

***Keeping  
Tropical Fish  
by the  
Novice  
Aquarist***

**Steve Pond**

[www.tropicalfishaquarist.com](http://www.tropicalfishaquarist.com)

A  
Special Report  
For the  
Beginning Novice Aquarist

From

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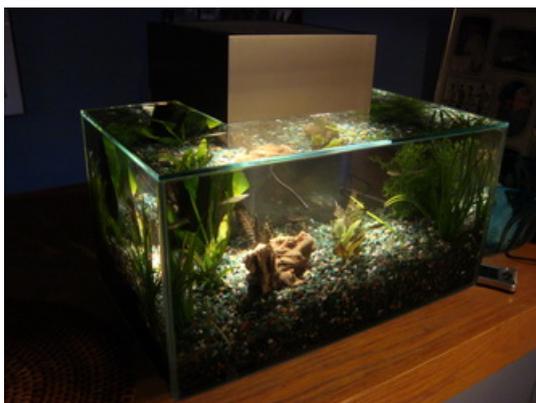
# Introduction



Tropical fish aquariums offer a fascinating living picture and a view into the underwater treasures that are rarely otherwise discovered. Aquariums are a convenient and practical way to bring a little piece of this amazing underwater ecological habitat right into your home for the enjoyment of young and old alike. There are no real rules, you can fabricate any underwater scene you may prefer. It's not all that difficult to set-up and maintain a beautiful underwater "canvas" that offers much more than simple beauty. Research has shown that watching an aquarium for a little while often reduces stress. They have a very calming effect on those lucky enough to take the time to observe a tank's action and interactions.

One of the many advantages of a community aquarium is it is a great learning tool. For children, a tank can provide life lessons a child will need to understand as they grow. Aquariums are a great tool to teach a child about life, as well as the responsibilities when keeping a pet of their own. Whatever the original reason, the home fish tank, with its brightly colored tropical fish swimming in a dazzling underwater world, will captivate young and old alike.

It requires a little knowledge to set up your first aquarium. You must ensure it provides healthy conditions for the fish you select to populate it. You aren't just setting up a place for the fish, but an entire ecosystem that has many interdependent parts. As you begin to understand these interactions, it is easy to become a very successful. Hobbyists often create a delightful centerpiece to any room. A well designed aquarium habitat often successfully competes with many of the television programs currently available. The picture is always there waiting to draw you into it.



It is so easy to relax watching the antics of the fish in your very own aquarium.



# 1) Understanding the Environment

The Inhabitants are very different from you!



The aquatic environment is a completely different world from what you are living in.

Everything is different.

Instead of being trapped on the ground, fish deal with an additional axis, up and down as well as forward, backward, left and right. They have organs, such as swim bladders, that allow them to control how they move in a three dimensional environment. Unlike birds, that seem to be two very different organisms, one that is able to fly free and easily, or quite awkward when standing on land, the fish are comfortable and fully supported by the three dimensional space they inhabit at all times.

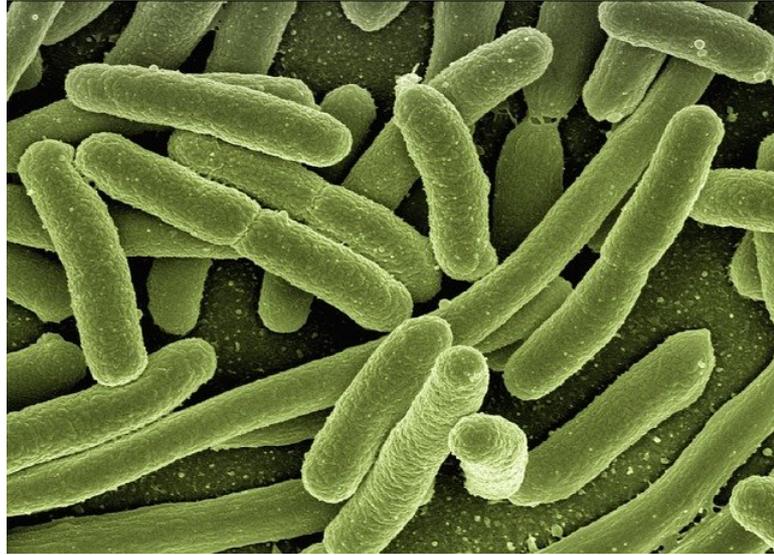
Besides mobility, there are much more fundamental differences between fish and people (or even birds). Fish are poikilothermic - cold blooded. Their body temperature is almost identical to the surrounding water temperature. They have no way to regulate their body temperature. They are completely at the mercy of the water they are kept in. The important fact is they do not use anywhere as much energy as you do. Mammals, such as humans, burn about 85% of the calories that they ingest. Their metabolism carefully regulates the internal body temperature within very strict limits. Humans maintain an even, stable temperature at 98.6o F - 36.6oC.

Fish are almost exactly the temperature of the water they live in. As the water varies in temperature, so does the temperature of the fish in it. Since fish make no attempt to regulate their body temperature in any meaningful fashion, they require a lot less calories to survive in top shape. This single confusion is one of the most deadly problems fish face with new aquarists.

Fish are not people, and should never be considered as such.



