

## AQUARIUM BEAUTIFUL

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A beautifully planted aquarium is a fascinating eye-catcher of beauty and movement. Plants present underwater pictures to complement the fish. They serve as hiding places for small fry or fish eggs, and provide shelter for infusoria, and important food for fish in the early stages of growth.

When the aquarium is lit, plants absorb carbon dioxide and release oxygen as they photosynthesize. In the dark, respiration accounts for the absorption of oxygen and the release of carbon dioxide. So you see, lighting for twelve to fourteen hours a day is important, as in nature, for good plant growth and coloration. Plants clean the water of some of the waste materials from fish and fish food, and convert this mulm to fertilizer, which is absorbed through the leaves and the roots.

Water changes are also a very important factor in plant growth as well as fish growth and health. At least a third of the water should be drained from the bottom of the tank weekly! For it is the bottom of the tank where the remains of food, excrement and mulm build up the heaviest.

When refilling the tank, be sure the water temperature is within a couple of degrees of the water in the aquarium. Great variations in temperature tend to discourage plant growth, to the point of disintegration. Should this occur, leave the roots planted, and new growth will probably appear in a month or so. You may or may not lose them. Debris should be siphoned off to discourage bacterial growth.

With the use of fluorescent lighting over the aquarium, you can control the amount and kind of light you require. I use two 4-foot tubes over three 55 gallon tanks. One Gro-Lux or wide spectrum tube, accompanied by a cool white bulb, suspended twelve to fourteen inches above the water seems best suited to my needs. Plants requiring more light are planted in the middle aquarium, with those requiring less being planted in either of the side tanks. Should you find an algae

build-up on your tanks, it is probably due to too much light. This can be controlled by raising the lights, or by using floating plants to cut down on the light. A piece of Java Moss anchored in the corner of the tank will also aid in algae control.

Java Moss tends to grow quickly, so cutting it back may be necessary.

Most plants enjoy a 72 to 78 degree water temperature, although a few are more suited to cooler water environments. The majority of aquarium plants do well in a pH of 6.8 to 7.8. In softer or harder water, plants may not die, but will not achieve proper growth.

Snails are rather important to plants. Mystery snails slither over leaves and clean them of food particles and small algae, and are an asset to a planted tank.

Ramshorn, pond and many other varieties of snails, devour leaves, especially the more delicate species of plants. Unwanted snails can be easily removed by scrunching lettuce leaves and placing on top of the water. A few hours later, you will find the snails congregated on the leaves. They are easily removed and disposed of with a net.

When bringing new plants into your aquarium, they should be rinsed well in lukewarm water. To eliminate unwanted snails, the plants may be dipped in a solution of 1 teaspoon of alum to a gallon of water, and left submerged for two minutes, then rinsed well in clear water before planting. When purchasing plants, look for good white roots, and a firm leaf structure as well. They should smell clean, as an off-coloured smelling plant rarely produces a good specimen. This is especially true when purchasing bulbs, where no growth is evident. Young plants adjust better to new conditions. All plants go through a shock in transporting them, and may lose a portion of their leaves. This is normal and these leaves should be removed as new growth appears. Plants purchased in a pot or container should be removed from the container before planting in the aquarium. This should be done carefully, so as not to break any of the healthy roots. This is a good way to buy them, as their roots are protected. Unrooted or bunch plants must have the lead weights removed and about 1 inch of the bottom stock cut off.

The plants are now ready to plant, singly, but they can be planted fairly close together, but not as a bunch.

Plants such as Echinodorus and Cryptocoryne have crowns. This is the part where leaves join the roots. Care must be taken to leave this exposed when planting. Make a depression in the gravel, like a well, and plant fairly deep, cover the roots with gravel, then gently ease up the plant until the crown is exposed.

When planting bulbs, make sure the eye (where the leaves are grown from) are top side up or they will not grow. Rhizomes have only the roots planted and the rhizome exposed. This may have to be held down with a rock or other object.

Plants suitable for the aquarium (that is, submersed plants) are found mostly in the tropic zones, although some are found in the temperate zone. Plants are now becoming more readily available in the aquarium hobby, and many new and hard-to-find species are starting to show up too.

Many aquarium societies have introduced horticultural programs and are encouraging hobbyists to plant aquariums and enhance the aesthetics of their tank and improve the quality of their fish.

We, as hobbyists, must also recognize the impact we can have on the environment. Careless disposal of some plants and fish have caused problems in some areas. We should be aware of problems in our area, and be willing to help others understand the consequences. In the past, waterways have been clogged with plants not native to that area. They were carelessly thrown into a stream. We now have a list of banned plants in Canada. I hope this is food for thought.