



Including Aquarium Plants

Plants are a very important part of freshwater aquariums. They provide shelter to fish that like to hide, they offer a spawning nest and of course, for some fish are a source of food. Plants also help to stabilise the pH of the water and may reduce the need for filtration.



Aquarium plants help to set the stage for the actors, the fish. For example, discus and angelfish look stunning within an Amazonian setting created with vallisneria, Amazon swords and cryptocorynes. These three plants will provide a place for the angelfish to hide as well as complement the striking shape and colour of the discus.

Some fish such as tiger barbs like to rest amongst the foliage at night once the lights have been turned off and, since they have a tendency to nibble, a strong plant species is ideal. Java fern is not only a hardy species but the taste of the leaves is repulsive to barbs.

When matching fish and plants for an aquarium, it is important to know what the natural habitat of the fish is and also the sorts of behaviour that they display. If the fish like to dig then plants with broad root systems will be best. Fish that build bubble nests to reproduce like floating plants while other egg-layers need broad leaves to lay their eggs on.

When deciding on plants, ask our team at Better Pets and Gardens to explain the natural habitat and the personality of the fish that live in your tank. This will let you match the plant to the needs of the fish perfectly.

Fish that like to hide prefer plants with thick leaves and community-minded fish like short, bushy plants around which to gather. For those fish that eat plants, avoiding those with young, tender leaves is probably the best option. And, in some cases, plants should be avoided altogether. Some fish such as cichlids love aquarium plants so much that they devour them and so in this case, plastic plants are far more appropriate.

PLANTING AQUARIUM PLANTS

Aquarium plants need substrate to provide nutrients, anchor them to the floor and to host a colony of friendly bacteria for biological filtration. Some substrates such as gravel or marble chips are not ideal on their own as they do not carry out all three of these roles. However, mixing iron laterite clay through the gravel will deliver the nutrients in the form that the plants need and provide a huge surface area for the plant root hairs to work within.

Where plants are to be planted directly into gravel on the base of the tank, laterite can be mixed through before water is added and will eventually settle towards the bottom layer of the substrate. However, laterite cannot be used in tanks with under gravel filters or with fish that dig and move the gravel around.

Aquarium plants in pots allow more versatility in where they can be placed throughout a tank and these can also be grown in a mix of gravel and laterite. Many different types of pots can be used as long as they don't contain any substances that can pollute the water. Plastic or clay pots are both suitable but need to be thoroughly washed first with fresh water.

Half fill the pot with a mixture of laterite and washed gravel and then place the roots of the new plant in. Carefully fill the rest of the container with the remaining mix being careful not to press down too firmly. A light tap will help settle it. Before placing the pot in the aquarium, submerge it in water for a few minutes to remove air pockets that may remain.

Specifically designed stable clay substrates are great for fully planted tanks and are used instead of gravel and although it can seem expensive to cover the whole base with this, it will be beneficial in the long run. These substrates contain a good level of mineral nutrients as well as live friendly bacteria which converts fish waste into natural plant food. These will naturally separate into two different layers with a fine layer on the bottom for good root development and a coarse layer on top to transfer oxygen and nutrients to the roots.

ATTACHING PLANTS TO DRIFTWOOD

Driftwood covered in aquarium moss or plants such as Anubias look fantastic in tanks and are very easy to make. Start by soaking the driftwood in water for several hours to remove any air pockets. Then, arrange the plant on the wood and tie it on by wrapping around cotton thread or fishing line. Cotton thread eventually disintegrates so that it does not stay visible once the plant has attached itself to the wood however fishing line is preferred for plants such as moss that take more than 4 to 6 weeks to attach.

If using moss, attach it in layers using the fishing line to hold it on at each level. The final thickness does not need to be more than 0.5cm as if too thick, the inner layer will not be able to get enough light to grow.

Choosing where to attach the plant is the key to a natural look. Although it may be tempting to cover the whole piece, placement in key points such as the tip of the driftwood, over unnatural looking spots such as end cuts or where two branches cross will give the piece a balanced, organic appearance.