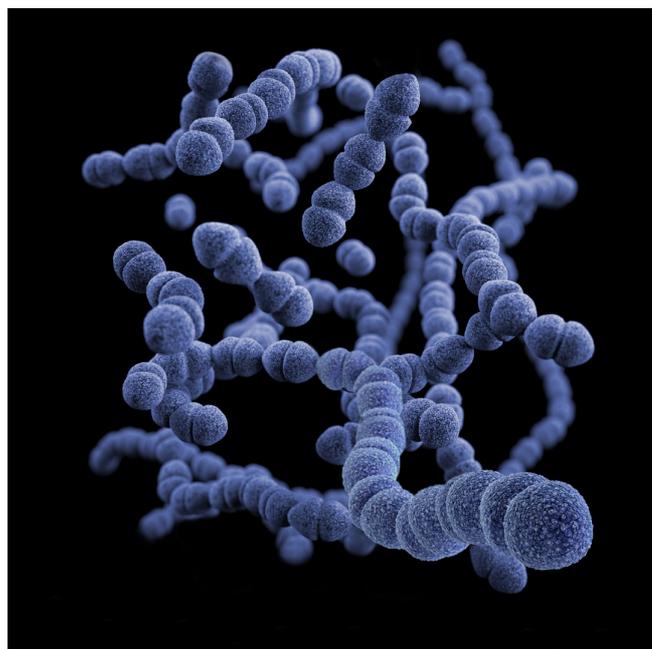
# The Invisible world in every aquarium



In the War of the Worlds, the invading Martians were finally overcome and defeated by an invisible, ubiquitous enemy, bacteria. These invisible inhabitants of our planet seem to be everywhere that life exists. This is especially true in the case of underwater environments.

Fish are not the only life that inhabits an aquarium.

A very important level is occupied by bacteria operating in a variety of functions to keep it safe and vibrant. They are vital participants in decay processes and controlling concentrations of harmful by-products such as Ammonia and Nitrite. Bacteria's importance for a maturing new aquarium is carefully considered in Chapter 9 of Beginning Aquarium for the Novice Aquarium.



# 2) Understanding Water

## A brief overview

Water is the most pervasive component in any fish's life. They swim in it and they breathe in it. For many, water is simply the fluid to quench their thirst; or falling during their daily shower. Other than an occasional thought about its purity, most people can go through life with little if any understanding of this life giving liquid. The chemical composition of water, H<sub>2</sub>O is well known. It is rarely found in a chemically pure state. In fact, in its true pure state, it would be unable to properly support life. It is so pure and has no buffer that the pH and other characteristics simply will not provide the stable conditions that would allow a fish to survive and thrive.

Water is often termed the universal solvent. Given enough time and exposure, it dissolves almost anything it comes in contact. As it works its magic, it can gain a wide range of other compounds dissolved as part of the solution. These dissolved substances are important for fish health and well being.

## Fish come from Specific Eco-Systems

The geographical location where a fish species originates has certain characteristics. One of these is temperature. Highly fluctuating temperatures wreak havoc on the digestive tract and other metabolic processes in any fish. Their natural digestive enzymes and any symbiotic bacteria in the intestinal tract often operate efficiently only in very tight temperature bands that occur in their native geographical areas. In addition, all the compounds that have been dissolved into the solution make up a set of unique characteristics the fish require for an extended lifespan. The interaction between the water, its minerals, trace element content, the salts and other compounds need to be balanced for the fish to live in an unstressed habitat.



# Important Water Characteristics

The dissolved chemicals found in the native water where a species has evolved affect water chemistry such as hardness, pH and specific gravity. Certain chemicals and organic compounds can also be dissolved in the water. Tannins, phenols or dyes can create a distinct tint to the native waters as well. Salts and organically produced compounds such as ammonia and nitrite can offer serious health risks for fish and the environment. To show the fish you select to their best advantage, it may take some effort to ensure the water the fish find in their new home bears a close resemblance to characteristics of the native habitat.

Water has different characteristics depending on the dissolved substances in the solution. These are measured by various test kits. Common ones include pH, calcium, phosphate and hardness. In addition to various chemicals, the results of decay and other biological processes often add compounds that are a problem for fish. The two most important that should be monitored, especially during the first eight weeks, are ammonia and nitrite.

In the very beginning, you should try to select strong hardy fish. Hopefully they are somewhat acclimated to your actual geographical water conditions. Taking a bit of time with the your local pet store's employees to understand which are best suited to your municipal tap water can save a lot of trial and error. Proper selection of starter fish reduces the worry about the actual water chemistry. This allows some breathing room until you understand better what occurs in the aquarium.



# Tap Water is toxic to fish

When a new aquarium is setup, there is another extremely important water characteristic. Municipal tapwater is often treated with germicidal compounds to make it safe for human consumption. The germicides are put there to kill bacteria that can cause deadly problems for humans if they ingest them. They aren't all that good for fish either, and can kill them when they contact gills and other sensitive membranes. This must be dealt with before fish can survive in the aquarium.

Tap water may be safe for us to drink and use in our daily lives, but it is often deadly to any fish or bacteria it contacts. Chlorine (as a gas) is the most common germicidal agent used. It kills bacteria on contact. At the same time it will seriously damage the gills and delicate tissues of any fish unfortunate enough to come into contact with it. Since it is bubbled into the water as a gas, chlorine will slowly evaporate from still water if left alone for a couple of days. Chlorine must be neutralized or evaporated out before tap water is safe for an aquarium ecosystem.

There is a second compound that is used less often to make drinking water safe for humans. It is deadlier for fish if they come into contact with it. Chloramine is used when municipal water must be shipped a long way or stored for an extended period. Chloramine is the product of bubbling chlorine gas through ammonia pellets. This creates a liquid. Since it is a liquid, and not a gas, it never evaporates. It stays in untreated tap water for a very long time. It is more difficult to eliminate as well. To neutralize, it requires at least a 2 - 3 times dosage of a standard chlorine treatment. This breaks the chlorine-ammonia chemical bond and then instantly neutralizes the chlorine. Ammonia is freed into the water and remains until removed by the biological filter..



