

# Fish & Chips

## A Monthly Marine Newsletter

### September 1999 Issue

*From Us*

By Elizabeth M. Lukan 9/10/99

Carol E. Keen and Theresa Ulrich are at it again in the September issue of Freshwater And Marine Aquarium Magazine (FAMA). Carol and Theresa are collaborating on a three part article called "*Very Simply Seahorses*" and part one is in the September issue. The title is most appropriate as even the newest saltwater hobbyist will not be overwhelmed by catch phrases and science lingo. It was a great article and I look forward to the next part. You'll remember Carol from the Saltwater Sail-Fin Mollies article in the July issue of Fish & Chips, and in last month's FAMA her and Theresa wrote about Project Seahorse and did a book review. Carol Keen can be reached at her website, Fish To The Nth, at <http://home.earthlink.net/~fish2nth/> (address updated 4/19/00).

A new section debuts this month. **What's Up @ ReefsUK** will let you know the latest happenings at Mark T. Taber's ReefsUK Web Site and the hobby in general. Some items may be UK specific, but not all, so please check it out. Forgive the length of this month's section, I'm catching up on Mark's writings.

**Photos Wanted!** Any budding marine photographers out there looking to have their photos published? Fish & Chips needs photos! It's very time consuming for me to search the net for images to go with my articles. It's also very disappointing and even more time consuming when my requests for image use go ignored. So, if you've got any photos, please email them to [FishNChips@mail.com](mailto:FishNChips@mail.com) (address updated 4/26/00) and include your name so I can give credit where credit is due! Photos wanted include any saltwater fish, coral, or clam - basically anything in your tank. Oh, and you must be the photographer - I won't get into any copyright battles!

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### *Critter Corner*

## *Tridacnid Clams: Friends, Enemies & Ailments*

By Elizabeth M. Lukan 9/15/99

Hello and welcome to the third article in my series on Tridacnid Clams. This month's

article covers pests, parasites, diseases and **commensals**.

## *Aiptasia Anemones*

**Phylum:** Cnidaria

**Class:** Anthozoa

**Subclass:** Zoantharia

**Order:** Actiniaria

**Genus:** Aiptasia spp.

**Common Name:** Glassrose Anemones



Everyone knows about these small anemones and the scourge of the reef tank that they can become if allowed to gain a foothold in your tank. As mentioned in last month's article, Aiptasia can sting and irritate a clam to death, so take whatever means are necessary to rid your tank of them. This article is already long enough so I won't go into detail on how to rid your tank of them, but I will give you some hints to research further.

Some methods of Aiptasia removal: addition of Peppermint Shrimps (*Lysmata wurdemanni*) - watch out for your other zoanthids like the Yellow Polyp - or Copperband Butterflyfish (*Chelmon rostratus*) - watch out for your annelids like feather duster worms - or Caribbean nudibranch (*Spurilla neapolitana* or *Dondice occidentalis*) - the first nudibranch should only be put in a tank with no other corals or anemones (a new setup) and the second nudibranch "may" not bother other anemones or corals. Other methods include injecting products like Chem-Marin's Stop Aiptasia or kalkwasser into the Aiptasia itself.

As I've said before, I prefer the more natural way - find something that eats it in nature and won't go after anything else in your tank. A word of warning, any damage done to Aiptasia will result in a population explosion - so don't try to scrub them off your rocks! It's a battle, I know!

## *Algae*

As mentioned last month, macroalgae like *Caulerpa* can irritate the clam if allowed to grow under the byssal opening.

Algae that cover everything, including your clam, will block out its light source and lead to, if not cause, its death. This would be particularly true of that pest, hair algae.

## *Bacteria & Viruses*

There hasn't been too much research on the kinds of bacteria and viruses that affect corals and clams. It is obvious that this research is needed as bacteria and viruses could be more devastating than what storms and humans do. More research has been done on bivalves (mussels and oysters in particular) because, simply, they represent billions of dollars in cash crops. Very few studies have been done on **pathogens** affecting tridacnids. Hopefully, more research will be done in the future.

There are a number of bacteria, pathogenic and non-pathogenic, that affect tridacnid clams. *Vibrio alginolyticus* and *V. anguillarum* have caused deaths in **larval** and adult oysters. These organisms are also commonly found in healthy clams. Bacterial infections are thought to have caused mass deaths of larval cultured tridacnids in Australia. Antibiotic treatments proved effective for increasing the survival of tridacna clam larvae.

Bacterial and viral diseases are very difficult to identify and treat. Many treatments can stress or kill the other inhabitants of a reef tank.

### *Bristleworms / Fireworms*

Phylum: Annelida

Class: Polychaeta

Common Name: Bristleworms and Polychaetes

Many polychaetes are **carnivores** or **omnivores** and have strong, **chitinous** jaws that can be extruded from a protrusible **pharynx**. The two main **genera** that cause trouble are *Eunice* and *Nereis*. Larger species can reach up to 20 inches (50 cm) in length. These large worms can cause a good deal of damage in the aquarium. They are recognizable by their pronounced body segmentation, **parapodia** and **setae**. They are mainly active at night and are usually added to the tank hidden within the live rock. Both *Eunice* and *Nereis* will feed on corals, clams and even small, sleeping fish.

The Fireworm (*H. carunculata*) also preys on corals, anemones, and clams and should be removed as soon as possible.

Check out Richard S. Hogg's Home Page at <http://www.his.com/~rshogg/home.html> (*url dead 8/24/04*) for an image of a Fireworm. I requested permission to use the image of the Bearded Fireworm on this site, but have not yet received a response.

