tao (Lesson Four)

By Warren Heideman, Ph.D. 12/15/00

Edited By Elizabeth M. Lukan 12/17/00

The method of euthanizing a fish in vodka will expose the fish to a high concentration of ethanol. While we think of ethanol as intoxicating, this concentration would tend to burn the

delicate gills and other tissues of the fish. This is thus not an assuredly painless way of euthanizing the animal.

Approved methods of euthanasia in laboratories commonly involve an anesthetic overdose. For the home aquarist, the commonly used method of placing the fish in water in the freezer until the animal is frozen or clearly dead seems to be one of the best. This chilling does not usually appear to distress the fish.

Editor's Comments:

I would like to extend a very special thanks to Warren Heideman for contacting me and letting me know about the best way to ease a fish's suffering. I did nothing to Warren's article except reformat it into HTML.

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Doin' It Yourself!

A Chilling Alternative

By Ian Brunsdon of Marlow, England, ian@nerds.co.uk, 11/1/00

Edited By Elizabeth M. Lukan, 11/20/00

Worried about the temperature of your tank, but cant afford a chiller? Relax, you may already have everything you need to make one!

A chiller is, after all, just a glorified heat-exchanger, and, as R.O. units are allegedly more efficient with warmer water, just get a long flexi-pipe, and wind it tightly, round and round the untreated water inlet pipe, (you will need quite a bit of duct tape to hold it on!) now all you need to do is connect the coil to pipes to and from your tank, via a pump, and bingo! the flow from the pipe is noticeably cooler, and the R.O. now has a warmer water source!

Of course, this is useless if your mains water is warm already, here in England, ours is rarely over 55 degrees.

Alternatively, the coil could be placed at the back of the fridge, (if you can convince your partner to let you drill holes in all the cupboards and walls between the fridge and the tank, and also the fridge!).

Or, the fridge could be a small, cheap second-hand unit, positioned next to the tank, or hidden

from view in the corner of the room, just like a proprietary chiller!

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Caught In The Net

By Elizabeth M. Lukan 12/19/00

New Stuff Found

On Reefs.org (<http://www.reefs.org/>):

- #Reefs Talk 11/19/00 "Farming and Sustainable Harvest of Coral Reef Species For The Aquarium Trade" by Peter Rubec (Library / #reefs Talks section).
- "Dusky Jawfish (Opistognathus spp.)" by Various Authors (Library / Articles section).
- "Rubberbands in Reef Tanks" by Richard Durso and Ron Shimek (Library / Articles section).
- "Elegance Coral" by Various Authors (Library / Articles section).
- "Coral Spawning" by Various Authors (Library / Articles section).

Pet Store Database

Rich Decatur of The Anatomy of Reefkeeping (<http://www.dets.com/> (Site inactive as of 11/28/01)) invites all Fish 'N' Chips subscribers to visit his site and add the pet stores in their area to a new database. To quote Rich, "... Of course everyone is interested in the stores that have good ratings. But it is also important for us to know about the stores that you feel are, shall we say, not worthy of our business. I have come across a few stores that have no respect for the specimens that they keep. Amazingly they still have their marine sections and continue to kill without regret. So again I ask that you stop by and add your favorite and not so favorite stores to the database and help the other hobbyists who might be in your area."

Cool Stuff Found

Web-Based Email - Michael Tuohy of FISHnCHIPS.com contacted me recently. His site offers free web-based email accounts. And to quote Michael, "... although not directly fish related, it is fishy..." If you are interested, please visit FISHnCHIPS.com at <http://www.fishnchips.com/>.

Virtual Saltwater Aquarium - Visit Fish Byte at <http://www.fish-byte.com/> for a screen saver that is driven by DirectX 3D technology. You have to visit this site if only to see the screen shot of this software - what beautiful fish and corals. If that screen saver looks as good as the graphic on the site it's worth the \$10 they want. They do offer a free download too. I haven't tried it personally. I found out about it in the LockerGnome Newsletter (<http://www.lockergnome.com/>). If anybody tries it out, I'd love to know your thoughts on it.