# 3)Evaluating the Aquarium Kit

## What do you really need?

My complete book [Beginning Aquarium for the Novice Aquarium](#) thoroughly explains the items a new aquarium setup, in most cases, a store bought Starter Kit should include. The main items required for a successful tropical fish installation include:

### Expected in a good kit

- Aquarium - \*
- Light (or Cover) - \*
- Light Bulb - \*
- Heater - \*\*
- Thermometer - \*\*
- Filter - \*
- Filter Media - \*

### Required but rarely included

- Stand - \*
- Gravel - \*
- Background - \*\*\*\*
- Live Plants (if desired) - \*\*\*\*
- Water
- Fish

### Optionally Included - Depending on the kit

- Water Conditioner - \*\*\*
- Food - \*
- Net - \*\*
- General Set-Up Instructions - \*
- Plastic Plants - \*\*\*\*
- Decorations - \*\*\*\*

### Items Required, BUT not immediately

- Gravel Cleaner
- Replacement Filter Media
- Algae Scrubber
- pH Test Kit
- Nitrite Test Kit
- Ammonia Test Kit (depending on pH reading)

\* Required to set aquarium system up

\*\* Often required, but depends on fish selection - required for tropical fish, not needed for goldfish

\*\*\* Required when using municipally treated tapwater. May not be needed for well water or other sources

\*\*\*\* Optional, but usually an essential part of the overall aquarium's look



Kits come in all sizes and varieties of equipment. The main pieces that are important are the aquarium, the stand, the filter, the light and the heater. The higher quality each of these are, the more expensive the kit.

**But always remember, you get what you pay for!**

The aquarium should be as large as you can afford (with all the accessories sized properly as well). The larger it is, the more forgiving the community will be; should something go wrong. It goes without saying that the larger the tank the more fish you can ultimately put in. Never overcrowd the system right away. That is simply asking for disaster.

I never recommend a marine aquarium under 30 gallons. It should be much, much larger if you really want to have success. A marine installation is rarely the first tank a beginner will set up, unless he has thousands of dollars he wants to lose. Freshwater tropical fish are by far the most popular beginning fish due to the large range and selection available. Probably the most common freshwater tropical fish aquarium starter kit sold is the 10 U.S. gallon tank. This will hold a fairly good mix of fish, but the larger the better. A 25 gallon aquarium will offer the greater ability to keep more exotic species. Always size the tank as large as you can afford, but remember the other essential accessories will also add a cost to the initial set-up price.

Filtration should never be minimal. The wastes produced by the aquarium must be controlled. That is the job of the filter. When you understand filtration and the best types for your planned community, you will have a much greater chance for success. Take your time and have a long talk with the pet store experts about the various benefits and problems with each filter.

For the beginner, I prefer to recommend either a multi-insert style clip-on power filter which fills the entire filter chamber with media, or a canister filter. Canisters allow individual selection and customization of filter media for the species you are planning to keep. Personally, my long history with keeping fish has led me to look for ways in which the maintenance of an aquarium can be reduced as much as possible. I have been interested in the "science/art" of aquaponics implemented into the home aquarium, but that is for a different time.

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In the early days of the hobby, the standard light for smaller tanks was most often the incandescent "showcase" bulb. Constant improvement in fluorescent lighting has reduced the popularity of incandescent fixtures and replaced them in better quality tanks with fluorescent lighting, the best ones have incorporated the low wattage, long lasting LED fixtures and lamps. Fluorescent fixtures are still available, but if you are planning on keeping live plants in the aquarium you should make sure you are purchasing LED fixtures in your starter kit.

These are the bulbs the aquarium industry has waited to obtain for plants. The burgeoning occurrence of live plants in many aquariums is a direct result of the improved spectrum and illumination power LED bulbs offer the novice aquarist. It had been this single advancement that has made the ability to use the advantages of aquaponics by the home aquarist as well. The color rendition and growing spectrums of LED systems is much better controlled in their design and there is minimal heat driven into the tank by the bulbs.

LED systems have pretty much replaced Incandescent, fluorescent and Compact fluorescent bulbs as LED lighting has become much more popular and in many places mandated as the only accepted lighting method. Both LED and Fluorescent are much better than incandescent bulbs and offer a number of advantages in smaller aquariums.

The heater is also a vital element in the care and long term maintenance of tropical fish. They require a steady, even temperature held constant over time. There are cheap non-submersible heaters available, but, you really do get what you pay for. If at all possible, always opt for a high-end submersible heater, preferably electronic, to ensure the tank is properly heated right from the start. If two kits seem comparable and you need to make a decision, opt for the one with the better heater in it.

As far as the rest of the equipment and what you ultimately decide, nothing replaces the information you can obtain with a few conversations with the experts who work in your local Live Fish Store (LFS). They know what works best in your local area and are a constant source of advice and help during all phases of keeping fish, for beginner to expert. If you need a good manual, I suggest looking at *Beginning Aquarium for the Novice Aquarium*. It was written with the needs of the beginner in mind, but with information that will help anyone as they advance in the hobby.



# 4)Setting up the aquarium

## Traps and Pitfalls

The initial set-up period is the best time to get the aquarium set-up correctly in such a way that it should not require modification later in its life. Be sure that you always use an aquarium stand to support the aquarium. Most manufacturers only guarantee the aquarium from breakage if a properly constructed aquarium stand is used as the support. Furniture and other surfaces are not often able to support an aquarium properly for an extended length of time.