Order: Eunicida

Family: Oeonidae

The polychaete *Oenone fulgida* eats snails and clams. Approximately 0.1 inch (0.25 cm)

in diameter and 4 to 12 inches (10 to 30 cm) long, this worm is bright orange in color and secretes a mucus which it uses to trap and suffocate snails, eating the tissues when the snail dies. This worm attacks clams by boring a perfectly round hole in the clam's shell and feeds on the living clam's tissues. The worm retracts into the live rock and returns to it's meal through the same hole or bores a new one. A healthy clam can block the hole with a protein **matrix** and seal it with new **calcareous** shell. The clam, now weakened, eventually gets an infection and dies. This worm is common in live rock and the only way to remove it from your tank is to remove the rock it retreats into.

## *True Crabs*

Family: Xanthidae

Common Name: Stone Crabs

Crabs in this family are mostly carnivorous. Bristle Crabs (*Pilumnus* spp.) is one genera that can cause considerable damage to a reef tank. These crabs are tiny and have a dense covering of bristles over the majority of their legs and claws. They eat nearly anything in a reef aquarium - clams, stony and soft corals, anemones, and tube worms.

Family: Calappidae

Common Names: Box and Shame-Faced Crabs

These crabs prey on molluscs such as clams and snails. They will quickly eliminate your herbivore snails. These crabs are recognized by the depressions in their shells which they retract their legs, claws, and eyes into. This gives them a box-like shape. They are also called Shame-Faced Crabs because the retracted claws are so broad and flattened that the crab's face is hidden. They are brightly colored with pink or red patterns on their carapace. They are normally found buried in the sand and are rarely encountered in aquariums. They shouldn't be kept in reef tanks since they will eat almost anything.



Family: Pinnotheridae

Common Name: Pea Crabs

These crabs live in molluscs and are rarely encountered. Mostly living in harmony with their host clam, they are always found in male and female pairs. They spend their entire life in their host.

## *Lobsters*

Suborder: Reptantia

Section: Macrura

Common Name: Lobsters

Most of the small lobsters for sale to hobbyist belong to the genera *Enoplometopus* (Reef Lobsters) or *Panulirus* (Spiny Lobsters). These are omnivorous scavengers and can be destructive to your reef tank. They will feed on your clams, corals, small fish, shrimp, and probably many other inhabitants of your tank.

## *Protozoa*

Phylum: **Protozoa**

Subphylum: Ciliophora

Common Names: Ciliates and Protozoans

To explain best what a protozoa is I'll use an example, "brown jelly". This protozoal infection usually attacks corals.

Tridacnids collected throughout the Great Barrier Reef have been found to contain a protozoa from the **genus** *Perkinsus*. This protozoa's role in clam deaths is unknown.

Also, an unidentified **ciliated** protozoan was found that invades the **mantle** and ingests the **zooxanthellae**.

## *Mantis Shrimp*

Phylum: Arthropoda

Class: Crustacea

Subclass: Malacostraca

Superorder: Hoplocarida

Order: Stomatopoda

Common Names: Mantis Shrimp and Thumb Splitters

Added to your tank with live rock, these "shrimp" are voracious predators and will feed on small fish, shrimp, worms,



clams and crabs. Just about any living, or once living, creature in your tank is a meal to this thing. There are many species, ranging from 2 to 12 inches (5 to 30+ cm) in length. The smaller genus, *Gonodactylus*, are the ones most found in aquarium. Methods of removal include: baited traps, removal of their rock lair, using sharp, pointed scissors to skewer or cut the shrimp in half, and more.

### *True Shrimp*

Superorder: Eucarida

Order: Decapoda

Suborder: Natantia

Family: Hippolytidae

Marble Shrimp (*Saron marmoratus*) are large, reaching 3.6+ inches (9+ cm) in length. Shy and nocturnal, they can attack tridacnids, corals, mushrooms, anemones and small polyped corals (e.g. zoanthids).

### *Snails*

Phylum: Mollusca

Class: Gastropoda

Common Name: Snails and Sea Slugs

These critters are usually added to your tank with shipments of live rock, corals and clams. These must be removed immediately or they will make a quick meal of your tank's clams, corals, gorgonians, anemones, and zoanthids. The hardest part of doing this, is recognizing a predatory snail or figuring out that a sick coral is the result of snail attacks! Prevent this problem by examining each and every item you put in your tank carefully.

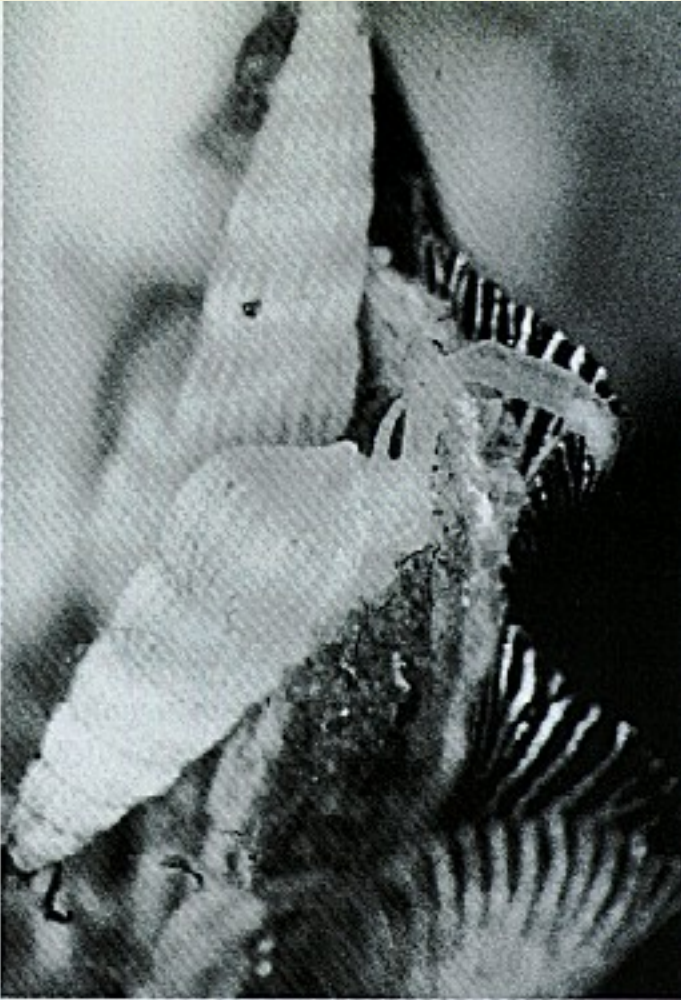
Family: Cymatiidae

Common Name: None

*Cymatium muricinum* is a known clam predator. It is a problem for clam farms that are ocean based. Found throughout the Indo-Pacific and in the western Atlantic, adding it to your tank with a live rock shipment is a possibility.