This Month's Selection From The Fish 'N' Chips Fishy List

Online Vendors: Livestock - Fish

- [AquaBid.com](http://www.aquabid.com/) - <http://www.aquabid.com/> (5/21/00)
*US Dollars, **Auction Site**
- Atlantis Aquatics - <http://atlantisaquatic.com/> (9/19/00) (Listed by FNC) (*url dead 10/05/05*)
- [Belau Aquaculture](http://underwatercolours.com/belauaq.html) - <http://underwatercolours.com/belauaq.html> (3/16/00)
"...our website for Belau Aquaculture in Palau collecting station/ mariculture facility site. Our pricelist is available from the e-mail address at the site. We also cater to public aquariums and researchers wishing to come to Palau to do marine research."
- Clownfish From Africa - <http://tankfish.bizland.com/> (9/5/00) (*url dead 10/03/05*)
*ZAR (South African Rand, approx. ZAR 7.2 = US\$ 10), Orders taken via email.
- Coral Life - <http://www.corallife.com/> (3/31/00) (*url dead 10/05/05*)
*Canadian Dollars (Listed by FNC)
- [CoralFarms](http://www.coralfarms.com) - <http://www.coralfarms.com> (4/22/99)
*US Dollars, Phone Orders.
"We are the largest importer of cultured Solomon Islands SPS and soft corals. Our focus is on captive and cultured livestock."
- [eTropicals.com](http://www.etropicals.com/) - <http://www.etropicals.com/> (7/3/00)
*US Dollars (Listed by FNC)
- [Exotic Tropicals](http://ExoticTropicals.com) - <http://ExoticTropicals.com> (9/19/00)
*US Dollars, Secure and Non-Secure Online Ordering, Phone Orders (Listed by FNC)
- [Fish To The Nth](http://home.earthlink.net/~fish2nth/) - <http://home.earthlink.net/~fish2nth/> (9/20/99)
*US Dollars, EMail & Phone Orders.
"I specialize in getting in what people are looking for, even if it is harder to find. Live food, such as ghost shrimps, aren't updated to the site, but I am selling them. And, ALL fish sold are in good health, and parasite treated before they leave here. I have sold to Public Aquariums, but I love selling to the individuals and provide after sales support for the fish they get from me. Sincerely, Carol E. Keen/Fish To The Nth"

- [Flying Fish Express](http://www.liveaquaria.com/FFExpress/) - <http://www.liveaquaria.com/FFExpress/> (12/20/99)
*US Dollars, Secure Online Orders, Phone Orders, Fax Orders. (Listed by FNC)
- Harspen Marine Fish - <http://www.soonet.ca/harspen> (3/31/00) (*url dead 10/03/05*)
*Canadian Dollars, Email and Fax Orders. (Listed by FNC)
- Invert-ual Realities Canada - <http://www.interlog.com/~invertea/ire.htm> (*url dead 8/24/04*) (1/29/99)
*Canadian Dollars, Secure Online Order, Mail Orders. (Listed by FNC)
- [Jeff's Exotic Fish](http://www.exoticfish.com) - <http://www.exoticfish.com> (1/12/99)
*US Dollars, Non-Secure Online Ordering, Phone Orders, Email Orders. (Listed by FNC)
- [Jen's Saltwater Haven](http://www.jensalt.com) - <http://www.jensalt.com> (6/24/99)
*US Dollars, Non-Secure Online Ordering, Phone Orders.
"Jen's Saltwater Haven is dedicated to providing the marine/reef hobbies with high quality products at affordable pricing."
- Marine Ecosystems - <http://www.marineecosystems.com/> (9/19/00)
*US Dollars (Listed by FNC) (*url dead 10/05/05*)
- [Marine Fish & Supplies](http://www.fishsupply.com) - <http://www.fishsupply.com> (8/9/00)
*US Dollars, Secure Online Orders, Email, Phone, and Fax Orders.
- [Premium Aquatics](http://www.premiумаquatics.com) - <http://www.premiумаquatics.com> (4/20/99)
*US Dollars, Secure Online Ordering, Phone Orders
- [Saltwater Connection](http://www.saltwaterconnection.com/) - <http://www.saltwaterconnection.com/> (6/3/00)
*Canadian Dollars, Phone and Fax Orders.
"A dedicated hobbyist dedicated to providing great products and great service."
- [Superior Reef Aquatics](http://www.superioreef.com/) - <http://www.superioreef.com/> (11/11/00)
*Canadian Dollars, Phone, Fax, Email.
"Primarily serving Ontario marine hobbyists. Varied selection of propagated leather corals and polyps. New arrivals weekly."
- [Tampa Bay Saltwater](http://www.tbsaltwater.com) - <http://www.tbsaltwater.com> (1/12/99)
*US Dollars, Phone Orders, Email Orders. (Listed by FNC)

The above list matches a portion of the site list maintained on the Fish 'N' Chips Website as of the date of this publication. What you see above is what was listed as on their site by the submitter. The date that follows in parenthesis is the date submitted to the list. For the complete up-to-date list, check out the Fish 'N' Chips Website at (<http://www.marinefiends.com/> (*updated 8/24/04*)).