Assuming an aquarium stand is used, it must be built correctly, according to the assembly instructions and in such a way as to be solid without wobbles and unwanted movement. The actual placement of the aquarium is very important. Water is extremely heavy, so the location of the tank must be some place stable and well supported. In most cases, placing the aquarium against a supporting inside wall is the best place for the tank. The floor should be quite solid. You don't want the aquarium to move and vibrate as people walk by.

### **Locating the tank in a quiet place is also advised.**

High traffic, active areas will cause stress to the fish. You want them to be natural and comfortable in their environment. Active, noisy areas are not conducive for the long term health and well being of the fish. By placing a new aquarium in a quiet and tranquil place both the fish and the viewer benefits from the restful, less stressful, environment.

There are some other things to keep in mind. The fish need to be protected from quite a number of outside factors. Air ducts, both warm and cooling must not be close by or directed toward the aquarium. Otherwise the system may have to work too hard to keep the temperature of the aquarium even and stable.

The sun offers natural light, and common sense suggests that keeping the tank in a bright sunny spot will help the fish. This couldn't be farther from the truth. The sun will warm the tank if it hits, then the tank will rapidly cool after it is gone. That uncontrolled temperature variation isn't the worst thing, though. Natural sunlight is ideal for the growth of the single celled plant - algae. Its power can cause these simple organisms to "bloom" and creates "green water". Artificial light should be the only illumination any aquarium is ever exposed to. It can help live plants grow, but rarely offers the extreme power the sun can to super charge algae blooms and their "peasoup" results.

Finally, the aquarium needs to be protected from any other pets in the household. Keep the aquarium away from easy access by the family cat who would like nothing more than to go fishing in a captive environment.



## 5) Decorating the Aquarium

There are lots of things that have been used to decorate an aquarium. Many selections depend on the type of aquarium and the personal preferences of the person who is implementing the system. I suggest that any decorations be purchased from the local pet store to ensure they are safe and non-toxic to the fish. Simply picking up a stone or driftwood piece along the river bank often introduces unwanted diseases and pathogens. There are ways to make some of these "natural" decorations safer. In the long run though, it really is best to ensure that everything that is put in the aquarium is actually safe for it. Trust to the local expertise of the fish experts in your local pet store for advice on what you can add to the tank and what to keep out.

Before adding anything to the aquarium, it should be properly rinsed and prepared for use. This includes your hands and arms. Anything you are placing in the tank should be clean and soap free. Often people forget that they use lotions on their arms for a variety of purposes, just be aware that these preparations can carry with them toxic compounds that could cause difficulties for your new fish. Rinse your hands and arms (as far in as you will place them in the aquarium) before they are placed in the fish tank - anything that might carry soap or detergents should also be rinsed thoroughly and never use buckets or other water vessels that have been in contact with soap, ever.

Just like with most decorations, I recommend that gravel be purchased from the pet store. This ensures it is safe and will not contaminate the water with excessive leached compounds from the actual mineral composition. It is fine to go natural, but it is often better to select natural colors that have been treated to ensure they are not going to cause unexpected fluctuations in the water composition as unknown compounds are released by the substrate as it comes into extended contact with the water in the tank.

It is also wise to install a background for the aquarium. It makes the living picture much more enjoyable by hiding all sorts of wires and tubes running up the back of the aquarium. It can also prevent the sun from entering the tank. The deleterious effects of the sun were discussed previously.



Once the gravel has been selected, the aquarium needs to be decorated and built up in stages. Don't simply throw the gravel into the tank, fill it up and then add the decorations. It is much better to put the proper amount and type of gravel into the aquarium and then start filling the tank. Before it is half full, the heavier ornaments, rocks, decorations and live plants should be added and placed the way you like. If you are creating walls and ledges with rockwork and gravel, a half full tank is easier to work in and get it right faster. Small pieces and other parts can be added after the tank is topped up.

Be careful.

Always leave enough room for your hands and arms to enter the tank to make small adjustments without overflowing.

Only when you are all done decorating and positioned all accessories should you top up the aquarium to its proper level for regular operation. After you no longer need to put hands in the tank!



# 6) Understanding Filtration

## A brief overview

The filter is truly the heart of the aquarium. Understanding what it does is extremely important. Most new fishkeepers expect the filter to remove all the dirt and keep the aquarium clean and spotless. The water, of course, must remain crystal clear or they don't believe the filter is doing its job.

**Simply put – that's not the way it is.**

A filter will remove most of the debris that is created, but not all of it. Depending on the filter, the dirt suspended in the water will be removed from the aquarium fairly efficiently. But, rarely will the aquarium stay spotless from a filter's action alone.

**Mechanical filtration** simply provides a sieve that particles get trapped within. It has limits on how small the particles to effectively trap them. Mechanical filtration cannot remove any dissolved compounds in the water itself, such as discolorations and dyes, etc.

The water also carries microscopic organisms much too small for most filter media to easily trap. After three days or so, new water can suddenly become cloudy from a phenomenon called "**New Tank Syndrome**". Although this is unsightly, it is not due to the fact that the filter has failed. Rather, it is caused by the concentration of living organisms so dense they can be seen as a milky cloud by the naked eye. They are so small that they simply move easily through the filter media.