The snail's larvae settle on the tridacnid and undergo **metamorphosis**. The snails enter through the byssal opening and lodge between the shell and mantle. The clam shows little reaction to the snails presence as it begins to feel on the mantle's juices. The clam will eventually react by closing its valves and it may even try to enclose the snail inside a pearl-like blister. Eventually the clam exhibits wide gaping and dies.

The grown snail moves on in search of another victim. Large snails, 1 to 2 inches (25 to 50 cm), wait at the bottom of the clam, next to the byssal opening, extending their **proboscis** into the opening and feeding on the tissue inside. Larger clams are usually not bothered by these snails because their weight presses the byssal opening down into the substrate so deeply that the snails can't reach it. Also, Hippopus spp.'s byssal opening is usually too small to allow these snails entry.



Order: Pyramidellacea  
Family: Pyramidellidae

Majority of the snails that feed on clams and oysters belong to the family Pyramidellidae. There are at least 1000 species in the Pacific alone.

These are small snails with a maximum length of 0.08 to 0.16 inches (2 to 4 mm) and they look like small grains of rice. Majority of what we know about these snails is from the species that have been found feeding on oysters and clams in commercial setups. Very little is actually known about how many species affect tridacnids.

*Tathrella iredalei* and *Pyrgiscus* sp. are two species that were isolated in Australian clam farms. Studies of *Pyrgiscus* in aquaculture systems show

it to have a very rapid reproduction rate when in land-based seawater tanks or in trays raised about the substrate in the wild.

These snails are simultaneous **hermaphrodites**. A 0.1 inch (2.5 mm) snail is capable of producing 2 to 3 egg masses a day. Each egg mass has up to 120 eggs. The eggs are held in jelly-like masses on the clam's shell. There are often several egg masses close together. The young snails tend to remain on the clam they hatch on.

Pyramidellidae snails feed mostly at night. During the day they stay out of direct sunlight and can usually be found near the base of the clam or between the scutes in species with large scutes (e.g. *Tridacna squamosa*). At night, they work their way up to the lip of the shell and extend their proboscis and, using their needle-like stylus, poke a hole into the

mantle of the clam. They then suck out the fluid of the mantle. Depending on the size of the clam, these snails can easily kill it within days or months if left unchecked.

According to the Reef Aquarium Volume One by Delbeek and Sprung, these snails are relatively rare in the wild which means that some type of biological control must be in place. Some natural predators:

- Portunid crab (*Thalamita sima*). These crabs have been used in aquaculture systems with some success. Unfortunately, they have also been known to feed on small (1.6 inch / 4 mm) tridacnids.
- Halichoeres Wrasses. Specifically *H. melanurus* and *H. chloropterus* have been seen feeding on these snails in the wild.
- Six-Line Wrasse (*Pseudocheilinus hexataenia*) and Four-Line Wrasse (*P. tetrataenia*) have been known to eat these snails in the aquarium.

Unless the snails are visible on the shell during the day, the fish won't be able to see them. Since these snails are nocturnal, removal by the hobbyist may still be needed.

## *Disease & Disease Like Symptoms*

### *Bleaching*

A bleached clam will appear white, pale yellow, or pale green. The tissue is still alive, but the loss of zooxanthellae makes it look transparent. Clams that have undergone bleaching appear generally less healthy and may show poor tissue expansion. Sometimes, with bleaching, there is no loss of zooxanthellae, just a decrease in the pigment content. Pigment reduction is related to changes in light intensity. Zooxanthellae expulsion occurs with temperature changes. Sudden bleaching can occur when exposed to water that is too hot (over 86°F or 30°C) or too cold (below 66°F or 19°C). This can also happen if the light field has changed radically. Inadequate or too much light can lead to slow bleaching.

Clam bleaching can also be caused by the excessive use of activated carbon and the reduction of trace elements, especially iodide. This is most common in stony corals, but can occur in clams and soft corals. Iodide loss can cause rapid bleaching and death.

### *Broken Hinge*

A break in the brown protein material that joins the two shells happens rarely. Re-align the shells and place a rubber band loosely around them to hold the hinge position. Make sure the rubber band isn't too tight - the shells need to be able to part far enough for the mantle to extend and receive light. In about two weeks, the clam will secrete a new hinge.

## *Brown Mucus Underneath*

A clear, brown, thick gelatinous mucus is sometimes found around the byssal opening. The clam is trying to protect itself from contact with irritating substances (ex. coral mucus) and keeping worms, snails, and crabs, etc. away. Although considered a harmless condition, I would make a definite effort to find any possible irritating critters.

## *Excess Mucus*

Tridacnids normally release some clear mucus from around their mantles and upper surfaces. The mucus often has some air bubbles within it. The clam is getting rid of excess carbon from photosynthesis. Excessive mucus can clog mechanical filters and is a sign of irritation. The irritation may be from something in the water or from a nearby coral. Avoid handling your clam since you don't want to irritate it anymore, but provide it with a stronger flow of water - remember clams don't like a strong current so only do this to remove the excess mucus. If this doesn't clear up the problem, do some water changes and add some good quality carbon. Obviously, if the clam is being annoyed by a coral, move the coral.