DESIGNING THE LAYOUT

A fish tank is much like a living picture. It has to look balanced and striking whilst setting off the movement and colour of the fish that live within. Think of the space like a stage on which the fish are the actors. In your minds' eye, divide the space up into background, mid-ground and foreground. This will help to provide the stage with depth as well as focal points but will also offer different paths for the fish to follow.

As the plants are placed, keep the divided spaces in mind. Place taller plants to the back and shorter plants to the front but remember that sometimes less is more.

Create at least one focal point in the tank and more in larger tanks. Avoid placing the focal point right in the centre as this will look far too staged. Instead, make it about a third in from one side. Along with the plants, use ornaments, rocks or driftwood to make this spot interesting without being too cluttered. Allow this arrangement to taper off naturally by using smaller pieces dotted to the left or the right. Adding a much smaller focal point on the other side of the tank towards the front will help offer balance to the overall appearance.

Whilst arranging the plants and ornaments, regularly step back to peruse the whole tank. Make sure that not only does it meet the needs of the fish, but also catches the eye just as a painted masterpiece would.

LIGHTING

Light with the correct colour spectrum is important for the planted aquarium as without it, the plants are unable to photosynthesize. The colour spectrum required for plants, is different to that needed for fish. Sunlight contains the full spectrum of colour and whilst it would seem to be the obvious choice, it does come with some disadvantages. Sunlight can cause significant temperature fluctuations which will stress both fish and plants and if available indirectly, is often too weak for the plant to use.

It is difficult to get the right tube to satisfy the needs of the aquarium plants as well as the fish and which also looks good to the human eye. An ideal option is to combine both a specific plant tube and a daylight balanced fluorescent tube over the tank. Start by having the light on for around 12 hours per day and gradually increase or decrease the length to provide nice strong plant growth whilst minimising algae in the tank.

CARE AND MAINTENANCE

Aquarium plants are not particularly long lived and a life of between one and three years is about normal. This is because, unlike land plants, they never get the opportunity to blossom for breeding which over time weakens them, causing them to fade. The best solution, in this case, is to replace these plants with new, stronger and healthier ones.

Often, when new plants are added to a tank, their leaves turn brown very quickly and rot away. This is fairly common but these dead leaves are soon replaced with healthy, new shoots and foliage. Remove the dead leaves before they have the chance to disintegrate into the water.

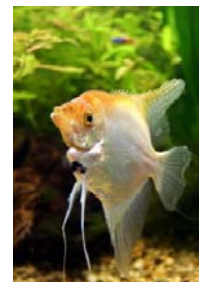
Plants that are showing brown leaves and are simply not growing or alternatively have long, leggy growth will not be receiving the correct amount of lighting for their needs. If possible, try to move this plant away from neighbouring plants that may be shading it or perhaps invest in a more powerful lighting unit.

Just like plants in the garden, aquarium plants can suffer from nutrient deficiencies from lack of food causing the leaves to become yellow or pale in colour and not thrive.

As might be expected, faster growing plants tend to use the nutrients available to them far quicker than slow growing plants and so show signs of deficiencies earlier. Deficiencies are also more common in tanks with high light levels than those with low light levels.

Although it is possible to test for the element that it is deficient in the tank, the easiest solution to any deficiency is generally the same. Comprehensive liquid plant supplements are available which contain an assortment of important micro elements, trace elements and other nutrients including iron and potassium. A regular application to the tank in an amount to suit the plant species and the tank size will ensure lush, green growth and healthy foliage. Plant tablets are also useful for fresh water tanks and where plants need to be fed for a longer period of time.

Recent studies have shown that carbon dioxide boosters significantly stimulate plant growth as aquarium plants use carbon from the water to fuel photosynthesis which is essential for growth. The addition of CO₂ boosters every day markedly increases the growth of plants, even up to seven times more.



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