You should be aware that there are two other types of filtration that are often just as important but rarely as evident in the aquarium's environment. Besides the mechanical removal of dirt, there is **chemical filtration** which alters water characteristics that simple mechanical straining cannot touch. Various filter materials will help to adjust the water chemistry to levels that are more comfortable for the fish as they are much closer approximations of native conditions. Some of the filter materials will also adsorb dyes and discolorations from the water itself, cleaning and polishing it to a crystal clear quality.



Possibly the most misunderstood type of filtration is called **biological filtration**. This demands the use of the invisible bacterial level to naturally purify the water of poisonous compounds that concentrate in the water over time. Happily there are bacteria found everywhere that use the by-product of decay and respiration - ammonia - as an energy source.

A new aquarium doesn't have any of these bacteria. It is essentially sterile. Over time, through geometric replication, the population grows to the extent it is able to handle these compounds as they are produced. Once they have built large enough colonies, ammonia and its second stage nitrite are instantly converted to a much less toxic compound, nitrate. This elimination of ammonia and nitrite, accomplished by promoting biological filtration in the filters that are used, will help ensure that the Nitrogen Cycle becomes a viable part of the eco-system. The beneficial bacteria needs to be maintained in powerful enough populations to eliminate both ammonia and nitrite as soon as it is produced anywhere in the system.



## 7) Selecting the First Fish

Selection of the right fish for the beginner aquarist is most often determined by the personal preferences of the person who is building the aquatic system to support them. Not all fish are suitable candidates to be put into the aquarium right away. In many cases, there are fish much better suited to surviving the initial break-in period of the aquarium. Local pet store people are well versed in the fish that are best to start with, or you can

consult [Beginning Aquarium for the Novice Aquarist](#) to determine what types might be the best starter fish for you. Above and beyond all else, be patient and do not overstock the aquarium at first. A tank with too many fish and a non-existent Biological Filter cannot support a lot of fish. Fish constantly create ammonia and can literally poison themselves. You need to give the tank about six weeks before heavier populations of fish can be sustained. Right at the beginning, never put more than one inch of fish per gallon into the aquarium, and make sure they are hardy enough to sustain the standard maturation process for any new aquarium.

Be sure the person who captures the fish for your new tank is gentle and always picks the best fish in the aquarium. Picking one that looks lonely or shy is a sure way to purchase a future problem. The fish should be in full color and show alertness and proper finnage. Don't ever purchase a fish from a tank with dead or diseased fish in it. You don't need to transport diseases that can create havoc in your new system where they will be naturally stressed and vulnerable to infection anyway.



## 8)Patience is a virtue

### It takes time to balance the system

It is important to take your time and be very patient when first starting out. If too many fish are added, they will kill themselves since they are the main contributor of ammonia in the aquarium in the beginning. Assuming most of the tank is clean and new, there are few other possible sources for ammonia that will build up in concentrations over time.

Add fish right at the start, and then allow the tank to establish the biological filter that will eliminate these poisons as soon as they are created. Only after a strong biological filter has been fully established should any new fish even be contemplated. One of the worst mistakes the new fish hobbyist often makes is to add too many fish too fast, or add more fish before the Biological Filter has been properly seeded and established.

Even when the right amount of fish are added, there is a second deadly activity the unknowing aquarist often performs. They overfeed the aquarium. It is so tempting to feed the fish as often as you would eat.

Always remember the earlier discussion about the physiology of fish. They are coldblooded and do not need anywhere close to the amount of food that you require to keep your internal body temperature strictly regulated.

Fish should be fed once a day as much as they can completely consume in 2 minutes with nothing hitting the bottom. I ignore the bottom fish entirely. They usually find plenty to eat in the incompletely digested wastes from the fish swimming above them.



# 9) The Nitrogen Cycle

## The reason for the wait

All this talk of the biological filter, why is it so important?

The basic problem is that fish and the environment

manufacture a poison called ammonia. Mother Nature, in her wisdom and rich diversity of life, provides a natural solution - bacteria. Ammonia is an energy source for the very common bacteria strains termed

***Nitrosomonas sp.***

*Nitrosomonas* uses the ammonia for energy and releases a second compound nitrite. Nitrite is quite toxic in an aquarium, possibly more so than ammonia. Luckily there is a second bacteria, *Nitrobacter*, available.

***Nitrobacter sp.***

These take nitrite and reduces it to a very common fertilizer component, nitrate.

Unlike ammonia and nitrite, there is no bacteria species that can reduce nitrate further.

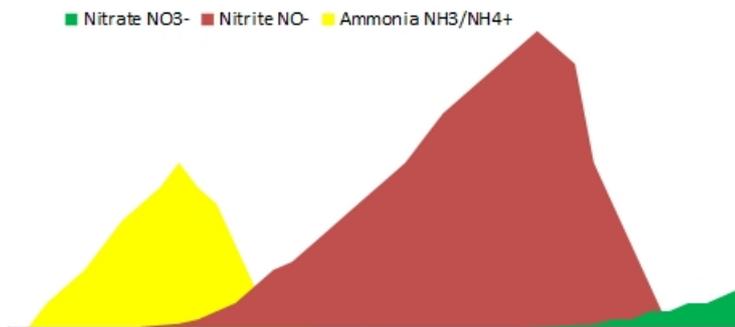
Plants, on the other hand, do use it as a fertilizer, but, unless heavily planted, not in the quantities produced in an aquarium. The standard community aquarium will build the nitrate concentration indefinitely. Nitrate must be removed and diluted by the regular tank maintenance operations to keep the system in balance. It is a weak toxin, but it can concentrate to levels where it becomes detrimental to the aquarium inhabitants.