## *Hole in the Mantle*

Your clam may develop a hole in the center of its mantle, between the inhalant and exhalant siphons. This is potentially fatal but usually heals and may or may not leave a scar. Move your wounded clam and make sure it is not being preyed upon. Healing should occur within a few days. The causes include:

- Physical injury.
- Infection (bacterial or protozoan).
- Light damage. Placing your clam less than 8 inches from a metal halide bulb can result in a burn which causes a hole to develop. These bulbs can also burn your corals. Metal halides kept more than 8 inches from your tank will not cause this problem.

## *Poor Tissue Expansion*

Sometimes a clam won't expand fully and may remain contracted for several days or longer. There may be a number of reasons for this happening, some of which are mentioned in this article:

- A pH that is too high or too low. Maintain a pH between 8.0 and 8.5.
- Too strong or too weak water current.
- Being downstream of a coral releasing **terpenoids** into the water. Move the coral or

the clam. If more of your tank's critters are affected, use protein skimming, carbon, and water changes to remove the compounds from the water. If this doesn't work, the offending coral will have to be removed from the tank.

- Stinging sweeper tentacles from neighboring corals. Move the coral away from the clam.
- Fouling or over-growth of algae, bacteria or mucus. Siphon the stuff away and alter the water flow around the clam.
- Being irritated by a fish or other tank inhabitants.
- Excessive UV light. Move the clam lower in the tank and make sure iodide is being added in proper quantities. You may need to put UV shielding between your lights and the tank.
- Too intense light. Move the clam lower in the tank.

### *Releasing Zooxanthellae*

Tridacnids have been known to release packets of zooxanthellae from their exhalent siphons. These packets will look like dark brown strings or pellets. This is a sign that the clam is regulating its population of zooxanthellae. This may happen from time to time. You can expect it when you first add the clam to your tank or if you move it around within your tank. Also, changes in the clam's environment (temperature, light intensity and spectrum) will cause the clam to readjust it's zooxanthellae population. It is possible to shock your clam with too great a change (too much or too little light or a photoperiod that is too long or too short). The shock may cause the clam to expel all of it's zooxanthellae. This is known as bleaching.

#### ***Photo Credits:***

Aiptasia Anemone image (aiptasiaet.jpg) provided by David Brough of Exotic Tropicals (<http://www.exotictropicals.com>).

Pyramidellidae Snail image (pyramidellineha.jpg) provided by Harbor Aquatics (<http://www.harboraquatics.com> (*url dead, 10/02/05*)).

Mantis Shrimp (*Odontodactylus scyllarus*) image (mantis.jpg) provided by Don Trowbridge and was found on The Lurker's Guide To Stomatopods (<http://www.blueboard.com/mantis/>).

**(information updated 5/3/00: The original image had to be replaced when a hard drive crash took the permission for it's use with it and attempts to re-confirm that permission went unanswered. The image was replaced with *Odontodactylus scyllarus* male photographed by Jeffrey Rosenfeld. Jeffrey's website, The Vibrant Sea, can be found at <http://divingis.rad.washington.edu/scuba/jeffr/home.html> (*url dead 8/24/04*). Thanks Jeffrey.)**

Pea Crab image (peacrabsm.jpg) provided by Robert M. Metelsky of Simplified Reef Keeping (<http://www.connix.com/~reefkeep> (*url dead 8/24/04*)).

## *Coral Propagation*

By Torrey Schonder

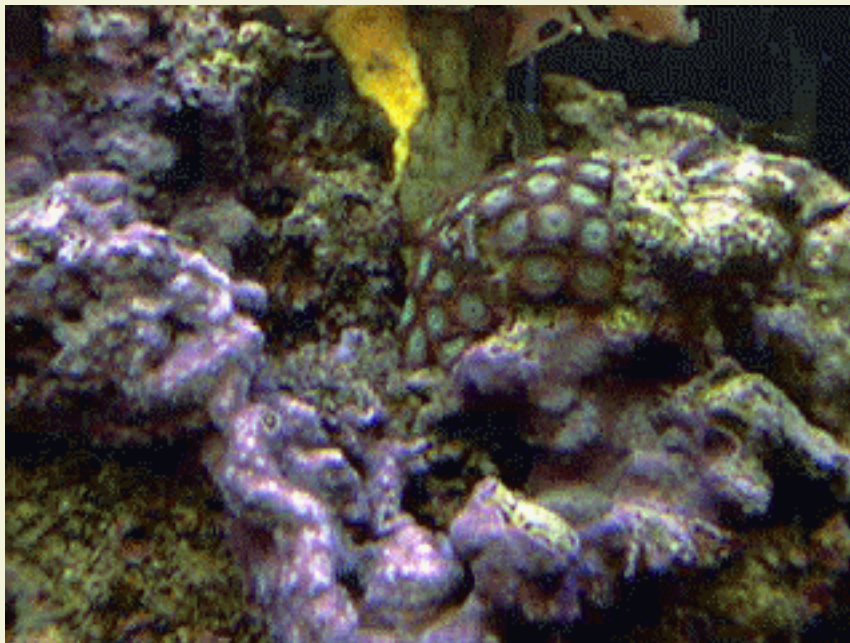
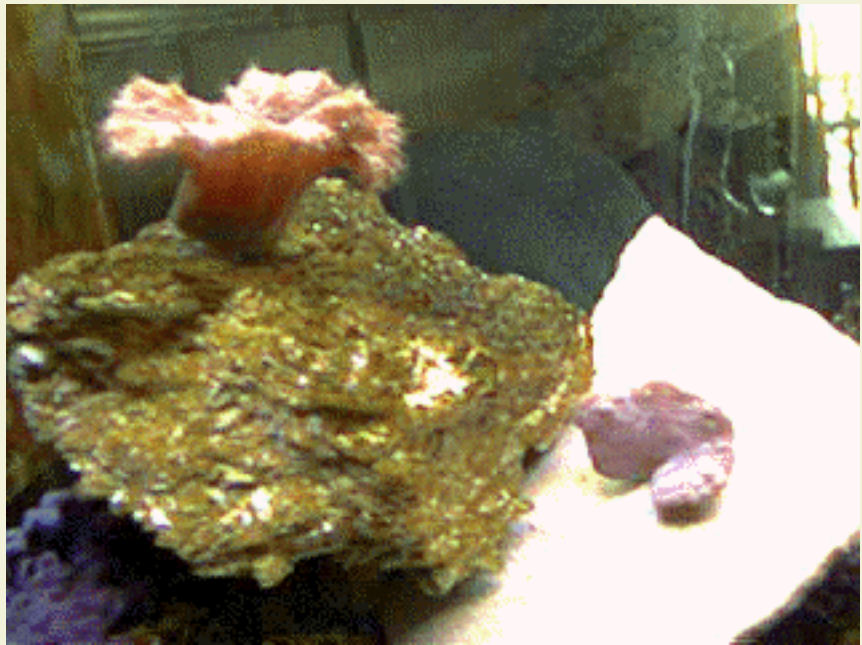
Edited By Elizabeth M. Lukan, 8/27/99