Site Submission and Updating: To submit your site for inclusion in the Fish 'N' Chips newsletter and website based Fishy Links List, please go to the Fish 'N' Chips website at (<http://www.marinefiends.com/> (*updated 8/24/04*)) and complete the Site Submission Form. Please do

not send any site submission or update requests via email - *I will not process them*. Of course, emails are welcome if you are having trouble submitting the form.

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Chips...er...Tips Coralline Scraper

By Terry Boczar 12/7/00

Edited By Elizabeth M. Lukan, 12/17/00

Pampered Chef, the makers of stoneware baking dishes and pizza stones, includes a plastic scraper with each stoneware item to clean the dish with. As I was scraping meatloaf out of my baking dish this morning, it occurred to me that it might work on coralline algae as well. I just happened to have two scrapers, so in the tank it went. It worked pretty good at removing coralline off of the glass. So my idea for the reefer guys is buy your wife two dishes for Christmas, so she will have a scraper and the guy gets the other scraper for his tank (or visa versa for the girl reefers). Plus, the wife will think you're just great!

Editor's Note:

Thanks for the great tip Terry! I did nothing to it except reformat it into HTML and make some grammar and spelling corrections.

To Submit Your Tip: Send your tip via email to fishnchips@mail.com and I'll publish it in an upcoming issue of Fish 'N' Chips. I'll write it up for you or you can do it yourself if you are so inclined. Make sure you let me know if I can include your name and email address or if you'd rather go anonymous.

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Upcoming Events

By Elizabeth M. Lukan 12/17/00

Event	Start Date/ Time	End Date/ Time	Location	Event Details, Notes, and For More Info
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Message Board Poll Contest	now	1/1/01		<p>Contest Info, Etc.: Just go to fishroom.com's (http://www.fishroom.com/ (<i>url dead 10/03/05</i>)) The Reef message board and reply to the new poll posted there.</p> <p>Prize: 20 lbs. of Florida Keys aquacultured live rock.</p>
Seahorse Exhibit	4/20/00	April 2001	New York Aquarium	<p>Info: Some of the animals to be featured are leafy sea dragons, weedy sea dragons, pygmy seahorses, pot belly seahorses, local seahorses, giant seahorses, and pipe fish.</p> <p>Where & Contact Info: Brooklyn Aquarium, West 8th Street and Surf Avenue, Brooklyn, NY (USA), 11224. Phone: (718) 265-FISH.</p>
Western Marine Conference 2001	4/6/01	4/8/01	Monterey, California, USA	<p>Info: For more information, visit http://www.seabay.org/</p>
Message Board Poll Contest	now	unknown		<p>Contest Info, Etc.: Just go to fishroom.com's (http://www.fishroom.com/ (<i>url dead 10/03/05</i>)) message board and post a reply or question - any message board.</p> <p>Prize: An Eclipse 2 from Premium Aquatics (http://www.premiumaquatics.com/).</p>

Message Board Poll Contest	now	unknown		Contest Info, Etc.: Just go to fishroom.com's (http://www.fishroom.com/ (<i>url dead 10/03/05</i>)) message boards and find Santa Claus. Know the author and you'll win the book.
Lighting Survey	Nov. 2000	Open Ended		Info: The subject that reefers spend forever discussing and arguing over. Add your information to build a picture of what people are actually using. Enter the survey and supply your email address by 12/10/00 and you'll be entered to win a random prize. Visit the #Reefs website at http://www.reefs.org/ .
Aquarist Profile Survey	Aug. 2000	Open Ended		Info: What is the profile of a marine aquarist? Visit the #Reefs website at http://www.reefs.org/ .

To Submit Your Event: Send your event and all the specifics (date, time, location, pricing, contact info, etc.) via email to fishnchips@mail.com and I'll publish it in all issues of Fish 'N' Chips prior to the event.

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Newsletter Disclaimer

To subscribe to Fish 'N' Chips, ~~send a blank email to FishNChips-subscribe@egroups.com or go to <http://www.egroups.com/subscribe/FishNChips>~~ visit <http://www.marinefiends.com/> (*updated 8/24/04*).

To unsubscribe, send an email to FishNChips-unsubscribe@egroups.com visit <http://www.marinefiends.com/> (*updated 8/24/04*).

Any and all comments, suggestions, etc., should be directed to fishnchips@mail.com.

The Fish 'N' Chips Website can be found at <http://www.marinefiends.com/> (*updated 8/24/04*).

To view the current issue of Fish 'N' Chips, visit <http://www.marinefiends.com/current.html> (*updated 8/24/04*).

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