The transformation from decay or respiration produced ammonia, its reduction to nitrite and then finally to nitrate, is termed the Nitrogen Cycle.

[Beginning Aquarium for the Novice Aquarium](#) goes into much greater depth to explain this very important biological system which happens invisibly in every aquarium. Most of all, it takes time for the bacteria to populate in the aquarium. In the beginning the tank contents will be sterile. Assuming the water used had been treated with chlorine or chloramine, as most urban locations are, there is no life in the water. These beneficial bacteria must establish and then multiply to population levels where all ammonia and nitrite produced in the tank are processed immediately.

The only compound left is nitrate.





It can take six or more weeks to get to these levels where the bacterial populations are able to reduce ammonia and nitrite to nitrate instantaneously.

Understand the sources of the original ammonia and how it is detoxified by very natural means. This is one of the most important cornerstones of keeping tropical fish alive and well over extended periods of time. For the beginner, it is important to understand that the ammonia is a natural result of keeping an aquarium. It is produced in a number of ways.

Fish respiration is a main one.

Decay of waste materials such as dead or dying organic material and excess feeding are two other ones that contribute strongly.

Remove any apparent dead or dying plant or animal material. Feed the fish only once a day: as much as they can eat in two minutes with nothing hitting the bottom. Resist the impulse to feed more often or excessively.



# 10) After the tank is mature

## Maintenance

The tank is mature when the biological filter has enough bacteria of the correct species to eliminate all the ammonia and nitrite that the tank is producing. Then you should consider adding new fish. At that time you should start regular tank maintenance schedules. These should become an established habit from then on.

If the tank has a light biological load, you can then start to add new specimens: one or two at a time. Never add a lot of fish at a single stroke. The biological filter will always experience a lag time between sudden increased production of ammonia from new fish and the increase in the population to handle it. In the meantime, there can be a sudden spike of ammonia.

Then, a little later, one will occur for nitrite as well. These could harm the fish if they are too large or extended in duration. By only adding a small number of fish, the entire system has a better chance of adjusting to the increased load without stressing the fish in the meantime.

Regular maintenance schedules include removing and replacing disposable filter media as they reach the end of their useful life. Re-usable filter materials such as foam and pre-filter rings need to be rinsed of their collected debris in safe water and then replaced into the filter chamber. Filter pumps need to be examined for wear and cleaned of protein build-ups as well.

Removing algae and waste build-ups on the bottom and glass as they occur should become a habit. Clean the glass viewing surfaces as they require it. Maintain the gravel substrate in relative waste free condition with a gravel cleaner. This is a great way to ensure the habitat remains healthy and vibrant over the long run. Regular removal and replacement of between 10 – 20% of the water with fresh is also a required upkeep procedure.

This exchange will tend to keep the water characteristics steady and within proper limits as time passes. A partial water change is very different from simply replacing water lost through evaporation.



# Conclusion

Keeping tropical fish in your very own aquarium is not that difficult.

It takes a bit of knowledge and the right information to make the first try a successful one.

Setting the aquarium up right the first time will eliminate many of the problems people often experience. When a tank is not properly equipped or located in the first place, problems will often become quite serious. Locating the aquarium away from busy household areas and out of reach from any other household pets means that occupants can be more natural and relaxing to watch.

Patience is a definite virtue when bringing the aquarium through its initial adjustment period. The purpose is to encourage the establishment of a viable biological filter. Feed a very light fish population sparingly once a day. This is instead of your natural inclination toward heavier, multiple daily feeding reduces the amount of ammonia production in the aquarium. This, in turn, reduces the stress the original fish are placed under for the first six to eight weeks.

Take your time, be patient, let nature take its course. Don't do anything radical like empty the tank and refill it simply if the gravel has started to show some debris and dirt.

By following these basic common sense rules, the fish will flourish and display their dazzling array of colors and behaviours that are mesmerizing to watch. I have kept fish for more years than I care to remember. The most important thing I have learned is:

**If you don't do anything radical to the environment, fish will most often adapt and return the favor by living long and healthy lives.**

You will get great satisfaction being able to accept the responsibility of their every requirement and enjoy the beauty they offer in return for a very long time.

This special report was written for the Blueram Group and [www.tropicalfishaquarist.com](http://www.tropicalfishaquarist.com)

Additional resources are being added all the time to ensure that there is plenty of opportunity to get your problems answered and help you to become a successful tropical fish keeper.



# Thank You

**We Welcome Your Feedback.**

Feel free to contact the author at:

[tropicalfishaquarist@gmail.com](mailto:tropicalfishaquarist@gmail.com)

or

You can visit our website at:

[www.tropicalfishaquarist.com](http://www.tropicalfishaquarist.com)

Other contacts at:

[www.aquaponicsforaquarists.com](http://www.aquaponicsforaquarists.com)

[www.pet-store-pets.com](http://www.pet-store-pets.com)

**Facebook Group**

[tropicalfishaquarists](#)

# About Steve Pond



## Steve Pond's Amazon Author's Page

[https://www.amazon.com/StevePond/e/B00DAGLE6A/ref=ntt\\_dp\\_epwbk\\_0](https://www.amazon.com/StevePond/e/B00DAGLE6A/ref=ntt_dp_epwbk_0)

Steve Pond has been in the pet industry all his life. Starting his first tank at age ten, he has been fascinated with the way fish act all his life. After 60 years of keeping fish, both personally and professionally, he brings his expertise to several websites as a resource for new and advanced aquarists.