This is a colt coral I cut from a good sized mother. It is only 1 week old and showing great growth and the mother has already started growing a new branch from which it was cut. I took a new razor blade and made one quick slice of a branch. Then, I took a rubber band and wrapped it in the center of the cutting. Just leave the rubber band there it will break off and the cutting will be attached to the rock. It doesn't take long.

This piece has already adhered to the rock. This also works for tree corals. Closely related leathers and toadstools can be done very similarly. I cut a segment out of the coral but not part of the base. It can be cut at the base and work as well but I don't like to affect the appearance of my corals for long periods of time. Take the cut piece (1/2 to 1 inch in size) and adhere to a rock with a rubber band, stick, or a toothpick through it into another rock, or superglue it. I'll explain that technique later. Always take a cutting from a large sized, well established piece. Never cut any from a new addition or a small coral.

These are 2 cuttings from a lettuce leather colony. I used 2 different parts of the coral to see which grows the best. They were both successful and open their hairy little polyps every day. The larger one I pulled from the base and when I did it left 2 little pieces on the rock and they have already started to grow. Very pleased with that! I then attached it by taking it out of the water and putting a drop of superglue on its base and gluing it to the dry piece of rock. Then I put it in the tank 15 seconds later. The smaller piece I cut a lobe of a larger lettuce piece in the colony. Then superglued it using the same method.



These button polyps were simply pulled from the mother colony and moved. This works with all soft polyps. Encrusting polyps can be propagated by laying a flat rock like slate near the edge of the colony. As the colony grows it will grow on the rock then remove it. You can also take a chisel and carefully break the colony in half.

These mushrooms were found growing in the substrate. I picked them up. They were attached to little pieces of crushed coral so I superglued them to larger rocks.



The stony branching corals like frogspawn, torch, or favite branching can be propagated by taking a pair of cutting pliers and removing a branch from the mother colony. Make the cut as low as possible away from the flesh of the coral. With this method, you are not even cutting the meat of the coral so no stress is involved to the coral.

Any questions, send me an email at [taz@aug.com](mailto:taz@aug.com)

***Editor's Comments:***

The article above was obtained, with permission, from Torrey's website at <http://www.geocities.com/Hollywood/Park/7604/page1.htm> (*url dead 8/24/04*). Editing was limited to reworking the html to the Fish & Chips format and correcting a few spelling and grammar errors.

***Photo Credits:***

All images with this article were obtained, with permission, from Torrey's website at <http://www.geocities.com/Hollywood/Park/7604/page1.htm> (*url dead 8/24/04*).

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## ***No Guarantee's In Saltwater***

**By Taylor Whipple**

**Edited By Elizabeth M. Lukan, 8/23/99**

Reprinted from the

**Treasure Valley Marine Aquarium Society News**

January 1, 1999, Volume 2, Issue 1

Edited and published by Kim Gross of Jen's Saltwater Haven

Those of you who keep saltwater fish, or other organisms, know that unlike freshwater fish, most saltwater fish do not come with a 14-day guarantee, or any for that matter. *(Editors note. It is possible to find stores that do offer guarantees, some will charge extra for the guarantee, others will provide it free. Make sure you ask about the guarantee policy before you purchase any livestock.)* This is due to the many factors involved with the water and tank, because of this you should take extra precautions when buying saltwater fish. Here are a few guidelines to help you when purchasing a new saltwater fish.

**-Know the specifics-** Do not attempt to put a fish in your tank that you do not understand the long term needs required to keep it alive. *(Editors note. This is true for invertebrates as well as fish.)* Find out what it eats, what it can eat, or what will eat it. You do not want to put in that beautiful butterfly fish in your reef tank, to find out that its favorite food is your expensive coral polyps. You will also need to find out how large the fish will grow. It may be small enough for your tank today, but will it still be small enough in 6 months, how about 2 years? Then you can narrow it down to what will be a suitable fish for your tank. Also, feel free to ask questions about the fish to any store representative. That is what they are there for. *(Editors note. Many stores have books that they will allow you to look the fish up in to see what the book lists for as food for the fish. It is much better to ask questions first than to try to catch a fish out of your tank that you really do not want later on.)*

**-Ask to watch it eat-** This is a very important step. If you have not seen the fish eat, how do you know if it is eating at all? It is sometimes not enough to have the sales person tell you 'oh yeah it's been eating for days now'. If they tell you that they cannot feed it at the moment ask when they can. It may mean returning to the store at another time but this way you will see for yourself. This is very important when buying more expensive fish.

**-Avoid New Fish-** Fish that have just arrived at the store less than a few days should be avoided. Often fish come in from a long and stressful trip from their supplier, which make it very susceptible to disease. Saltwater fish are also very sensitive. Wait for it to be accustomed in the dealer's tank before adding it to yours. This way you will have a better chance of having the fish survive in your tank.

**-Avoid Expensive Fish-** If you buy a \$100 dollar fish and it dies within the next few days most stores will not give you a refund or reimburse you. It should be known that fish in this price range can do excellent in your tank, just make sure you take extra precautions to lessen your chance at losing a lot of money. *(Editors note. When it comes to expensive fish, you do not need to avoid them, but you do need to make sure that your tank and your skills are ready for the risk involved.)*

Most importantly, make sure you are comfortable with your decision. Don't take a chance

if you are unsure. Once all these steps have been completed you should have much better luck keeping your new fish.

Thanks! Taylor

***Editor's Comments:***

The Treasure Valley Marine Aquarium Society News is the baby of Kim Gross of Jen's Saltwater Haven. The complete issue can be found on the Jen's Saltwater Haven website (<http://www.jensalt.com>). The article above was reprinted here with Kim's permission. The italicized "Editor's Notes" above are Kim's notes, not mine. Editing was limited to re-working the html to the Fish & Chips format and correcting a few spelling and grammar errors.

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## ***Counter Current Skimmer***

***- A Hobbyist Skimmer Review -***

**Edited By Elizabeth M. Lukan, 8/27/99**

***General Information:***

All ratings are 1 through 10 (10 being the best or yes, 1 being the worst or no). The items in parentheses are only given as a more detailed explanation and to give you an idea of what was meant by the category. Permission to publish these reviews was obtained through a clause in the survey. See the end of this article for review, survey, and article credits.

***Construction Quality (Acrylic thickness, polish, glue job, etc.):***

**Score: 6**

***Aesthetic Quality (Does it look good, etc.):***

**Score: 6**

***Performance (Does it keep your water clean, must you adjust it all the time, etc.):***

**Score: 7**

***Foaming (Does it do it consistently, is it nice and thick, is it dark, etc.):***

**Score: 8**

***Ease Of Installation:***

**Score: 7**

***Would you buy it again?:***

**Comments: No**

***Electrical Efficiency (Does the pump it uses work well, etc.):***

**Score: 8**

***Plankton Level (Do you have a lot, etc.):***

**Score: ?**

***Overall Value (Did you get what you paid for, etc.):***

**Score: 8**

***Overall Satisfaction (Do you like it, etc.):***

**Score: 6**

***Comments:***

This is my first skimmer. It is still in operation on a utility tank. It is a 30" x 4" hang on counter current no name brand. At least I think it is a counter current. The water is pumped in at the top and there is a wooden airblock at the bottom. A collection cup with a drain sits at the top. This skimmer is a pig to clean. The collection cup is hard to remove. The bottom part of the column is impossible to clean. I have broken pieces occasion. There is an inherent design flaw that allows bubbles to enter the tank. Comparing the skimmate of these two skimmers (*Editor's note: Hobbyist also submitted a review on the Red Sea Berlin Classic Skimmer which appeared in the April 1999 issue of Fish & Chips.*) is interesting. The venturi pulls out the nastiest, foul smelling crud I have ever seen. The counter current is a little less aggressive and has a tendency to act up (overflow a lot of clear water).

***Review, Survey, and Article Credits:***

Review by Keith.

Survey created and hosted by Ian McDonald ([IANsSnakes@aol.com](mailto:IANsSnakes@aol.com))    **The Survey is closed.**

Ian would like to extend his thanks to Chris Paris (aka Cap) and Steve Wolfe (aka NerveGas) for all their assistance in getting the survey going.

***Editor's Comments:***

Editing was limited to spelling corrections and some grammar (capitalizing the beginning of a sentence, adding a period at the end, etc.). No other editing was done, what you read was exactly what was sent to Ian by the reviewer.

Since the skimmer's brand name is unknown and I could not determine it from the description, no images or further information can be provided.

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***What's Up @ ReefsUK***

- <http://www.reefsuk.org> -

By Elizabeth M. Lukan 9/9/99

**8/18/99** - Mark Taber is looking for someone to head a section of the ReefsUK Web Site called "Minimum Requirements For A Marine/Reef Aquarium." This section would list the basic requirements needed before attempting to keep a marine or reef aquarium. The articles in this section need to demand high standards and must explain the reasons behind such high standards. And, they shouldn't be afraid to dismiss old fashion methods. Mark has already started on this project and has some articles written, but he needs someone to take over. Anyone interested should contact Mark via email at [post@reefsuk.org](mailto:post@reefsuk.org).

**8/16/99** - The following is from a post sent out on a reef conservation email group. Although the post never stated whether the corals were alive or dead, the affect is the same, hobbyists will be blamed for the destruction of the reefs when in truth illegal trade and other human activities (like destructive fishing practices) are more at fault. A US federal investigation of illegal coral trafficking, spearheaded by the US Fish and Wildlife Service, resulted in the 8/9/99 criminal convictions of a Tarpon Springs, Florida man and his business for smuggling internationally protected corals from the Philippines to the US. Petros "Pete" Leventis and Greek Island Imports, Inc. and Ester T. Flores, owner and operator of a seashell and souvenir exporting business in Cebu City, Republic of the Philippines, were indicted in November 1998 for smuggling protected corals and seashells into the US. The Philippines banned the export of corals in 1977 and Mr. Leventis and Ms. Flores had been doing this since 1991. Mr. Leventis will be sentenced in November and is looking at up to five years in jail and fines up to \$250,000 for each of his three felony convictions. His company faces fines of up to \$500,000 per count. The US has filed papers with the Philippines seeking the extradition of Ms. Flores.