[www.tropicalfishaquarist.com](http://www.tropicalfishaquarist.com)

is the main website offering simple access to his numerous books for people who want an expert guide to starting their aquarium the right way.

His series by BlueRam Productions:

### **Pet Store Pets**

has several children and adult activity books to give a broader understanding of the pets one would find in a pet store.

His books on starting, maintaining and keeping tropical fish have been available for several years. Although the equipment may have changed slightly, the basic methods for keeping fish healthy and content have not.

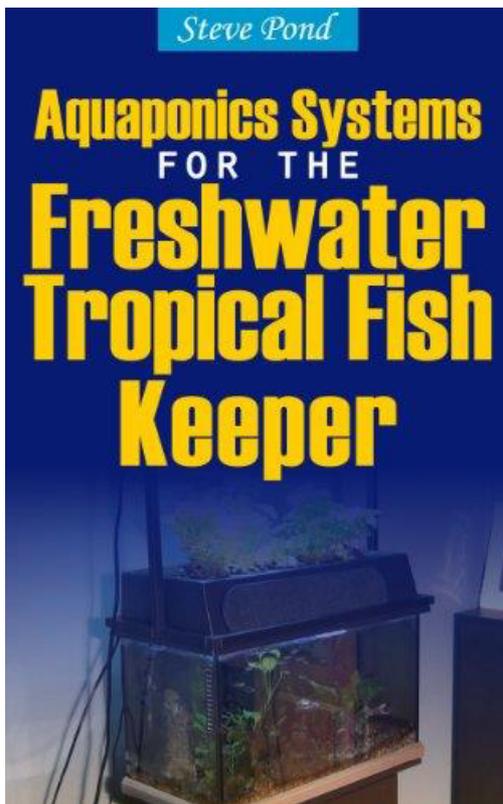
His most recent focus has been on the ways that aquaponics can be integrated into the home aquarium to create healthier and balanced ecosystems to improve the life of both the plants and the fish that power their growth. Integrating the concepts of aquaponics goes a long way toward reducing the need for exotic filters and filter materials while improving the habitat of the fish using the symbiotic removal of wastes from the water as it passes the roots of plants. For more information, click to

[www.aquaponicsforaquarists.com](http://www.aquaponicsforaquarists.com)



# Other Books by this Author

## Aquaponics Systems for the Freshwater Tropical Fish Keeper



[Aquaponics Systems for the  
Freshwater Tropical Fish keeper- E-Book](#)

[Aquaponics Systems for the  
Freshwater Tropical Fish keeper - Printed](#)

Purchase using above links to Amazon

Developing Aquaponics systems for growing organic vegetables in both a commercial and backyard location is a popular way to add food to the table.

The author provides DIY instructions for retrofitting a home tropical fish tank to exploit the benefits of aquaponics for freshwater tropical fish.

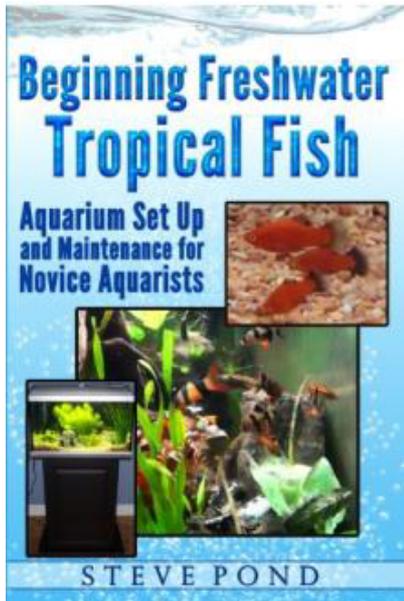
This creates an effective aquarium filter for a small to medium fish tank. The aquaponic filter efficiently expands the biological filter to include the removal of nitrate from the water the fish live in. Standard aquarium filtration cannot.

An aquaponic filter added to an existing home aquarium benefits the fish keeper. It safely reduces the need for water changes in an attractive and appealing way while growing healthy organic vegetables and herbs.



# Other Books by this Author

## Beginning Freshwater Tropical Fish



### Beginning Freshwater Tropical Fish

Aquarium Set Up and Maintenance  
for Novice Aquarists

Purchase using above link to Amazon

Keeping tropical fish is not difficult, but there are a number of things you can do to make the chances of success much greater. Few people would argue that Freshwater Tropical Community Fish Tanks are some of the most beautiful and interesting aquariums that you can own.

This clear guide will help you create a spectacular aquarium habitat that will keep your new fish alive and healthy right from day one.

Avoid the various pitfalls that many new tank owners make Set up your new tank like a professional the very first time.

A step by step guide for the crucial first six weeks of your aquarium's life

Extensive information on the equipment and accessories your fish tank uses

Discover the freshwater tropical fish options best for your individual installation

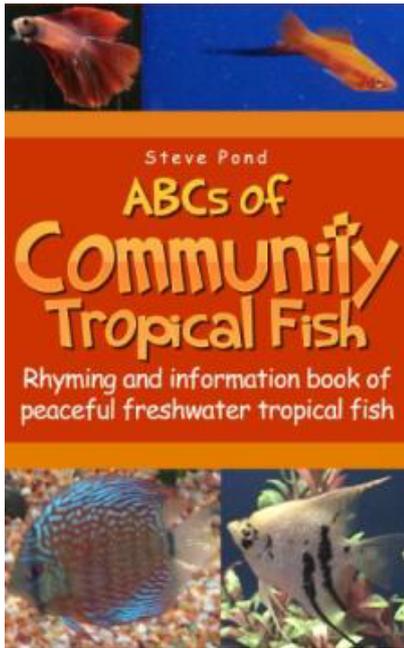
Prevention tactics for many common diseases or harmful conditions

Cultivate a beautiful, eye catching tropical fish tank that works



# Other Books by this Author

## ABCs of Community Tropical Fish



### ABCs of Community Tropical Fish

Rhyming and information book of peaceful freshwater tropical fish

Purchase using above link to Amazon

Get this fun, fact filled, fishy ABC's book that goes beyond simple.