**8/18/99** - Another post on a reef conservation email list had this to say: A debate currently rages in Fiji regarding coral harvesting. Their Fisheries Department commissioned a paper and the recommendation is to allow the fishing industry to go ahead and harvest corals. There is great concern in the country about the potential damage this could cause to the environment which they feel has not been adequately addressed in the report. A call for support was made.

**8/18/99** - A new book, "The Global Trade In Coral," by the World Conservation Monitoring Centre under the heading WCMC Biodiversity Series No. 9. This is a small book being distributed by TMC and goes into detail on the quantities of corals being imported/exported around the world for the aquarium trade. The book can be ordered directly from TMC for £7 (shipping and handling included). TMC can be reached at the following:

Solebridge Lane

Chorleywood  
Hertfordshire  
WD3 5SX  
United Kingdom

+44 (0)923 284151

**8/31/99** - A new article has been added to the ReefsUK Library. Luis Magnasco of Argentina adds his article on raising Yellow Tailed Damsels (*Chrysiptera parasema*). The article can be found in the "Articles" section under "Captive Breeding."

**8/18/99** - More articles on captive propagation of corals and captive breeding of fish and other livestock are needed. Article length is not important, as long as you explain what has been achieved. It is important to get this information out to other hobbyists. The more information available, the more likely others will be to try these methods.

**8/29/99** - Mark received an article from a contact in the NY Aquarium. The article, "Will Seabeds Go the Way of the Birds?", was reprinted from the July 1999 PetLetter of the Pet Industry Joint Advisory Council (PIJAC). To summarize the article, the US government is moving forward with efforts to ban the removal of corals and livestock in general from the reefs. A controversial subject usually and in the heat of the arguments on this matter is the true cause of reef degradation. Most in the hobby will agree that it's not fair to ban us from the reefs when we are not the main cause of the problem, find the true sources and STOP that. But, regardless of this fight, our role is clear, if we wish to keep our hobby, we must do everything within our power to keep our pets alive, healthy, happy, and propagate them!

To join the ReefsUK Mailing List, send an email to Mark T. Taber at [post@reefsuk.org](mailto:post@reefsuk.org).

***Editor's Comments:***

Information in this section covers the latest happenings at Mark T. Taber's ReefsUK Web Site. Mark has given me permission to publish any information from his mailing list that I feel would be of interest to Fish & Chips subscribers. So, the above, although reworded by me, should be credited to Mark. The dates in bold coincide with Mark's mailings and are provided as a reference.

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***Caught In The Net***  
**By Elizabeth M. Lukan 9/11/99**

[New Articles On #reefs](#)

### Paul Auger on Berlin versus NNR Systems

[http://www.reefs.org/library/talklog/p\\_auger\\_081599.html](http://www.reefs.org/library/talklog/p_auger_081599.html)

Log of Paul Auger's 8/15/99 talk on data attained to compare nutrients found in a Berlin versus a NNR system. Some very interesting results were collected by Paul.

### Keeping Anemones by Rob Toonen

[http://www.reefs.org/library/article/r\\_toonen8.html](http://www.reefs.org/library/article/r_toonen8.html)

Should we really be keeping anemones in an aquarium? Rob Toonen discusses this in his new article in the #reefs Library, "Keeping Anemones."

[This Month's Selection From The Fish & Chips Site List](#)

## Informational & Educational Sites

### Contest

- ~~<http://www.fishroom.com>~~ (*url dead 8/24/04*) (7/29/99)  
*"We are a community. Always looking for people to help."*
- Reefers - <http://www.acropora.com> (1/12/99) (*url dead 10/03/05*)  
(Listed by ELukan, Fish & Chips)

The above list matches a portion of the site list maintained on the Fish & 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 & Chips Website at <http://www.marinefiends.com/> (*updated 8/24/04*).

**Site Submission and Updating:** To submit your site for inclusion in the Fish & Chips newsletter and website based Site List, please go to the Fish & 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 or if your browser doesn't support forms.

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## *Chips...er...Tips*

### Marking Your Specific Gravity

By Elizabeth M. Lukan 9/11/99

I've seen it recommended that you should make a line on your sump for the water level at the Specific Gravity that you keep your tank. This way you know exactly when and how much you need to top off your tank and maintain your levels. This is a great suggestion, but doing it with a magic marker isn't the best idea. I've found that whenever I do water changes, the level of water in my sump for my specific gravity is in a different spot. So, I've taken a piece of masking tape (the beige/tan looking tape) and I can move it around along with my water level.

**To Submit Your Tip:** Send your tip via email to [FishNChips@mail.com](mailto:FishNChips@mail.com) (address updated 4/26/00) with a subject of *Tip Submission* (information updated 4/26/00: coding replaces need for subject notation) and I'll publish it in an upcoming issue of Fish & 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 9/11/99

October 1999

### **The 1999 Eastern PA Reef Club Symposium**

**Date and Time:** Saturday, October 16, 1999. Registration starts at 9:00 AM, Seminar starts at 10:00 AM. The event will end around 6:00 PM.

**Guest Speakers:** Joyce Wilkerson, Todd Gardner, Noel Curry.

**Location:** East Stroudsburg University, 200 Prospect Street, East Stroudsburg, PA, USA 18301-2999

**Cost:** EPARC Members: \$15, Non-EPARC Members: \$20, ESU Students: \$13

**Info:** For more information go to <http://www.eparc.com> (*url dead 8/24/04*) or direct link to <http://www.eparc.com/fall1999/symposium.shtml> (*url dead 8/24/04*). To order via a credit card go to <http://www.acropora.com> (*url dead 10/03/05*), click Catalog and then EPARC. If you have any questions please email William Horst, President of the Eastern PA Reef Club at [president@eparc.com](mailto:president@eparc.com) (*url dead 8/24/04*). They are limited to 125 people in the amphitheater seating at the University, so please order your tickets today. You will definitely not want to miss this event!

**To Submit Your Event:** Send your event and all the specifics (date, time, location, pricing, contact info, etc.) via email to [FishNChips@mail.com](mailto:FishNChips@mail.com) (address updated 4/26/00) with a subject of *Event Submission* (information updated 4/26/00: coding replaces need for subject notation) and I'll publish it in all issues of Fish & Chips prior to the event.

## *What the ... ?*

By Elizabeth M. Lukan 9/11/99

### **Annelid**

Relating to or belonging to or characteristic of any worms of the phylum Annelida. Worms with cylindrical bodies segmented both internally and externally.

### **Calcareous**

Composed of or containing calcium carbonate, calcium, or limestone.

### **Carnivore**

A flesh-eating animal.

### **Chitin -ous**

A tough protective substance that is the principal component of crustacean shells.

### **Cilia / Cilium / Ciliated**

A microscopic hairlike process extending from a cell or unicellular organism and capable of rhythmical motion. Ciliated means having cilia.

### **Commensal / Commensalism**

A symbiotic relationship between two organisms of different species in which one derives some benefit while the other is unaffected.

### **Genera / Genus**

Genera is the plural of genus. In the **taxonomy** classification, the genus is the category ranking below a family and above a species. Simply said, it's a class, group, or kind with common attributes.

### **Hermaphrodites**

An animal in which both male and female sex organs are present. Rarely do both systems operate simultaneously.

### **Larva -vae -vas / Larval**

The newly hatched stage of any of various animals that differ markedly in form and appearance from the adult.

### **Mantle**

Large, pigmented fleshy portion of tridacnid clams that is exposed to the light by gaping of the shell valves. Also called siphonal tissue. Also coral tissue is fleshy polyps (ee.g Catalaphyllia).

### **Matrix**

Biologically speaking, matrix is the intercellular substance of a tissue.

### **Metamorphosis**

A change in form and often habits during development after the embryonic stage.

### **Omnivore**

An omnivore is an animal who will eat both meat and vegetables.

### **Parapodium / Parapodia**

One of the lateral appendages of an annelid. Also called a foot **tubercle**. They may serve for locomotion, respiration, and sensation, and often contain spines or set [ae]. When well developed, a dorsal part (notopodium) and a ventral part (neuropodium) are distinguished.

### **Pathogen / Pathogenic**

An agent that causes diseases especially a living microorganism such as a bacterium or fungus.

### **Pharynx**

The section of the alimentary canal that extends from the nasal cavities to the larynx, where it becomes continuous with the esophagus.

### **Phylum**

In the taxonomy classification, the phylum is the category ranking below a kingdom and above a class.

### **Proboscis**

A long, flexible snout or trunk, such as an elephant has.

### **Protozoan**

A protozoan is a single-celled, microscopic (usually) organism. For example, an amoeba.

### **Sclerites**

Part of the skeletal/structural support in soft corals. They are composed of calcium carbonate imbedded in the tissue of most soft corals (octocorallia).

### **Set -ae**

Any slender, more or less rigid, bristlelike organ or part; as the hairs of a caterpillar, the slender spines of a crustacean, the hairlike processes of a protozoan, the bristles or stiff hairs on the leaves of some plants, or the pedicel of the capsule of a moss. One of the movable chitinous spines or hooks of an annelid. They usually arise in clusters from muscular capsules, and are used in locomotion and for defense. They are very diverse in form.

## **Taxonomy**

The classification of organisms in an ordered system that indicates natural relationships.

## **Terpenoid**

Organic compounds produced by soft corals for defense and aggressive colonization of new substrate.

## **Tubercles**

Wart-like projections on **sclerites**.

## **Zooxanthellae**

These are the tiny plants called dinoflagellates (single-celled microscopic organisms which belong to the Protista kingdom) that live symbiotically with corals, tridacnid clams, and some sponges. They provide food for the host and in return get the nitrogen, phosphorous, and carbon dioxide they need for growth. The scientific name is Symbiodinium spp.

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## *Prove It!*

**By Elizabeth M. Lukan 9/13/99**

The American Heritage Dictionary, Third Edition, Copyright 1994 by Houghton Mifflin Company

Dictionary.com, <http://dictionary.reference.com/> (*updated 8/24/04*)

Exotic Tropicals, <http://www.exotictropicals.com>

Freshwater And Marine Aquarium Magazine, August 1999, Buyer's Guide To Corals Part 3: Assorted Reef Animals by Michael P. Janes

Harbor Aquatics, <http://www.harboraquatics.com> (*url dead, 10/02/05*)

Infoplease.com, <http://www.infoplease.com/index.html>

The Lurker's Guide To Stomatopods, (<http://www.blueboard.com/mantis/>)

Neuroscience Florida State University Online Dictionary, <http://www.neuro.fsu.edu/diction.htm> (*url dead 8/24/04*)

The Reef Aquarium Volume One by J. Charles Delbeek and Julian Sprung, First Printing July 1994, Published by Ricordea Publishing

The Reef Aquarium Volume Two by Julian Sprung and J. Charles Delbeek, First Printing June 1997, Published by Ricordea Publishing

Richard S. Hogg's Home Page, (<http://www.his.com/~rshogg/home.html> (*url dead 8/24/04*))

Simplified Reef Keeping, <http://www.connix.com/~reefkeep/> (*url dead 8/24/04*)

The Wave - Eastern PA Reef Club Newsletter Volume #1, Issue #9, July 1998, Tridacna Clams By Todd Kunkel, found on the Eastern PA Reef Club Website, <http://www.eperc.com> (*url dead 8/24/04*)

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Any and all comments, suggestions, etc., should be directed to [FishNChips@mail.com](mailto:FishNChips@mail.com) (*address updated 4/15/00*).

Please visit the Fish & Chips website at <http://www.marinefiends.com/> (*updated 8/24/04*).

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