The author uses rhyming and added background information to spotlight peaceful freshwater tropical fish found in many home aquariums.

- Easy to read
- 52 full colour photos
- Added background information for a greater understanding of aquarium fish
- Stimulate an active conversation with your kids

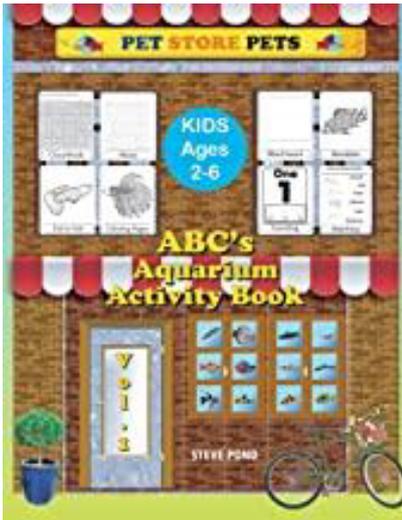
Teach your child their ABC's and start a lifelong fascination with reading by exploring the wonderful world of fish.



# Other Books by this Author

Pet Store Pets - Vol. 1

ABCs Aquarium Activity Book



[ABCs Aquarium Activity Book - Volume 1](#)

A coloring and activity book designed to both challenge and entertain. A wide variety of activities are provided for each letter of the alphabet. children

Purchase using above link to Amazon

ABC's Aquarium Activity Book - Volume I offers a unique view into the many types of community fish that can live together in a home aquarium. Underwater Friends are especially fascinating for children who want to know more about the world around them.

The ABC's Aquarium Activity Book introduces young children to fish that they might see in a visit to an aquarium or pet store. Each of the 26 species has two coloring pages, a maze, a printing exercise and even some basic number exercises. Added information on each species is included to know the needs of the species a little better and a word search and crossword are included for the advanced.

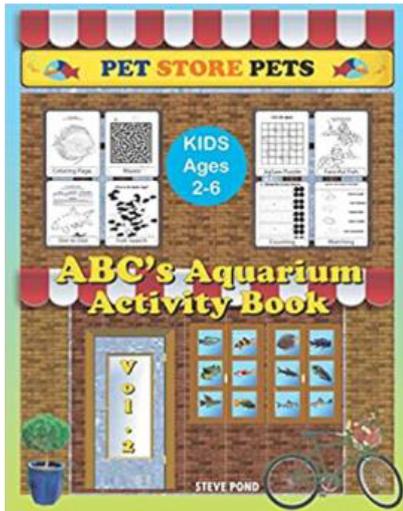
A fantastic way to let your child practice their motor skills with coloring, cognitive skills with the alphabet and numbers exercises while learning about the fish they might see in their own home aquarium.



# Other Books by this Author

## Pet Store Pets - Vol. 2

## ABCs Aquarium Activity Book



### ABCs Aquarium Activity Book - Volume 2

Tropical fish activities for all pre-School learners.

Purchase using above link to Amazon

Activity book for Kids of any age ABC style

- A species for each letter
- Coloring Pages for each species
- Dot to Dot for each species
- Fish Search for each species
- A Maze for each species
- Letter activities for each species
- Math activities for each species

ABC's Aquarium Activity Book Volume 2 offers a further unique view into the many types of community fish that can live in a home aquarium.

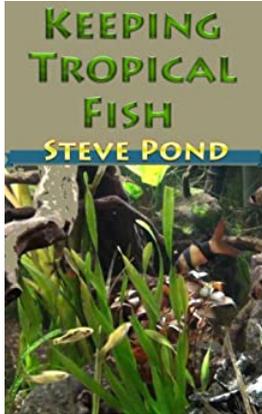
Underwater Friends are especially fascinating for children who want to know more about the world around them. The ABC's Aquarium Activity Book introduces young children to tropical freshwater fish that they might see in a visit to an aquarium or pet store.

Each of the 26 species has two coloring pages, a maze, a printing exercise and even some basic number exercises. Added information on each species is included to know the needs of the species a little better. A fantastic way to let your child practice their motor skills with coloring, cognitive skills with the alphabet and numbers exercises while learning about the fish they might see in their own home aquarium.



# Other Books by this Author

## Keeping Tropical Fish



[Keeping Tropical Fish](#)

Purchase using above link to Amazon

Start out right as a tropical fish hobbyist

Know the correct answers even before the questions arise.

Discover:

- How to evaluate fish tanks and aquarium kits
- Traps and pitfalls to avoid during the initial aquarium set up
- The all important conditions of aquarium water
- How to set up the aquarium
- Filtration types
- The nitrogen cycle, what it is, what it does, and how it affects your fish
- Aquarium Decoration Tips

A quick introductory guide to the fascinating hobby of keeping tropical fish in your home. This book goes through the equipment required to be successful. It guides the beginner on where and how to set up the fish tank and accessories to prevent problems later.

Wondering what you need to be successful in keeping fish alive and happy? Here is the beginning guide to get you started out the right way.

